A detailed black and white illustration of a traditional thatched-roof hut. On the left, a shirtless man stands looking towards the entrance. Another man wearing a hat and a long tunic stands near the doorway. A bird is perched on a branch to the right. The scene is set in a natural, outdoor environment.

REVISTA DE ARQUEOLOGÍA AMERICANA

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Portada: Engraving by Edouard Riou of an open burial pit with a hammock burial encountered in 1878 by Jules Crevaux (1883: 238). De Renzo S. Duin, Ethnoarchaeology of Mortuary Practices: Relationship Bodies in the Carib-speaking Neo-Tropics.

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Enfermedad y estatus social: un caso de treponematosi infantil en
un entierro Preclásico del valle de Maltrata, Veracruz, México

*Illness and social status: a case of infantile treponematosi
in a Preclassic burial in Valle de Maltrata, Veracruz*

Judith Ruiz González Sánchez

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Editorial

Este volumen está precedido por la infausta noticia del fallecimiento de Roger Marois, fundador de esta *Revista Arqueología Americana*. Como miembro del Instituto Panamericano de Geografía e Historia (IPGH), Roger Marois abogó por la conformación de un Comité de Arqueología dentro de la organización del IPGH, situación que contribuyó para la materialización de la naciente Revista. Como editor de ésta y continuador de la obra de Roger Marois, dedicamos este volumen a su memoria.

Este número 41 de la Revista presenta en su sección temática artículos sobre la Arqueología del Caribe. La razón de esta selección radica en la necesidad de una puesta al día sobre la arqueología de esta región que se encontraba al margen de los temas que poblaban los números anteriores.

Ha sido un enorme trabajo ubicar investigadores arqueólogos que pudieran darnos algunas directrices acerca de los posibles trabajos que pudieran comprender este volumen. Para ello, invitamos al doctor Antonio Curet, especialista de esta área para organizar un conjunto de temas a cargo de arqueólogos de diversas regiones con la finalidad de poder dar una visión más amplia sobre el desarrollo de los principales logros de la arqueología en el área caribeña. Afortunadamente Antonio aceptó desempeñar la tarea de editor invitado y le agradecemos enormemente su empeño y esfuerzo por lograr excelentes resultados.

Esta tarea, sugerida por nuestro Presidente de la Comisión de Historia, doctor Filiberto Cruz Sánchez, ha sido concretada en forma positiva y le agradecemos sus indicaciones que contribuyen a llenar espacios respecto de presentar información actualizada del área que nos convoca. Debido a la naturaleza de las fuentes para la investigación arqueológica en el área caribeña, gran parte de los artículos que aquí se presentan están escritos en inglés, lo que revela la diversidad de los investigadores que han aceptado publicar. Esperamos en un futuro próximo poder contar con especialistas de los propios países de la órbita del Caribe. Ello permitirá elevar el conocimiento sobre la riqueza del pasado caribeño y sus implicaciones a nivel continental.

Además, la presente publicación nos permite poner en evidencia el valor y la riqueza arqueológica y patrimonial de las diferentes naciones del área del Caribe. Así, nos enorgullece presentarles esta suma de esfuerzos reflejados

en estos nueve artículos plenos de contenido e información arqueológica relacionados con el Caribe y regiones anexas.

El volumen lo completan una serie de artículos que reflejan importantes aportes a la arqueología americana.

Lidio Valdez presenta un estudio sobre la Arqueología de Rituales tomando como base la cerámica del estado Wari que define el Horizonte Medio del desarrollo cultural andino.

Victor Ataliva junto a Nicole Fuenzalida Bahamondes, Carlos Marín Suárez y Bruno Rosignoli nos entrega un aporte interesante acerca de la contribución de la antropología forense a los procesos judiciales por actos de las dictaduras de Argentina, Chile y Uruguay en los atentados a la dignidad humana.

Finalmente la contribución de Judith Ruiz González, Carlos Serrano Sánchez, Yamile Lira López y María Paz de Miguel Ibáñez acerca de un caso de Treponematosis Infantil que revela la instancia más antigua de sífilis en Mesoamérica, un interesante aporte de la antropología biológica a la arqueología.

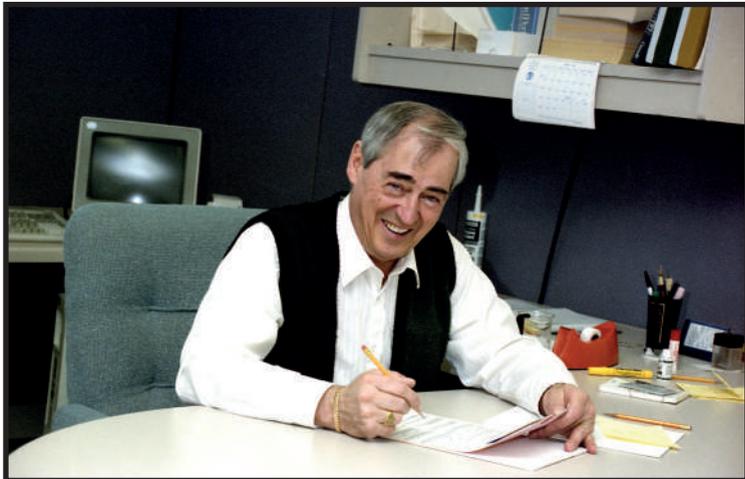
Agradecemos las colaboraciones de los diferentes autores, como asimismo la excelente asistencia de nuestro editor invitado y los destacados profesores y arqueólogos que han evaluado los trabajos que aquí se presentan. A continuación siguen las páginas de la Revista con la entrega de los aportes reseñados como evidencia de investigaciones arqueológicas interesantes.

Dr. Mario A. Rivera, RPA
Editor

In Memoriam

Joseph Roger Olivier Maurice Marois (1927-2023)

Jean-Luc Pilon*



Fuente: Roger Marois, 1992. Musée Canadien de l'histoire, IMG2015-0275.
Photo: Steven Darby.

El 8 de mayo de 2023, Roger J.M. Marois falleció suavemente mientras dormía. En cierto modo, su transición de este mundo refleja la naturaleza misma del hombre que era.

Nacido en Montmagny, Québec, el 6 de septiembre de 1927, era el menor de una familia de 16 hijos. Su padre trabajaba en una fundición en Montmagny que fabricaba estufas de leña de hierro fundido. Murió cuando Roger tenía sólo 16 años.

* Agradezco a Lucie Johanis, Geneviève Eustache y Carlos Marois por leer y comentar este texto. Sylvie Laflamme y Nevine Basta me ayudaron a completar la bibliografía de Roger.
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Integrante de una familia numerosa a finales de los años 1920, sus hermanos le ayudaron a cubrir los gastos de su educación en el Collège Ste-Croix de Montréal, donde el joven Marois destacó en actividades deportivas como el ping-pong, el tenis y el hockey.

Después de sus estudios universitarios, siguió un camino seguido frecuentemente por los chicos de aquella época; se hizo sacerdote y permaneció así durante 16 años, incluidos seis en misión en Bangladesh. Este fue el comienzo de una apertura a los idiomas para Roger y regresó al país hablando inglés y bengalí.

Al regresar de la India, Roger cuestionó su vocación y decidió abandonar el sacerdocio. Fue una decisión difícil pero la muerte de su madre, que tenía una importante influencia religiosa sobre él, facilitó su decisión.

Roger conoció a su futura socia, Margot, en Vermont; una venezolana que había viajado a Estados Unidos para aprender inglés y facilitar su trabajo en una empresa petrolera de su país natal. Se casaron el 19 de septiembre de 1964, formando una familia con la llegada de dos niños, Carlos y Alex. Con el tiempo, se sumaron cinco nietos.

En 1964, Roger reanudó sus estudios, esta vez en antropología en la Universidad de Montreal, obteniendo su licenciatura en 1966 y su maestría en 1968. Su primera experiencia arqueológica fue como parte de una escuela de excavación en Île-aux-Noix en mayo, 1965. Más tarde ese mismo verano, participó en las excavaciones de

Fuerte Coteau-du-Lac. En ese momento era becario, pero al verano siguiente fue subdirector. Bajo su dirección, se desenterraron entierros humanos de 6 700 años de antigüedad que habían quedado milagrosamente en el centro de una fortificación británica del siglo XVIII (Marois, 1987). Entre los objetos encontrados había un guijarro en el que estaban grabados los rasgos de un rostro humano; un descubrimiento sin precedentes para el período previo al contacto.

En 1967, incluso antes de obtener su maestría en la Universidad de Montreal, Roger comenzó un programa de posgrado en la Universidad de Calgary, donde permaneció hasta 1969. En 1973, obtuvo un doctorado por su disertación "Patrones de asentamiento al final de la prehistoria y el comienzo del período histórico: sur de Quebec", publicado al año siguiente como número 17 en la colección Mercurio del Servicio Arqueológico de Canadá (ver Marois 1974). Fue al final de sus estudios de posgrado, en 1969, que Roger se unió a las filas del Servicio Arqueológico de Canadá, en el Museo Canadiense del Hombre, que eventualmente se convertiría en el Museo Canadiense de Historia. Allí pasó el resto de su carrera como arqueólogo.

Roger Marois fue el primero en ocupar el cargo de arqueólogo de Quebec. La comisión se estaba ampliando y él fue uno de los primeros quebequeses en obtener un doctorado en arqueología. Pero la vida de un francófono en

este ambiente dentro del gobierno federal de aquella época no era fácil; el ambiente no era acogedor para los francófonos. Por una cruel ironía, el contexto político en Quebec en ese momento significó que la comunidad arqueológica de Quebec percibiera que Roger había cruzado al “otro lado”, o incluso al “lado equivocado” del río Ottawa. En cierto modo, Roger Marois se encontró con un pie a cada lado de un abismo infranqueable y creciente.

Como arqueólogo quebequense, puso en marcha un programa de investigación que le llevó a varios rincones de Quebec: Coteau-du-Lac, Trois-Rivières, Blanc Sablon, Outaouais, Lac Duparquet en Abitibi. Entre 1980 y 1977 realizó estudios y excavaciones en numerosos yacimientos de Abitibi. Este trabajo resultó en una importante publicación sobre la historia antigua de la región (Marois, 1989) y que sigue siendo la base de nuestra comprensión del pasado antiguo de Abitibi.

Roger ya había aprendido dos idiomas nuevos y añadió el español y el portugués a su inventario lingüístico. Gracias a su esposa pudo descubrir una nueva cultura y nuevos idiomas. Esta mentalidad abierta se ha convertido en la piedra angular de su carrera.

Roger era muy sensible a las injusticias lingüísticas y buscaba oportunidades para remediar la situación. En 1972 publicó el primer glosario bilingüe (inglés-francés, francés-inglés) de términos arqueológicos. En 2006, varios años después de su retiro del Museo Canadiense de la Civilización, Roger depositó un manuscrito en los archivos del museo (ms. 4961) titulado *Diccionario de Arqueología Ilustrada*, una obra que refina y enriquece considerablemente la publicación de 1972.

Según su hijo Carlos, “trabajó con pasión y determinación para desarrollar rigurosamente su diccionario lingüístico. Quería que las comunicaciones arqueológicas fueran precisas en diferentes idiomas para las generaciones futuras; ¡un legado que le llegó a las entrañas!

Su trabajo de campo tuvo que dejarse de lado entre 1977 y 1981 mientras Roger asumía el papel de jefe del Servicio Arqueológico de Canadá. Era tradición encontrar entre sus miembros al director del CAC. Fue en ese momento que Roger invitó a otro hablante de francés, Jacques Cinq-Mars, a unirse al CAC para liderar las búsquedas de rescate en tierras federales en todo el país.

De regreso a las filas de los arqueólogos, Roger se integró al Grupo de Trabajo de Arqueología de la Comisión Histórica del Instituto Panamericano de Geografía e Historia (IPGH), afiliado a la Organización de Estados Americanos (OEA). En 1982 asumió el cargo de vicepresidente del grupo, y en 1988 se convirtió en presidente fundador del Comité de Arqueología de dicho Instituto. Al año siguiente, se convirtió en el fundador de la *Revista de Arqueología Americana*. Esta publicación continúa compartiendo el conocimiento arqueológico a escala continental, privilegiando los resúmenes

regionales y los resúmenes en los cuatro principales idiomas europeos del continente (español, portugués, inglés y francés).

Roger aprovechó su participación dentro del Instituto para promover las cuatro lenguas. Se ha convertido en la referencia en terminología arqueológica. Ha patrocinado varios proyectos de publicaciones multilingües para facilitar el acceso a los vocabularios especializados de diferentes idiomas y asegurar una comunicación efectiva entre los arqueólogos de este vasto continente, sin depender siempre únicamente de publicaciones escritas en inglés. Roger y sus colegas abordaron primero la terminología relacionada con la cerámica previa al contacto (1984, 1985, 1986a, 1986b, 1994a, b, c, d), seguida de términos relacionados con las industrias líticas (1997a, b, c). Roger Marois asumió el cargo de director del Servicio Arqueológico de Canadá por segunda vez en 1989 hasta su jubilación del museo en 1992.

Como se desprende del listado de sus publicaciones y manuscritos, Roger Marois dedicó buena parte de su retiro a completar ciertos expedientes de investigación y ordenar sus archivos; siempre estuvo preocupado por investigadores y comunidades que pudieran estar interesados en su trabajo como arqueólogo.

Las diferentes etapas de la vida de Roger Marois, tanto en Quebec, Canadá, el continente y otros lugares, representan sus esfuerzos por construir puentes entre diferentes comunidades para apreciar el valor justo de las múltiples y diversas culturas y tradiciones del pasado y del presente. Era muy consciente del impacto de la marginación lingüística y dedicó su carrera como arqueólogo a facilitar el entendimiento y el respeto mutuo entre comunidades lingüísticas y culturales.

Publicaciones de Roger J. M. Marois

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Sección I



Artículos Temáticos

Presentación del Dossier

Arqueología del Caribe

El presente volumen de la *Revista de Arqueología Americana* está dedicado al Caribe, una región que ha estado avanzando a grandes pasos en los últimos 20 años. Como en muchas partes del continente, la arqueología del Caribe tiene sus orígenes en entusiastas que hoy llamamos anticuarios y que comenzaron a coleccionar objetos precolombinos. Al pasar del tiempo muchos profesionales de distintas ramas (abogados, doctores, escritores, etc.), comienzan a interesarse no sólo en los objetos en sí, sino también en el objeto como memorial histórico del pasado de los pueblos que los crearon. Eventualmente, a estos esfuerzos se le unieron especialistas de otros países, principalmente de los Estados Unidos y Europa, pero ninguno de ellos impactó a la disciplina caribeña tan profundamente como Irving B. Rouse de la Universidad de Yale. Este investigador comenzó su carrera caribeña en Haití en los años 30s y continuó trabajando casi hasta el día de su muerte en el 2006. Rouse no se aferró al modelo clasificatorio de estilo/variante que siguieron la mayoría de los arqueólogos norteamericanos y latinoamericanos, sino que creó su propio sistema basado en “modos” y “estilos”. Aunque el sistema de este académico resultó ser más preciso y más a tono con las realidades de los grupos indígenas, a final de cuentas su trabajo continuaba siendo más de carácter descriptivo que analítico. Desgraciadamente cuando la “revolución” de la Nueva Arqueología norteamericana de los años 60's comenzó a influir al resto del hemisferio, la arqueología del Caribe continuó utilizando el método, pensamiento y enfoque “rouseano”.

No es hasta los años 1980-1990 que la arqueología comienza a expandir sus horizontes utilizando nuevas metodologías, ideas y teorías, que proveyeron un mejor entendimiento del pasado y del pensamiento indígena. Ejemplos de estos cambios son los desarrollos en los estudios de etnografía, arqueología histórica y ethnohistoria, las cuales tendían a ser obviadas por muchos de nosotros y que hoy día han estado avanzando rápidamente para llenar vacíos de gran importancia en temas que van desde el impacto de las relaciones indígena-europeo al principio de la invasión europea a la dinámica entre las colonias y la metrópolis. Otros avances incluyen el uso de técnicas de la ciencia físicas y naturales las cuales incluyen análisis genético, de isótopos estables, geofísicos, química analítica, y muchas otras. Todos estos desarrollos

y cambios en la disciplina han contribuido a construir una arqueología más dinámica, precisa y compleja que nos ha permitido a estudiar, recrear, y representar más fielmente a las sociedades pretéritas.

Los artículos incluidos en este número de la Revista son una buena muestra del estado de la arqueología del Caribe. A continuación, resumimos estos trabajos.

El primer trabajo de este número es un ensayo de Hayward y colegas, amasan una gran cantidad información de arte rupestre inmueble (es decir permanente) de las Antillas Mayores. Utilizando los datos obtenidos de un gran número de sitios, los autores discuten los datos en términos de distintas localidades tales como los desarrollo socios-políticos, fechados, y arte rupestre como arte, entre otros.

En el segundo artículo, Roberto Valcárcel Rojas reporta su estudio sobre la mujer indígena dentro del marco de la conquista y la colonia. Utilizando datos primarios y secundario, incluyendo fuentes primarias y arqueológicos, Valcárcel Rojas, presenta una visión virulenta de la situación de la mujer indígena en las primeras décadas de la colonia.

En el próximo trabajo, Renzo Duin presenta su estudio de prácticas mortuorias entre los indígenas wayana de la Guiana Francesa para compararlas con las prácticas similares excavadas en la isla de Guadalupe. Además de las entrevistas y datos arqueológicos, el utilizó también fotos y mapas inéditos.

En su artículo, Alain Queffele estudia la distribución temporal y variabilidad de piedras semipreciosas. Interesantes, sus resultados demuestran que la presencia de estas piedras era más común en el período temprano que el más reciente.

El trabajo, Wallman y sus colegas presentan los resultados de su estudio de la explotación de madera para la construcción de barcos y para exportación. Este trabajo presenta la importancia de las maderas nativas en el proceso de colonización y el role del conocimiento indígena de esta materia prima.

En el próximo artículo, Shaun Sullivan los resultados de su estudio del sitio MC-6 en Islas Turcas y Caicos. El sitio es algo complejo que incluye dos plazas, un camino agrandado y salinas minadas por los indígenas. En el artículo, Sullivan discute la complejidad de los relaciones de estopectos poco comunes en el Caribe para argumentar sobre la complejidad social, espiritual y política de esta comunidad.

En su ensayo, Joanna Ostapkowicz discute “la historia de vida” de tres tipos de objetos encontrados en las islas Turcas y Caicos, pero muchas de las cuales se encuentran se encuentran en museos o depósitos extranjeros con muy poca información. Pero “excavando” archivos de museos, consultando publicaciones históricas y la construcción de un *corpus* de ejemplos

sobrevivientes Ostapkowicz logra contextualizar estos objetos desde antes de, hasta el presente.

En el artículo final de este número de la Revista, Chris Espenshade y Shawn Patch presentan su estudio del sitio de Jacana 9, un centro ceremonial en el sur de Puerto Rico. Los resultados de esta investigación sugieren que aunque el sitio tuvo una ocupación limitada en el período Tardío, 1300-1500 D.C., existe evidencia de un uso intensivo del sitio como destino ceremonial, como elemento de un paisaje más amplio.

Para terminar, queremos agradecer al compañero doctor Mario Rivera por ofrecernos esta oportunidad de representar la arqueología caribeña y su asistencia en la producción de este número del *Revista de Arqueología Americana*.

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Rock Art within the Indigenous Caribbean Physical and Cultural Landscape

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Abstract

Rock art played vital roles within Caribbean Indigenous cultures. Designs on rock surfaces would have been a critical element in the thought, practice and performance of the area's spiritual life, as well as underpinning interconnected

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activities with the sociopolitical and economic realms. Rock art executed at stationary locations enjoys a particular advantage as a topic of investigation since its permanence at the same location within the physical environment, offers a tangible link between its production and subsequent functions within Antillean societies. Research concerning the nature of the images and their societal implications is longstanding, covering a wide range of issues as the following discussion outlines. After key data such as the types and locations of rock art are presented, certain investigative topics are examined involving dating, thematic or area studies, rock art and sociopolitical development, and rock art as art produced by artists.

Key Words: rock art, dating, petroglyphs, pictographs, Indigenous, Caribbean.

El Arte Rupestre en el paisaje físico y cultural indígena del Caribe

Resumen

El arte rupestre desempeñó funciones vitales dentro de las culturas indígenas del Caribe. Los diseños en las superficies rocosas habrían sido un elemento crítico en el pensamiento, la práctica y el desempeño de la vida espiritual de la zona, así como en la base de actividades interconectadas con los ámbitos sociopolítico y económico. El arte rupestre ejecutado en lugares estacionarios goza de una ventaja particular como tema de investigación, ya que su permanencia en el mismo lugar dentro del entorno físico, ofrece un vínculo tangible entre su producción y las funciones posteriores dentro de las sociedades antillanas. La investigación sobre la naturaleza de las imágenes y sus significados sociales es de larga data y cubre una amplia gama de temas, como se describe a continuación. Después de que se presenten datos clave como los tipos y ubicaciones del arte rupestre, se examinan ciertos temas de investigación que involucran estudios de datación, temáticos o de área, el arte rupestre y desarrollo sociopolítico, y el arte rupestre como arte producido por artistas.

Palabras clave: arte rupestre, datación, petroglifos, pictografías, Indígenas, Caribe.

L'art rupestre dans le paysage physique et culturel autochtone des Caraïbes

Résumé

L'art rupestre a joué rôles vitaux dans les cultures indigènes des Caraïbes. Les dessins sur les surfaces rocheuses auraient été un élément essentiel dans la pensée, la pratique et l'exécution de la vie spirituelle de la région, ainsi que la base d'activités interconnectées avec les domaines sociopolitique et économique. L'art rupestre exécuté dans des lieux fixes bénéficie d'un avantage particulier en tant que sujet d'investigation, puisqu'il s'agit d'une permanence

au même endroit dans l'environnement physique offre un lien tangible entre sa production et ses fonctions ultérieures au sein des sociétés antillaises. La recherche concernant la nature des images et leurs significations sociétales est ancienne et couvre un large éventail de questions, comme le décrit la discussion suivante. Après avoir présenté des données clés telles que les types et les emplacements de l'art rupestre, certains sujets d'investigation sont examinés impliquant des études de datation, thématiques ou de zone, l'art rupestre et le développement sociopolitique, et l'art rupestre en tant qu'art produits par des artistes.

Mots clés: *art rupestre, datation, pétroglyphes, pictogrammes, Indigènes, Caraïbes.*

Arte Rupestre na Paisagem Física e Cultural do Caribe Indígena

Resumo

A arte rupestre desempenhou papéis vitais dentro das culturas indígenas do Caribe. Desenhos em superfícies rochosas teriam sido um elemento crítico no pensamento, prática e desempenho da vida espiritual da área, bem como sustentando atividades interconectadas com os domínios sociopolítico e econômico. A arte rupestre executada em locais fixos goza de uma vantagem particular como tópico de investigação, já que é permanência no mesmo local dentro do ambiente físico, oferece uma ligação tangível entre sua produção e as funções subsequentes dentro das sociedades antilhanas. A pesquisa sobre a natureza das imagens e seus significados sociais é de longa data, abrangendo uma ampla gama de questões, como a discussão a seguir descreve. Após a apresentação de dados importantes, como os tipos e localizações da arte rupestre, certos temas investigativos são examinados envolvendo datação, estudos temáticos ou de área, a arte rupestre e desenvolvimento sociopolítico e a arte rupestre como arte produzidos por artistas.

Palavras-chave: *arte rupestre, datação, petróglifos, pictogramas, Indígenas, Caribe.*

Introduction

Michele H. Hayward and Michael A. Cinquino

Rock art was central to the lives of Indigenous Caribbean societies, whose designs continue to serve as a subject of professional investigation and interest by the general public. The region contains hundreds of sites exhibiting thousands of carved and painted images on non-portable rock surfaces in addition to a number of portable sculpted objects. The petroglyphs, pictographs, and sculpted items serve as visual referents to a past world order both familiar and different from our modern one. Though fashioned

from hard immovable material, perhaps to emphasize their value via relative permanence, they were meant to engage individual to collective senses. Their transformation through engagement provided a feeling of wonder or otherworldliness in religious contexts and a consensus or reaffirmation of proper order in sociopolitical contexts.

This examination of Caribbean rock art follows the island arc from Trinidad off the northeast coast of South America through the numerous islands of the Lesser Antilles, the larger islands of the Greater Antilles –Cuba, Hispaniola, Puerto Rico, Jamaica—plus the Bahamian archipelago. Also covered are the near-South American continental fringe islands of Aruba, Bonaire, and Curaçao. Rock art research of the region is well-established involving investigators from the area, in addition to outside, namely the United States, France, The Netherlands, and United Kingdom. This spectrum of researchers has also yielded a corresponding range of approaches, topics and methodologies that is evident in the published literature.

The present article is divided into two sections. The first covers the rock art characteristics of definitions, survey and documentation status, image classification, type distributions, and data sources. The second involves in-depth discussions of certain research topics. Michele Hayward, Michael Cinquino and Donald Smith review and comment upon dating efforts; Fernández Ortega, Morales Valdés and Martínez Guerra report on rock art investigations in Cuba including enhanced documentation efforts and radiocarbon-dated pictographs; Peter Roe links rock art development to wider sociopolitical changes, while Lawrence Waldron brings an art history perspective to examining the region's rock art.

Section One: Rock Art Characterization

Michele H. Hayward and Michael A. Cinquino with Peter Roe for Data Sources

Definitions

Researchers within the region certainly possess an understanding of what sets Caribbean rock art apart from that of other world regions. Yet formal definitions of this understanding are nominal. Characterizations of single to multiple image assemblages at the subregional, inter-island and local surroundings are more readily available, as in Hayward *et al.*, 2015 examination of the image traits from the Lesser Antilles and Versteeg and Kelly's, 2019 presentation of the painted and carved figures from Aruba. Our research suggests the following attributes:

- A high frequency of anthropomorphic images involving primarily faces, full-body forms or human-animal permutations (human-frog and human-lizard).

- A high degree of variability in rock art numbers, design features, and composition among rock art sites.
- Such characteristics point to a shared canon of design elements, motifs and layouts that image-makers employed to affect design sets for particular places, times and activities (Hayward *et al.*, 2012).

Rock art production covers several thousands of years from the Archaic (ca. 5000-500 BC), through the Post-Archaic or the Ceramic Age's Saladoid (500 BC-AD 500/600 and Ostionoid divisions (First Phase AD 600-900, Second Phase AD 900-1200, Last Phase AD 1200-1500) and even into the Historic or Post AD 1500 period (updated traditional Rouse 1992: Figures 14, 15 chronological framework; Hayward *et al.*, 2009, Figures 1.2 and 1.3; see also Wilson 2007 and Keegan and Hofman 2017 for Caribbean chronological divisions and cultural development). The majority of this production consists of pre-AD 1500 carved or painted designs on non-portable or largely immovable natural rock surfaces.

Petroglyphs (common terminology) were produced primarily with stone implements to carve, peck, or abrade images that ranged from fine-lined incisions to deeper grooved outlines (Figure 1.1a) to partially sculpted figures that López Belando (2019) has termed low-relief (Figure 1.1b). Projecting less than half of the sculpted volume from the rock surface or base, these largely human-like figures are found in Greater Antillean caves, particularly the Dominican Republic. A minor number of likely Indigenous petroglyphs have also been recorded with paint applied inside the grooves or fashioned over a pigmented surface, as in Figure 1.1c (López Belando 2009; 2019:194-201).



Figure 1.1 a) fine-lined incised face and facial-body petroglyphs, Cueva de La Tortuga, Parque Nacional Jaragua, Dominican Republic (left), b) low-relief sculpted anthropomorphic head, Manantial or Spring of la Jeringa, Parque Nacional del Este, Dominican Republic (center), c) mask-like design petroglyph over pigmented surface, Cueva de la Malagueta, San Rafael de Yuma, Dominican Republic (right) (López Belando 2019:Figure 195 bottom, Figure 197, Figure 199 upper left, respectively).

Pictographs (common terminology) refer to painted designs, executed most frequently in black and red with lesser instances of brown, white, sepia and gray colors, as seen in Figure 1.2a and 1.2b (see Gutiérrez Calvache *et al.*, 2010; Gutiérrez Calvache, 2014, López Belando 2019 and Versteeg and Kelly 2019 for color details from locations on Cuba, the Dominican Republic and Aruba, respectively). Although laboratory analyses of paint pigments remain minimal, two studies are of note. The first by Samson *et al.*, 2017 employs a variety of techniques to identify pigment composition of samples from caves on Mona Island, off the west coast of Puerto Rico. The colors were mixed from phosphorites (mineralized cave guano), charcoal and ochre from the cave floors, as well as occasionally plant gums from outside cave sources. The second concerns multiple samples from Cuban cave locations, presented by Fernández Ortega *et al.* (this article), which again uses a range of analytical methods to identify such compounds as carbon, manganese dioxide, bat guano and hematite in paint recipes.



Figure 1.2 a) Geometric circle designs executed in black and red pigments, Cueva No. 1, Punta del Este, Isla de Pinos, Cuba, Archaic (left), b) white pigment rayed facial and face and body figures, Cueva de José María, Parque Nacional del Este, Dominican Republic, Ceramic Age (right) (López Belando 2019, Figure 53 upper, Figure 138 upper left, respectively).

A variant of petroglyphs involves the production of carved designs using fingers or finger-sized tools (Figures 1.3a and 1.3b). Though finger-fluting is, at present, of minor regional occurrence, Samson and Cooper (2023) report on the extensive practice of removing the soft and pasty carbonate crusts from the cave walls of some 30 of the 70-odd caves explored on Mona Island (230+ total). The resulting forms are normally shallow and often complex, ranging from a few centimeters to dozens of meters. Curvilinear swirls and serpentine elements, along with figurative motifs, are an impressionistic feature of the cave's dark zones, filling the spaces and at times intersecting with pictographs. Daniel DuVall (2010) records comparable finger/finger tool-produced continuous or interconnected curving lines and possible anthropomorphs

on an anvil-shaped boulder from the Peñon Cave, Cumayasa region, of the Dominican Republic.



Figure 1.3 Mona Island finger-fluting examples: a) use of natural cupola in cave ceiling to frame the design, a weeping and rayed face (left), b) complex and large-scale finger-incised lineal designs (right) (Samson *et al.*, 2013: Figures 5 and 6, respectively).

Carved surfaces on portable stone material include small to large-scale three-pointed objects (triangular shapes in profile) or *cemís*, stone collars (large open circular carved elements), and small free-standing statues. The three-pointers and statues are often considered to represent *cemís* or spiritual beings or forces, in addition to embodying their essence or power. Sculpted details range from unadorned forms to elaborately detailed anthropomorphic and zoomorphic motifs as seen in Figure 1.4 a, b, c series. Historically, they have not been analyzed as rock art, but instead are considered with artifact classes of similar manufacture or function. For instance, three-pointers are examined along with those made of shell and coral (Hayward *et al.*, 2009, pp. 2, 11). Their key to being incorporated into rock art discussions lies with their similarity either in form or motifs. Roe *et al.* (2018) link the three-pointer of the Saladoid, 500 BC-AD 600, with certain rock art forms –triangular outlines and teared eyes– of the later Ostionoid societies, AD 600-1500, that physically and visually project concerns with water control, especially with regard to crop fertility.

An under-examined category of rock art concerns other forms of worked rock surfaces. Such locations or workstones exhibit varying sizes, numbers and arrangements of stone mortars or cupules and polishers in the form of lineal grooves and flat or shallow ground surfaces (Figure 1.5). Surveys on Martinique and St. Lucia conducted by Dunshee in 2018 (data and figures, 2020; Siedlaczek *et al.*, 2019), Hanna's investigations (2019a, 2019b) on Grenada and Bright (2011) for the southern Lesser Antillean Windward Islands provide details for further examination. Finally, no geoglyphs or large-scale rock arrangements have been reported from the pre-AD 1500 period (Hayward

et al., 2009, p. 2), although structural features composed of earthen and stone arrangements comprise a common element of the altered landscape linked to sociopolitical developments of later Indigenous times (see below, Figure 1.9b).



Figure 1.4. Portable stone objects: a) small unsculpted three-pointer, Mount Irvine, Tobago, Saladoid, conglomerate stone, approximately 7 cm length, Tobago Museum (left) (Waldron 2019, Figure 5.19 top, page 243); b) large anthropomorphic sculpted three-pointer, Dominican Republic, Taíno, limestone, 17.1x9.5x18.4 cm, (center) (New York Metropolitan Museum of Art, Purchase, Oscar de la Renta Gift, 1997, 1997.35.2; Public Domain), c) anthropomorphic free-standing sculpture, Dominican Republic, Taíno, biocalcarenite or calcarenite, 61x18.4x22.5 cm, (right) (New York Metropolitan Museum of Art, The Michael C. Rockefeller Memorial Collection, Bequest of Nelson A. Rockefeller 1979, 1979.206.1209; Public Domain).



Figure 1.5. Grenada workstone with cupules and lineal grooved lines, St. John's River location after removal to public space (Hayward and Cinquino 2021, Figure 11, page 266).

Survey and Documentation Status

Characterizations of rock art forms remain ongoing since systematic site surveys and documentation efforts are incomplete. In the Greater Antilles, considerable areas of the larger islands have not been examined, while the survey status of Lesser Antillean islands varies substantially from island to island (Roe, 2009, pp. 199-204). Notwithstanding this situation, several notable examples can be cited: López Belando's 2019 publication covering 247 rock art locations on the Dominican Republic brings together an array of high-quality photographs and other site/image data; a similar extensive array of photographs, drawings, site histories, and interpretations have been compiled by Versteeg and Kelly (2019) for the 458 mainly pictographs from 33 locations on Aruba; Hayward *et al.*, 2015 compilation of rock art locational and design element distribution patterns from the Lesser Antilles; and Dunshee's (2020; Siedlaczek *et al.* 2019) use of advanced photographic techniques and geospatial data (GPS points) to record all known sites on Martinique and St. Lucia in the Lesser Antilles. Although not specifically aimed at locating rock art sites, two settlement surveys covering the Lesser Antilles by Bright (2011) for the southern islands and Hanna (2019a, b) for Grenada, include both rock art and non-rock art site types, as well as providing valuable geographical and cultural developmental contexts.

Recording of site and image data varies from simple mention in the literature or institutional database to well-documented single and multiple-site locations. Government or cultural institutional site registries are generally available for each political division (for Cuba see Gutiérrez Calvache *et al.*, 2010; Gutiérrez Calvache, 2014), though a regional database still remains to be developed (Roe 2009, pp. 199-204). Hand sketches and low-level technological recording methods are being replaced with or complemented by advanced photographic, 3D laser scanning and geospatial techniques that provide for enhanced reproduction accuracy, computer-aided examinations and expanded data availability for researchers. In addition to the documentation effort by Fernández Ortega *et al.*, presented in Section 2, mention can be made of the use of GigaPan panorama technology (interactive zoom-in-and-out feature) to catalogue some 300 black-outlined pictographs within the dark zone of the off-noted Hoyo de Sanabe Cave, Sánchez Ramírez Province, in the Dominican Republic (National Geographic website, 2011).

Image Classification and Distributions

Image classification schemes usually follow variants of a fourfold typology—anthropomorphs, zoomorphs, geometric designs and abstract motifs. Petroglyphs and pictographs are normally grouped together for such considerations. The majority of anthropomorphs comprise simple to complex

faces with less frequent examples of facial-body forms. Closely spaced groupings of two to three pits or dashes are considered to represent human-like faces that can have no, partial or fully enclosed outlines, such as round, ovoid and heart-shaped. Complex faces entail the addition of varied internal and external design elements including eyebrows, noses, ears and rays above and below the face. Above the face motifs also include a range of headdresses from tabular, linear, encircling crown to projections. Double or multiple encircled facial designs are present, as are interconnected facial arrangements (Figure 1.6a). Attached body motifs involve upper body outlines and different forms (rectangular, ovoid) with diverse internal layouts or pits, dashes and lines (Figure 1.6b). Lineal or outlined arms, legs, hands and feet are infrequently added to anthropomorphs (Figure 1.6c), as are gender indications. Handprints, though executed, are rare, with examples from Cueva del Indio, Cuba presented by Fernández Ortega *et al.*, in Section 2, Figure 3.1b (Hayward *et al.*, 2009; López Belando, 2019).



Figure 1.6. a) series of individual encircled faces with pitted or dashed eyes and mouths, petroglyphs, Cueva de Berna, Parque Nacional del Este, Dominican Republic (left), b) double-encircled faces with attached rectangular body shapes and internal curved line and pit design elements, petroglyphs, Stonefield Estate, Saint Lucia (center), c) anthropomorphic stick-figures (simple faces with linear bodies, arms, legs), petroglyphs, Cueva No. 1 de Borbón, Dominican Republic (right) (López Belando 2019, Figure 211, Figure 55 upper, Figure 46 upper, respectively).

Readily classifiable zoomorphs comprise diverse birds and fishes, along with turtles, bats, owls, and occasionally large marine animals like sharks (Figure 1.7a, b, c). The images are often rendered realistically allowing for probable taxa identifications. Spirals, singular to concentric circles, and crosses are among the geometric designs, while varied arrangements of curved and straight lines, pits, dashes and additional elements comprise motifs that are abstract or non-readily interpretable to present-day investigators (Figure 1.8a, b) (Hayward *et al.*, 2009; López Belando, 2019).

Non-portable rock art was produced at four primary locations in the Caribbean: (1) at the entrances and interiors of caves and rock shelters



Figure 1.7. a) two birds in profile, pictographs, Cueva Hoyo de Sanabe, Dominican Republic (left), b) turtle, pictograph, Mountain River Cave, Jamaica (center), c) shark, pictograph, Cueva de la Línea del Ferrocarril, Dominican Republic (right) (López Belando, 2019, Figure 50 upper right, Figure 57 upper left row of entire photograph, Figure 124 center image of entire photograph, respectively).



Figure 1.8. a) outlined cross and regular-lined square and rectangular motifs, petroglyphs, Guacara de Sierra Prieta, Dominican Republic (left), b) red-colored irregular circle and lined designs, pictographs, Cueva de la Cañada de Los Huesos, Dominican Republic (right) (López Belando 2019, Figure 50 lower left, Figure 89 lower, respectively).

involving walls, ceilings, floors and speleothems; (2) boulders along waterways or at other types of water resources such as pools and springs; (3) rock formations at island interiors and coastal fringes, and (4) ball courts/plazas or enclosures (Figure 1.9a, b). Ball courts represent structural features readily visible across the landscape that are marked by wholly or in-part earthen/rock embankments or upright slab-lined level earthen surfaces. They are commonly interpreted as communal spaces for a range of intersecting activities from the sociopolitical, to grand theater to religious ritual. Enclosures appear to be exclusive to the Greater Antilles and are especially concentrated on Puerto Rico and Hispaniola. Image totals per site commonly vary from one to the low hundreds for petroglyphs with higher numbers for pictographs (Roe, 2009, pp. 205, 207, 208-211).



Figure 1.9. a) carved anthropomorphic figures on a boulder along section Los Pasos of the Yuboa River, Dominican Republic (left) (López Belando 2019, Figure 305 upper), b) Batey del Cemí looking north, multi-court site of Tibes, Puerto Rico, (right) (Waldron 2019, Figure 4.18 left, page 169).

Rock art spatial distributions are uneven. Rock art sites are found on all the major Greater Antillean islands at most of the four locations. Their presence in the Lesser Antilles largely correlates with size—larger islands tend to have locations, while smaller ones do not—and are not associated with ball court locations since none have been reliably reported. Particular concentrations are observed for Puerto Rico and Hispaniola in the Greater Antilles and such islands as Aruba and Guadeloupe in the Lesser Antilles. Regarding the images, petroglyphs, pictographs and portable rock sculptures are again found on all the major islands of the Greater Antilles, along with select locations for finger-fluting and worked rock surfaces (see above discussion). Petroglyphs are restricted or nearly so to the Lesser Antilles, as well as the more northern Virgin Islands, with pictographs heavily predominating on Aruba, Bonaire and Curaçao (Roe, 2009, pp. 204–214). Rock sculptures are present in the Lesser Antilles with a number of worked rock surfaces to consider.

Data Sources

Rock art represents a class of material culture that is considered to reference past emotional and functional intent. In order to ascertain those intents, at least as reasonably as possible, the region's researchers rely upon three classes of data: ethnohistoric accounts of Natives at European contact (particularly Taíno groups in the Greater Antilles), ethnographic analogies from culturally related lowland South American Amerindians, and conceptual and methodological tools from within archaeology, as well as relevant disciplines. The first two sources provide information for interpretive efforts based on analogous contexts (world comparative or direct historical), while the third provides evidence for rock art physical characteristics and distributional patterns from which meaning and purpose may be inferred.

The ethnohistorical or chronicle accounts have proven valuable on a number of levels as demonstrated in the literature and the essays presented here. While problems are apparent in utilizing their recorded observations, grounded as they are in pre-modern fifteenth- or sixteenth-century European mindsets initially conditioned by fervent religious beliefs and facing decidedly unfamiliar circumstances, these authors were, in fact, first-hand observers. They witnessed catastrophic culture changes (population decline and resettlement; societal breakdown and restructuring) before the virtual extinction (at least documentary) of the various Native populations most particularly in the Greater Antilles.

Among the first of these was Christopher Columbus whose recorded observations of Amerindians include his diary or log that was twice lost or went missing. He was an intelligent observer though consumed by the search for gold to recompense his royal patrons, in addition to augmenting his own wealth and rewarding his fractious crew. Fortunately, another recorder, the Dominican priest Bartolomé de Las Casas (1474-1556), abstracted material from Columbus' original that was included in his wider scope *Historia de las Indias* (first printed in 1875; 1951). While such issues as omissions from, and additions to, the original are evident, the text is nonetheless considered a reasonably faithful reproduction of the original (for an English version see Fuson 1987, as well as a history of the various reconstruction attempts; see also Griswold 1997: Appendices, p. 170). Columbus also wrote two letters to the Catholic monarchs and in 1994 a copybook of Columbus's was discovered in Spain which contains a letter in which he describes his second voyage –during which the Lesser Antilles and Puerto Rico were discovered– that serves as a check on some of his earlier observations (Alegría, 1997, p. 13).

Perhaps the best chronicler source derives from the Hieronymite friar Ramón Pané who accompanied Columbus on his second voyage and drafted his own account of Native life in his slim *An Account of the Antiquities of the Indians* (1999). He arrived five years before Las Casas, on January 2, 1494, and stayed until the end of 1498. Pané was commissioned by Columbus to write his account and probably brought the manuscript back with him to Spain in 1500. Las Casas who wrote in his later *Apologética historia de las Indias* (1992) both at times corrects and augments the information he selected from Pané's work (Griswold, 1997, p. 175). Despite this patronizing caveat, Pané's strength is that he admitted his occasional lack of understanding and did not seek to parade his own acumen. While viewing Taíno societies through the lens of devout Christian belief, he is nevertheless sympathetic to his informants and his record was based on a relatively long-term stay of two years among the Taíno of the Magua chiefdom. He attempted to accurately record what was related to him by Guarionex, the cacique (Native term recorded by the Spanish), or chief of Magua, primarily regarding religious beliefs (Lovén, 1935, p. 560).

His original account has also been lost and like Columbus' missing log has been abstracted in various states of completeness and accuracy in other early accounts. It was the philologist José Juan Arrom (Ed. 1974) who eventually undertook a meticulous attempt to reconstruct the original, evaluating the extant versions in addition to employing linguistic comparisons to produce a Spanish translation/paraphrase in 1974 (Stevens-Arroyo, 1988, pp. 79-80). Griswold (Translator Pané, 1999) followed up with an English translation of Arrom's work in 1999, thus providing two easily accessible publications for study of this key ethnohistoric source.

The most noted chronicler is Fray Bartolomé de Las Casas who turned into a fierce advocate for New World Native populations after becoming dismayed by the brutality of the Spanish Conquest as especially related in his 1552 *The Devastation of the Indies: A Brief Account* (English Version 1992). We can add that he was dismayed as well by his own participation in it especially as a soldier during the subjugation of Amerindians on Cuba (Lovén, 1935, p. 658; Stevens-Arroyo, 1988, p. 82; Alegría, 1997, p. 15). During his stay in the Caribbean in the early 1500s, Las Casas spent most of his time in Hispaniola. Although he did not mention which particular areas he made observations in or collected records from, it is likely the locations were in the north of the island (Lovén, 1935, pp. 658-659). His works (above citations plus *Historia de Las Indias* (1552-1561 [1951])) require a critical review for he arrived on Hispaniola in 1502 (Stevens-Arroyo, 1988, p. 82) when Native cultural systems were already beginning to feel the impact of violent changes to the social order. His advocacy for Indigenous populations also leaves him open to the charge of bias in his reporting. In addition, at times he exaggerated for effect, as in the case of affirming that the Indians did not practice idolatry in the face of abundant evidence to the contrary, including from his own account. Nevertheless, he

...is generally regarded as the chronicler most knowledgeable and sympathetic to the natives' ways of life and cultures; he was a firsthand participant and witness to many of the historic events in both Cuba and Hispaniola... Las Casas wrote *Historia*...when he was an elderly man, in his late seventies and early eighties, thus relying on documents and fading memories (Oliver, 2009, p. 32).

The Italian courtier Pedro Mártir de Anglería or anglicized Peter Martyr summarized, indirectly since he never actually visited the Antilles, Pané's original report: "From his writings I have proposed to collect these few details, omitting other more trivial items. Here you have them" (Mártir de Anglería, 1493-1525, *Décadas del Nuevo Mundo*, 1989; see Griswold, 1997, p. 172 for the quote and 171-175 for the English translation of Mártir's Pané section). In fact, he copied large segments from Pané's report, practically verbatim, not

just a few details, in his own work (as, indeed, did Las Casas). Peter Martyr had insatiable curiosity as well as a desire to ingratiate himself at court; yet he also had access to informally circulating information and thus is generally credible (Alegría, 1997, pp. 14-15; Griswold 1997, p. 172).

Francisco López de Gómara (1552 [1922]) represents a minor chronicler because he

...is a writer at second hand. From him we have, however, a brief description of the Lucayos [Natives from the Bahamas], probably dating from the time when they were deported by the Spaniards for the purpose of filling the gaps in the gold-washing work left by the more and more dwindling Tainos in Española (Lovén, 1935, p. 660).

The last major chronicler covered here is both the most comprehensive, yet the most problematic of the early sources. He is Gonzalo Fernández de Oviedo y Valdés.

A nobleman who had been raised in the court and was very close to the Spanish kings (first Ferdinand and later Charles V), Oviedo came to America in 1514 as a government official... when he arrived, some of the aboriginal populations had already disappeared and their remaining societies were already disintegrating. Nonetheless, Oviedo's work is extremely valuable. Indeed his *Historia Natural y General de las Indias* [1535, 1959] is one of the most important of all books on the West Indies... a chapter of the *Historia* is devoted to [Puerto Rico]... Irritated by inaccuracies in this work, and especially by the disparagement of Indians, Father Las Casas responded to Oviedo in his own later books (Alegría, 1997, p. 17).

While he is a generally reliable recorder on technology and subsistence (although some of his drawings depict post-European introductions or changes), his attitude toward the Taíno reflected both his noble Old World background and his racial prejudices: "Others (*e.g.*, Gonzalo Fernández de Oviedo y Valdés) took the perspective that the Indians were little more than a curious feature of the natural environment" (Wilson, 1990, p. 5; see also Oliver, 2009, pp. 32-33). Nevertheless, he is often and profitably cited.

The second set of analogous contexts extends forward four centuries (16th-20th), and thus introduces both a diachronic and a cultural-geographical shift. It is ethnographic analogy with lowland (tropical forest) Amerindians, the parent populations of the post-Archaic Saladoid (500 BC-AD 500/600) populations that subsequently entered and differentiated within the Antilles. Since they came from the Guianas and northern South America (in particular what is now northeastern Venezuela), that region is the primary focus of comparison. Because they were Arawak speakers the immediate group to compare them

with is the now-acculturated Lokono or coastal Arawaks, what the early writers called the “True Arawaks” (see Im Thurn, 1883; Roth, 2011; Lovén, 1935). Because the Arawaks interacted (both via trade and war) with the Caribs over several centuries the latter have come to share many ancient Arawak characteristics (*e.g.*, tropical forest society, the manioc complex, the shamanic complex, settlement patterns, and similarities in mythology). The Caribs tend to survive relatively unacculturated because of their interior (Alto Essequibo) and upriver (alto-Orinoco) locations. Thus, groups like the Trío (Rivière, 1984), Waiwai (Fock, 1963), and Ye’cuana (Guss, 1989) are the next best analogs to the Lokono in looking for similarities with especially Taíno societies. The detailed similarity of these cultures’ beliefs with the ethnohistorically recorded religion and mythology of Taíno groups has been repeatedly emphasized by various Puerto Rican scholars (López Baralt, 1976-1977; Stevens-Arroyo, 1988), as well as Roe (2011).

Slightly further afield, but still relatively nearby, are the Desana (Tukano) of the Northwest Amazon (Reichel-Dolmatoff, 1971) and, below the Amazon, the riverine Shipibo of the Peruvian highlands (Roe, 1992), whose territory embraces interaction with the interfluvial Arawaks (*e.g.*, Amuesha, Campa), the putative descendants of the formative Tutishcainyo culture, a southern affiliated member of the Saladoid tradition. While the ancient Taíno were not modern Guianan-Amazonian Indians, they were ancestral to them in the same sense that North Americans are not Europeans, but until recent 1960s immigration changes, were mainly descendants from them.

The third set of data sources concerns methodological and conceptual tools. Documentation methods in the early literature include hand sketches (not necessarily to scale), direct 1:1 tracings, field-use-quality to existing topographic maps, and low-level photographic techniques largely resulting in two-dimensional representations of uneven quality or dependent on the ability of the individual documenter. These techniques are being replaced with or complemented by advanced photographic imagery, 3D laser scanning and geospatial techniques such as GPS (Global Positioning System) and GIS (Geographic Information System). Their incorporation testifies to the realization that sound inferences depend upon the most accurate image reproductions, a desire to respect the physical integrity of the designs, the benefit of cataloging the entire assemblage, and the advantage of recording precise locations within, and without the surrounding environment.

Conceptual approaches are varied, ranging from the established structural/functional frameworks to newer perspectives involving cognitive archaeology, symbolic analysis and ontological considerations. They collectively can be characterized as attempts to expand our understanding of the role of rock art in past societies by considering them as a complex set of relationships among humans, plants, animals, non-human spirits, as well

as the surroundings which these animate beings occupied, and how these relationships yielded functioning or dynamic worldviews that we witness through their rock art.

Section 2: Investigative Topics

Interpretive Efforts

Low-level simple assertions (these facial features represent past humans, perhaps ancestors) to well-reasoned understandings of particular to collective images (representations of specific myths and rituals or as symbols used to enhance sociopolitical status) can be found in the literature. Rock art is frequently viewed as functioning primarily in the religious realm. A more expansive role can be advanced where the images serve as prominent and emotive symbols, referents or objects that can be manipulated for various ends (personal or corporate material, spiritual, or prestige gain) in solely religious or intersecting sociopolitical, economic and religious contexts (Hayward *et al.*, 2013a, p. 495).

Further, Caribbean rock art research, as in other world regions, possesses a distinct historical background and investigative structure. For instance, the multi-national colonial experience continues to influence the character and pace of inquiry on particular islands, as well as the chosen attendant theoretical and methodological approaches. An underappreciated aspect of the investigative structure concerns its “flavor”. There is a specific vocabulary, cadence, and personality to the researchers and their research. We have chosen to highlight this aspect by presenting individual-authored essays rather than, say, review their or others’ viewpoints and results.

Additionally, the essays also represent certain regional research subjects or traditions. The first examines dates for, or the lack thereof, as well as formal chronological frameworks for the rock art in the Greater and Lesser Antilles. This is a perennial issue that various investigators have grappled with, albeit with limited success. Yet, as the following authors Hayward, Cinquino and Smith point out, a considerable number of recently directly dated pictographs have come to transform the limits of date-deprived interpretation.

Dating

Michele H. Hayward, Michael A. Cinquino, and Donald A. Smith

Introduction

The dating of Antillean rock art has almost exclusively relied upon indirect methods to frame chronological sequences of the region’s carved and painted

images. These include contextual analysis or associating undated rock art sites with proximally dated non-rock art sites and materials, as well as general to detailed stylistic comparisons again linking reasonably dated images to undated ones. Until the last few years, a very limited number of directly dated images—largely from pictographic charcoal or from archaeological remains clearly in association with the rock art—have been available. This situation has changed dramatically with the addition of a significant number of newly dated pictographs, which are reviewed here.

Despite uncertainties with indirect methods and the few direct dates, developmental sequences have been proposed at the sub-regional to regional levels. Two well-established sequences are those by Jönsson Marquet (2002, 2009) for the Lesser Antilles and the other by Roe (Roe and Rivera Meléndez, 1995; Roe, 2005) for the Greater Antilles. Waldron’s 2019 observations on the region’s rock art execution patterns, as well as Rodríguez Ramos *et al.*, 2021 classification for Puerto Rican pictographs based on direct radiocarbon dating, are also reviewed.

Directly Dated Rock Art Survey

A survey of the published literature regarding directly dated rock art is presented in tabular, graphic and mapped formats. Table 1 contains the following columns: the location or site of the dated sample; the laboratory performing the analysis; the sample’s source material; dating details involving sample identification, BP date, the corresponding calendric age range calibrated to 2-sigmas along with the mean or intercept point; comments on the dating results by the study’s authors and their or our descriptions of the images, and finally citations for the table’s entries. Notes on the table’s content are provided at the end of the table. Figure 2.1 graphs the BC/AD calibrated to 2 sigma ranges, while Figure 2.2 displays the locations, numbers of dates and their general archaeological period by island for the region.

Table 1. Directly Dated Caribbean Rock Art

<i>Location</i>	<i>Laboratory Notations</i>	<i>Source Material</i>	<i>Dating</i> 1-Sample ID 2-BP date 3-calibrated 2 sigma date 4-Mean or intercept date	<i>Dating Comments with image descriptions</i>	<i>Source</i>
Greater Antilles					
Puerto Rico					
Cueva del Abono or de Mujeres	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30024 FP7 2-320±30 3-AD 1480-1650 4-Mean AD 1565	Early Historic; lineal lizard-like	Rodríguez Ramos 2017: Table 1, pp. 5, 17 Rodríguez Ramos <i>et al.</i> , 2021: Table 1, p. 13, Figure 2, p. 11

<i>Location</i>	<i>Laboratory Notations</i>	<i>Source Material</i>	<i>Dating</i> 1-Sample ID 2-BP date 3-calibrated 2 sigma date 4-Mean or intercept date	<i>Dating Comments with image descriptions</i>	<i>Source</i>
Cueva del Abono or de Mujeres	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30025 FP8 2-280±30 3-AD 1510-1660 4-Mean AD1585	Early Historic; one horizontal line with series of linked straight lines below, abstract	Rodríguez Ramos, 2017: Table 1, pp. 5, 17; Rodríguez Ramos <i>et al.</i> , 2021: Table 1 p. 13, Figure 2, p. 11
Cueva Gemelos	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30026 FP9 2-1230±65 3-AD 660-960 4-Mean AD 810	First Phase Late Ceramic or Ostionoid; simple face with irregular oval shaped head and sub-medial lineal projections	Rodríguez Ramos, 2017: Table 1, pp. 5, 20; Rodríguez Ramos <i>et al.</i> , 2021: Table 1, p. 13, Figure 2, p. 11
Cueva Gemelos	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30027 FP10 2-410±40 3-AD 1430-1630 4-Mean AD 1530	Late Phase Late ceramic; possible dragon-fly-like insect with pronounced eyes and lineal body with paired lines at right angles	Rodríguez Ramos, 2017: Table 1, pp. 5, 21-22; Rodríguez Ramos <i>et al.</i> , 2021: Table 1, p. 13, Figure 2, p. 11
Cueva Gemelos	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30028 FP12 2-870±40 3-AD 1040-1230 4-Mean AD 1135	Middle Phase Late Ceramic; irregular linear segmented crown encircling a simple face, so called "sun" image in the literature	Rodríguez Ramos, 2017: Table 1, pp. 5, 20; Rodríguez Ramos <i>et al.</i> , 2021: Table 1, p. 13, Figure 2, p. 11
Cueva la Pita	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-46762 CT2 2-1140±30 3-AD 780-990 4-Mean AD 885	First Phase Late Ceramic; irregular lined enclosed triangular shaped face	Rodríguez Ramos <i>et al.</i> , 2021: Table 1, p. 13, Figure 2, p. 11
Cueva la Pita	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-46763 CT3 2-1770±35 3-AD 220-380 4-Mean AD 300	Early Ceramic; simple triangular shaped face with dashed eyes and mouth	Rodríguez Ramos <i>et al.</i> , 2021: Table 1, p. 13, Figure 2, p. 11
Cueva la Pita	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-46764 CT4 2-490±25 3-AD 1410-1450 4-Mean AD 1430	Late Phase Late Ceramic; set of two irregular parallel crossed lines	Rodríguez Ramos <i>et al.</i> , 2021: Table 1, p. 13, Figure 2, p. 11
Cueva la Pita	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-46765 CT5 2-590±30 3-AD 1300-1420 4-Mean AD 1360	Late Phase Late Ceramic; outlined body, tail and head with lineal square angled arms/legs/digits, lizard-like	Rodríguez Ramos <i>et al.</i> , 2021: Table 1, p. 13, Figure 2, p. 11

<i>Location</i>	<i>Laboratory Notations</i>	<i>Source Material</i>	<i>Dating</i> 1-Sample ID 2-BP date 3-calibrated 2 sigma date 4-Mean or intercept date	<i>Dating Comments with image descriptions</i>	<i>Source</i>
Cueva la Pita	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-46766 CT6 2-970±20 3-AD 1020-1160 4-Mean AD 1090	Middle Phase Late Ceramic; filled-in winged zoomorph	Rodríguez Ramos <i>et al.</i> , 2021: Table 1 p. 13, Figure 2, p. 11
Cueva la Pita	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-46767 CT7 2-930±20 3-AD 1040-1160 4-Mean AD 1100	Middle Phase Late Ceramic; filled in rectangular with curved lined top projection; abstract	Rodríguez Ramos <i>et al.</i> , 2021: Table 1, p. 13, Figure 2, p. 11
Cueva la Pita	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-46768 CT8 2-850±30 3-AD 1050-1270 4-Mean AD 1160	Middle Phase Late Ceramic; filled-in elongated body with fish-like tail and lineal leg-like lines with digits underneath	Rodríguez Ramos <i>et al.</i> , 2021: Table 1, p. 13, Figure 2, p. 11
Cueva la Pita	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-46769 CT9 2-600±20 3-AD 1310-1400 4-Mean AD 1335	Late Phase Late Ceramic; abstract filled-in center rectangular with top and bottom right-angled extensions	Rodríguez Ramos <i>et al.</i> , 2021: Table 1 p. 13, Figure 2, p. 11
Cueva la Pita	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-46770 CT10 2-640±30 3-AD 1290-1400 4-Mean AD 1345	Late Phase Late Ceramic; irregular filled-in lined motif	Rodríguez Ramos <i>et al.</i> , 2021: Table 1 p. 13, Figure 2, p. 11
Cueva la Pita	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-46771 CT11 2-1060±30 3-AD 900-1030 4-Mean AD 965	Middle Phase Late ceramic; complex circular face with eyes, mouth and possible cheek and hairline design elements	Rodríguez Ramos <i>et al.</i> , 2021: Table 1, p. 13, Figure 2, p. 11
Cueva la Pita	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-46772 CT12 2-920±25 3-AD 1030-1200 4-Mean AD 1115	Middle Phase Late Ceramic; complex circular face with diamond-shaped pitted eyes, toothed mouth, nose, hairline elements and sub-medial rays	Rodríguez Ramos <i>et al.</i> , 2021: Table 1, p. 13, Figure 2, p. 11

<i>Location</i>	<i>Laboratory Notations</i>	<i>Source Material</i>	<i>Dating</i> 1-Sample ID 2-BP date 3-calibrated 2 sigma date 4-Mean or intercept date	<i>Dating Comments with image descriptions</i>	<i>Source</i>
Cueva la Pita	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-46773 CT13 2-1010±20 3-AD 990-1120 4-Mean AD 1055	Middle Phase Late ceramic; complex circular face with eyes, mouth, nose, hairline and cheek elements with both supra- and sub-medial rays	Rodríguez Ramos, <i>et al.</i> , 2021: Table 1, p. 13, Figure 2, p. 11
Cueva la Pita	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-46774 CT14 2-960±20 3-AD 1030-1160 4-Mean AD 1095	Middle Phase Late Ceramic; concentric circles with occasional aligned pits	Rodríguez Ramos, <i>et al.</i> , 2021: Table 1, p. 13, Figure 2, p. 11
Cueva LJ22	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-46761 CT1 2-530±30 3-AD 1330-1440 4-Mean AD 1385	Late Phase Late Ceramic; ovoid head minus internal facial elements with two ears, top-hat element and sub-medial rays	Rodríguez Ramos <i>et al.</i> , 2021: Table 1, p. 13, Figure 2, p. 11
Cueva Lucero	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-46777 CT17 2-180±20 3-AD 1660-1950 4-Mean AD 1805	Historic; largely enclosed lineal oval with irregular internal at-different-angled lines; abstract	Rodríguez Ramos <i>et al.</i> , 2021: Table 1, p. 13, Figure 5, p. 19
Cueva Lucero	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-46779 CT20 2-500±20 3-AD 1410-140 4-Mean AD 1425	Historic; circular face with eyes and mouth and above and below triangular-shaped projections	Rodríguez Ramos <i>et al.</i> , 2021: Table 1, p. 13, Figure 2, p. 11
Cueva Lucero	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-46781 CT23 2-490±20 3-AD 1410-1440 4-Mean AD 1425	Historic; abstract rectangle with complex regular straight and curved internal design	Rodríguez Ramos <i>et al.</i> , 2021: Table 1, p. 13, Figure 2, p. 11
Cueva Lucero	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-46782 CT24 2-190±30 3-AD 1650-1950 4-Mean AD 1800	Historic; simple face with eyes and mouth; irregular shaped no-internal-elements headdress and minimal upper body outline	Rodríguez Ramos <i>et al.</i> , 2021: Table 1, p. 13, Figure 5, p. 19

<i>Location</i>	<i>Laboratory Notations</i>	<i>Source Material</i>	<i>Dating</i> 1-Sample ID 2-BP date 3-calibrated 2 sigma date 4-Mean or intercept date	<i>Dating Comments with image descriptions</i>	<i>Source</i>
Cueva Lucero	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30042 FP27 2-3140±40 3-1500-1310 BC 4-Mean 1405 BC	Unclear; Gallery D; Archaic date needs to be confirmed; complex face, possibly masked with African-like features	Rodríguez Ramos 2017: Table 1, pp. 5, 32-33; Rodríguez Ramos <i>et al.</i> , 2021: Table 1, p. 13, Figure 2, p. 11
Cueva Lucero	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30045 FP30 2-730±35 3-AD 1220-1380 4-Mean AD 1300	Late Phase Late Ceramic; Gallery D; lizard-like oval filled-in and lineal body with head/tail and flexed arms/legs/digits	Rodríguez Ramos, 2017: Table 1, pp. 5, 30-31; Rodríguez Ramos <i>et al.</i> ; 2021: Table 1, p. 13, Figure 2, p. 11
Cueva Lucero	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30039 FP24 2-630±20 3-AD 1270-1390 4-Mean AD 1330	Late Phase Late Ceramic; Gallery C; filled-in turtle	Rodríguez Ramos, 2017: Table 1 pp. 5, 29-30 Rodríguez Ramos <i>et al.</i> 2021: Table 1 p13, Figure 2 p11
Cueva Lucero	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30043 FP28 2-630±50 3-AD 1280-1380 4-Mean AD 1330	Late Phase Late Ceramic; Gallery D; stick figure anthropomorph with complex crowned head and right-angled arms/legs/digits	Rodríguez Ramos 2017: Table 1 pp. 5, 31 Rodríguez Ramos <i>et al.</i> 2021: Table 1 p13, Figure 2 p11
Cueva Lucero	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30049 FP34 2-400±35 3-AD 1435-1630 4-Mean AD 1532.5	Gallery D; late Indigenous to early Historic; concentric circles with radial projection	Rodríguez Ramos 2017: Table 1 pp. 5, 31-32 Rodríguez Ramos <i>et al.</i> 2021: Table 1 p14, Figure 2 p11
Cueva Lucero	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30050 FP35 2-380±30 3-AD 1450-1630 4-Mean AD 1540	Gallery D; late Indigenous to early Historic; solid curved "I", seen in Early Ceramic Hacienda Grande style ceramics with markings above	Rodríguez Ramos, 2017: Table 1, pp. 5, 31-32; Rodríguez Ramos <i>et al.</i> 2021: Table 1 p14, Figure 2 p11
Cueva Lucero	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30048 FP33 2-310±35 3-AD 1480-1650 4-Mean AD 1565	Gallery D; late Indigenous to early Historic; snake-like zig-zag	Rodríguez Ramos 2017: Table 1 pp. 5, 31-32 Rodríguez Ramos <i>et al.</i> , 2021: Table 1, p. 13, Figure 2, p. 11

<i>Location</i>	<i>Laboratory Notations</i>	<i>Source Material</i>	<i>Dating</i> 1-Sample ID 2-BP date 3-calibrated 2 sigma date 4-Mean or intercept date	<i>Dating Comments with image descriptions</i>	<i>Source</i>
Cueva Lucero	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30040 FP25 2-220±30 3-AD 1640-1950 4-Mean AD 1795	Historic; Gallery C; filled-in bird in profile	Rodríguez Ramos, 2017: Table 1, pp. 5, 29-30
Cueva Lucero	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30041 FP26 2-110±30 3-AD 1680-1950 4-Mean AD 1815	Historic; Gallery D; simple face with sub-medial rays	Rodríguez Ramos, 2017: Table 1, pp. 5, 32
Cueva Mason	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-60771 CM1 2-2370±190 3-900 BC-AD 10	Early Ceramic	Rodríguez Ramos, 2022: Table 1
Cueva Mason	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-60770 CM2 2-1150±70 3-AD 710-1020	First Phase Late ceramic; partial head with encircled pitted eyes with lenticulate ears projecting from the top of the head; zoomorph or anthropomorph	Rodríguez Ramos 2022:Table 1
Cueva Matos	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30019 FP2 2-640±45 3-AD 1280-1400 4-Mean AD 1340	Late Phase Late Ceramic; zoomorph, bird-like, frontal view	Rodríguez Ramos 2017:Table 1, pp. 5, 12-14 Rodríguez Ramos et al. 2021:Table 1 p14, Figure 2 p11
Cueva Matos	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30021 FP4 2-580±40 3-AD 1300-1420 4-Mean AD 1360	Late Phase Late Ceramic; oval solid body with linear arms/legs in flexed positions, possible lizard-like zoomorph	Rodríguez Ramos 2017:Table 1, pp. 5,14 Rodríguez Ramos et al. 2021:Table 1 p14, Figure 2 p11
Cueva Matos	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30018 FP1 2-410±25 3-AD 1440-1616 4-Mean AD 1528	Early Historic; elongated oval solid body/head/ tail with linear arms/legs/digits in flexed positions, possible lizard-like zoomorph	Rodríguez Ramos, 2017: Table 1, pp. 5, 14; Rodríguez Ramos, et al.; 2021: Table 1, p. 14, Figure 2, p. 11

<i>Location</i>	<i>Laboratory Notations</i>	<i>Source Material</i>	<i>Dating</i> 1-Sample ID 2-BP date 3-calibrated 2 sigma date 4-Mean or intercept date	<i>Dating Comments with image descriptions</i>	<i>Source</i>
Cueva Matos	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30020 FP3 2-330±30 3-AD 1480-1640 4-Mean AD 1560	Early Historic; historic ship with sail and three masts in profile	Rodríguez Ramos, 2017: Table 1, pp. 5; Rodríguez Ramos <i>et al.</i> , 2021: Table 1, p. 14, Figure 2, p. 11
Cueva Matos	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-60772 CMatos 1 2-850±60 3-AD 1040-1280	Middle Phase Late Ceramic	Rodríguez Ramos, 2022, Table 1
Cueva Paloma	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-46783 CT25 2-780±25 3-AD 1220-1280 4-Mean AD 1250	Late Phase Late Ceramic; abstract motif of a circle, dot and lines	Rodríguez Ramos, <i>et al.</i> , 2021: Table 1 p. 14, Figure 2, p. 11
Cueva Soto	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30031 FP16 2-2910±50 3-1270-940 BC 4-Mean 1105 BC	Unclear; from a series of individual linear motifs, possible writing; BC date needs confirmation	Rodríguez Ramos, 2017: Table 1, pp. 5, 26-27; Rodríguez Ramos, <i>et al.</i> , 2021: Table 1, p. 14
Cueva Soto	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30023 FP6 2-1030±20 3-AD 910-1030 4-Mean AD 970	Late Phase Late Ceramic; associated with initial Capá or last phase of Indigenous ceramics; eye-like with encircled dot	Rodríguez Ramos, 2017: Table 1 pp. 5, 25-26; Rodríguez Ramos, <i>et al.</i> , 2021: Table 1, p. 14
Cueva Soto	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30022 FP5 2-480±30 3-AD 1410-1450 4-Mean AD 1430	Late Phase Late Ceramic; simple face	Rodríguez Ramos, 2017: Table 1, pp. 5, 26; Rodríguez Ramos <i>et al.</i> 2021: Table 1, p. 14
Cueva Ventana Intermedia	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30033 FP18 2-2390±35 3-730-390 BC 4-Mean 560 BC	Archaic; 3-Cave complex with rock art: Superior, Intermedia, Inferior; irregular intersecting lines; Superior has Archaic deposit 2490-950 BC cal. 2 sigma	Rodríguez Ramos, 2017: Table 1, pp. 5, 7; Rodríguez Ramos, <i>et al.</i> , 2021: Table 1, p. 14, Figure 2, p. 11

<i>Location</i>	<i>Laboratory Notations</i>	<i>Source Material</i>	<i>Dating</i> 1-Sample ID 2-BP date 3-calibrated 2 sigma date 4-Mean or intercept date	<i>Dating Comments with image descriptions</i>	<i>Source</i>
Cueva Ventana Intermedia	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30034 FP19 2-1050±30 3-AD 900-1030 4-Mean AD 965	First Phase Late Ceramic; tabular design elements encircling a face with body; so-called "sun figures" in the literature	Rodríguez Ramos, 2017: Table 1, pp. 5, 9-10; Rodríguez Ramos <i>et al.</i> , 2021: Table 1, p. 14, Figure 2, p. 11
Cueva Ventana Intermedia	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30036 FP21 2-1050±80 3-AD 780-1160 4-Mean AD 970	First Phase Late Ceramic; enclosed or wrapped body, simple face with internal horizontal lined body	Rodríguez Ramos, 2017: Table 1, pp. 5, 9-10; Rodríguez Ramos <i>et al.</i> ; 2021: Table 1, p. 14, Figure 2, p.11
Cueva Ventana Intermedia	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30037 FP22 2-690±30 3-AD 1270-1390 4-Mean AD 1330	Late Phase Late Ceramic; heart-shaped face; similar to those at other Caribbean sites; corresponds to similar images at multi-ball court Caguana, Puerto Rico, dated to last Indigenous phase	Rodríguez Ramos, 2017: Table 1, pp. 6, 9-10; Rodríguez Ramos, <i>et al.</i> , 2021: Table 1, p. 14, Figure 2, p. 11
Cueva Ventana Intermedia	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30035 FP20 2-400±30 3-AD 1440-1630 4-Mean AD 1535	Historic; linear zoomorph	Rodríguez Ramos 2017: Table 1, pp. 6, 9-10; Rodríguez Ramos <i>et al.</i> 2021: Table 1, p. 14, Figure 2, p. 11
Cueva Ventana Intermedia	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30032 FP17 2-300±20 3-AD 1500-1650 4-Mean AD 1575	Early Historic; possibly by African or African descent; linear segmented crown encircling a simple face	Rodríguez Ramos, 2017: Table 1, pp. 6, 10-11; Rodríguez Ramos <i>et al.</i> 2021: Table 1, p. 14, Figure 2, p. 11
Cueva Ventana Intermedia	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30038 FP23 2-190±30 3-AD 1650-1950 4-Mean AD 1800	Historic; linear zoomorph, lizard	Rodríguez Ramos, 2017: Table 1 pp. 6, 11; Rodríguez Ramos <i>et al.</i> , 2021: Table 1, p. 14, Figure 5, p. 19

<i>Location</i>	<i>Laboratory Notations</i>	<i>Source Material</i>	<i>Dating</i> 1-Sample ID 2-BP date 3-calibrated 2 sigma date 4-Mean or intercept date	<i>Dating Comments with image descriptions</i>	<i>Source</i>
Cueva de los Largartos	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-30029 FP14 2-610±40 3-AD 1290-1410 4-Mean AD 1350	Late Phase Late Ceramic; stick figure anthropomorph with simple face, middle body opposing lines possible representing skeletal ribs and downturned/upturned arms/legs/digits	Rodríguez Ramos, 2017: Table 1, pp. 6, 21-22; Rodríguez Ramos <i>et al.</i> , 2021: Table 1, p. 13, Figure 2, p. 11
Cueva la Catedral		Charcoal from associated hearth	2-550±70 BP 3-AD 1330-1470	Late Phase Late Ceramic; date is for the assemblage as a whole	Roe, 2009: 222
Cueva la Catedral	Center for Applied Isotope Studies, University of Georgia	Paint sample; AMS method	1-46785 CT28 2-380±35 3-AD 1450-1630 4-Mean AD 1540	Historic; complex face with sub-medial rays	Rodríguez Ramos, <i>et al.</i> , 2021: Table 1, p. 13, Figure 2, p. 11
Mona Island Cave 8	British Museum Department of Scientific Research	Paint sample; standard C14 dating	1-128/ OxA31348 Calibrated 2 sigma 3-1302-1413 CE	Late Indigenous	Samson <i>et al.</i> , 2017, pp. 32-33
Cave 6	British Museum Department of Scientific Research	Paint sample; standard C14 dating	1-134/ OxA31199 Calibrated 2 sigma 3-1478-1637 CE	Late Indigenous to early Historic	Samson <i>et al.</i> , 2017, pp. 32-33
Cave 2	British Geologic Survey	Calcite accretion over image; U-Th Uranium-Thorium dating	3-Calibrated 2 sigma 1244 CE ±8	Finger fluted motif beneath sample; youngest possible date; late Indigenous	Samson <i>et al.</i> , 2017, p. 32-33
Cave 8	British Geologic Survey	Calcite accretion over image; U-Th Uranium-Thorium dating	3-Calibrated 2 sigma 1088 CE ±18	Finger fluted motif beneath sample; youngest possible date; late Indigenous	Samson <i>et al.</i> , 2017, p. 32-33

<i>Location</i>	<i>Laboratory Notations</i>	<i>Source Material</i>	<i>Dating</i> 1-Sample ID 2-BP date 3-calibrated 2 sigma date 4-Mean or intercept date	<i>Dating Comments with image descriptions</i>	<i>Source</i>
Cave 3	British Geologic Survey	Calcite accretion over image; U-Th Uranium-Thorium dating	3-Calibrated 2 sigma 1703 CE ±4	Finger fluted motif beneath sample; youngest possible date; on or before 1700s	Samson <i>et al.</i> , 2017, pp. 32-33
<i>Dominican Republic and Cuba</i>					
Dominican Republic Cueva de Berna		Associated materials	3-1890-1255 BC	Archaic Period	Veloz Maggiolo, <i>et al.</i> , 1977: 22 as cited in Foster <i>et al.</i> , 2011, p. 5
Dominican Republic José María Cave	Lawrence Livermore	Pigment sample	1-CMAS 122461 2-4100±35 3-2498-2865 BC 4-Intercept 2667 BC	Archaic date needs confirmation; abstract or "boat-like" motif	Foster <i>et al.</i> , 2011, p. 3, 6
Dominican Republic José María Cave	Lawrence Livermore	Pigment sample	1-CMAS 122462 2-2700±35 3-802-909 BC 4-Intercept 852 BC	Archaic date needs confirmation; facial image with solid "beard-like" sub-medial projection	Foster <i>et al.</i> , 2011, pp. 3, 6
Dominican Republic Cueva del Puente	Beta Analytic	Paint sample; AMS method	1-Beta 281909 2-1660±40 3-AD 260-520 4-Intercept AD 400	Indicates Early Ceramic or Saladoid; caution in interpreting dating results; abstract regular lined rectangle	Foster <i>et al.</i> , 2011, pp. 5-6
Dominican Republic Cueva del Puente	Beta Analytic	Paint sample; AMS method	1-Beta 281910 2-1560±40 3-AD 410-590 4-Intercept AD 540	Indicates Early Ceramic or Saladoid; caution in interpreting dating results; simple face	Foster <i>et al.</i> , 2011, pp. 5-6
Dominican Republic Cueva del Puente	Beta Analytic	Paint sample; AMS method	1-Beta 281911 2-890±40 3-AD 1030-1230 4-Intercept AD 1160	Late Taíno; caution in interpreting dating results; abstract linear motif	Foster <i>et al.</i> , 2011, pp. 5-6
Dominican Republic Cueva Borbón No. 1	Beta Analytic	Charcoal sample; AMS method	1-BOR-1.1 and 1.2 2-890±30 3-AD 1045-1223	Middle Phase Late Ceramic; bird in profile	García Díez <i>et al.</i> , 2022

<i>Location</i>	<i>Laboratory Notations</i>	<i>Source Material</i>	<i>Dating</i> 1-Sample ID 2-BP date 3-calibrated 2 sigma date 4-Mean or intercept date	<i>Dating Comments with image descriptions</i>	<i>Source</i>
Cuba El Fustete 02 Cave	Institute for Envi- ronmental Research of Australian Government ANSTOC	Carbon Sample under image; AMS method	2-3865±40 3-2465-2269 BC	Archaic; from a mural with abstract designs	Fernández Ortega <i>et al.</i> , 2019
Cuba Cueva de los Muertos	Armitage Laboratory, Eastern Michigan University	Paint pigment; AMS method	75-380 Cal AD	Archaic	Armitage <i>et al.</i> , 2020
Cuba Cueva de los Muertos	Armitage Laboratory, Eastern Michigan University	Paint pigment; AMS method	210 Cal BC- 400 Cal AD	Archaic	Armitage <i>et al.</i> , 2020
<i>Aruba, Bonaire, Curaçao</i>					
Aruba Fontein or Manzanilla -7 caves	Central Research Laboratory Amsterdam 1990	Paint sample; AMS method	AD 1000	Transition from Archaic 2500 BC/AD 1000 to Ceramic AD 1000-1515	Kelly, 2009, pp. 176-177; Versteeg and Kelly, 2019, p. 415
Aruba Arikok seven boulder cavities	University of Oxford Laboratory, Radiocarbon Accelerator Unit Results 1998	paint sample; AMS method	1-OxA-7754 2-1115±55 3-AD 776- 1018 (95.4 % probability)	Small sample for secure dating; Archaic, Ceramic period or both possible; from cluster/boulder A7 of eight images, seven are white abstract and one red anthropomorph; text only notes a white paint sample taken from the cluster	Versteeg and Kelly, 2019, pp. 345-349, Figure 33.7, pp. 349, 415-417
Aruba Ayo two boulder cavities	University of Oxford Laboratory, Radiocarbon Accelerator Unit Results 1998	paint sample; AMS method	1-OxA-7755 2-840±55 3-AD 1043- 1275 (95.4 % probability)	Small sample for secure dating; Archaic, Ceramic period or both possible; abstract motif, with three parallel straight lines, the outer two lines have curved line finales at both ends	Versteeg and Kelly, 2019, pp. 250-253; Figure 26.13, 14, 15, 16, pp. 256- 257, 415-417

<i>Location</i>	<i>Laboratory Notations</i>	<i>Source Material</i>	<i>Dating</i> 1-Sample ID 2-BP date 3-calibrated 2 sigma date 4-Mean or intercept date	<i>Dating Comments with image descriptions</i>	<i>Source</i>
Curaçao Savonet rock shelter	University of Pittsburg sample taken 1990	marine shell; standard radiocarbon process	1-PITT-1183 2-3355±25 BP uncalibrated 3-1405 BC	Small sample for secure dating; date and artifacts suggest Archaic period	Haviser, 1995, pp. 575-576

Author's Tabulation

Number	72
Archaic	8
Archaic/Ceramic	3
Early Ceramic	4
Late Ceramic	36
Late Ceramic to Early Historic	4
Historic	15
Unclear	2

- Note: Natural Environment Research Council Isotope Geosciences Laboratory (NIGL).
- Note: calibration program of the Center for Applied Isotope Studies of the University of Georgia: CALIB 7.04 that includes INTCAL13 for land-based samples and Marine13 for marine samples.
- Note: calibration program of Oxford University Laboratory: OxCal 4.2 program, curve IntCal3.
- Note: source described pictographs or supplemented by present authors; descriptions and dates also edited to conform with text's descriptive and chronological terminologies.
- Note: for Rodríguez Ramos 2017 certain minor discrepancies between Table 1, pp. 5-6 dates and those presented in text; also, certain minor discrepancies between dates in 2017 and *et al.*, 2021, sources.
- Note: Rodríguez Ramos, 2022 repeats rock art information from Rodríguez Ramos, 2017; Rodríguez Ramos *et al.*, 2021; included and specifically cited for Table 1 are additional dates: two from Cueva Mason and one from Cueva Matos.

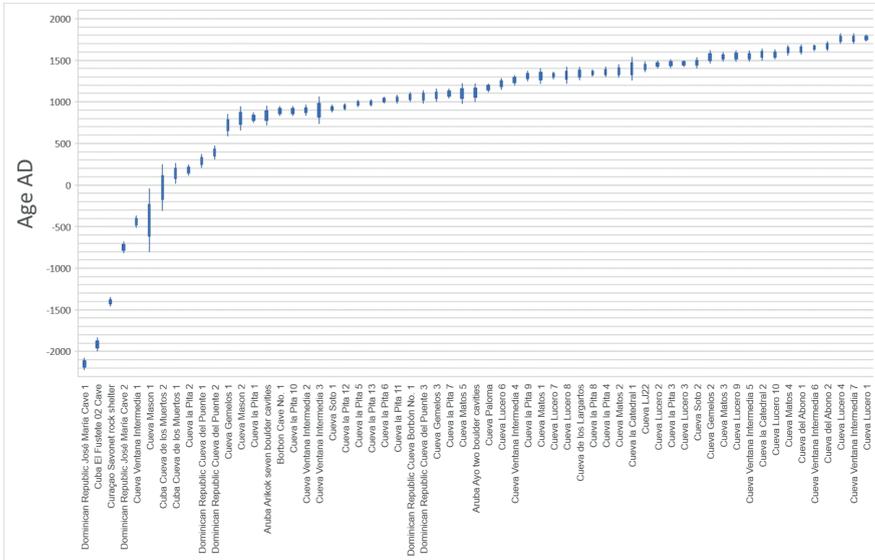


Figure 2.1. Graph of Caribbean area directly dated pictographs (taken from Table 1 excluding those locations without a BP date and two samples classified as unclear; location numbers follow the order of presentation in the table; sorted by means in the chart) (compiled by Donald Smith of Chronicle Heritage).

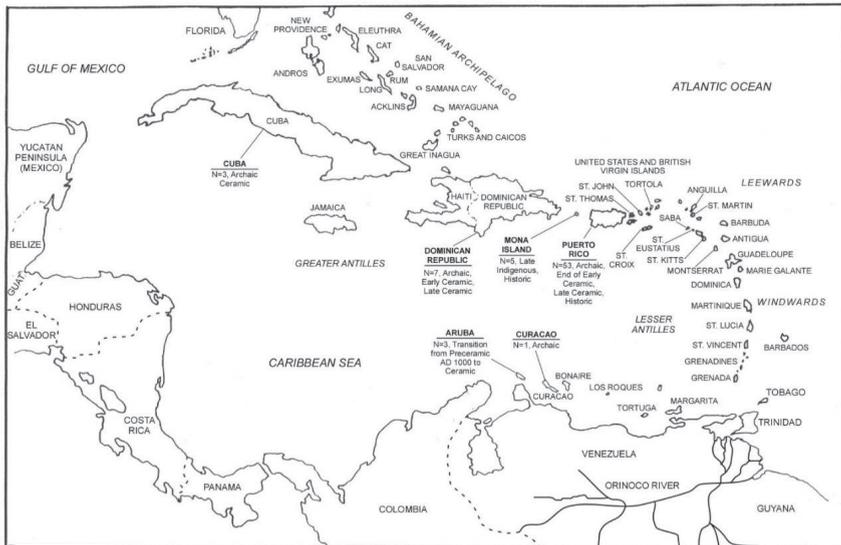


Figure 2.2. Location, Number and Archaeological Period for Directly Dated Images within the Caribbean (taken from Table 1) (map revised from Hayward *et al.* 2009, Figure 1.1).

Observations on the presented data include the following:

- A distinct uneven distribution of locations and sample numbers across the region is apparent, where the total of 72 dates (explicitly discussed in the sources; others merely presented) are drawn from just six islands: Puerto Rico, the Dominican Republic, Mona, Cuba, Aruba and Curaçao with corresponding sample numbers of 53, 7, 5, 3, 3, and 1. The dates for Puerto Rico are almost exclusively derived from efforts by Reniel Rodríguez Ramos (2017, 2022; Rodríguez Ramos *et al.*, 2021).
- The samples are nearly always organic remains from painted images; however, three are from contexts in direct association (charcoal from a hearth at Cueva la Cathedral in Puerto Rico; materials from the Dominican Republic's Cueva de Berna; and marine shell from the rock shelter on Curaçao), while an additional three samples represent calcite accretions over the images from Caves 2, 3, and 8 on Mona Island.
- AMS radiocarbon dating is the predominant procedure supplemented by Uranium-Thorium protocols for the three calcite accretion samples, all processed by reputable laboratories such as Beta Analytic and the Isotope Geosciences Laboratory of the British Geologic Survey.
- The selected pictographs are from cave or cave-like settings (rock shelters, rock hollows) which in part explains the complete lack of dates from the Lesser Antilles; the other salient factor being that the sub-region counts near-exclusive petroglyph assemblages (refer to above rock art attribute section).
- The selected pictographs represent a range of image types: simple to complex faces, face and body motifs, zoomorphs and geometric/abstract figures; in so doing any conspicuous biases may have been avoided.
- A distinct uneven distribution of the dates is also evident. A majority of 36 date to the Late Ceramic, and those mostly toward the end of the period followed by eight for the Archaic, four for the Early Ceramic, and 15 for the Historic Period. The remaining dates either incorporate two currently defined periods—four span the late Indigenous to Early Historic periods (Sample Numbers FP33, FP34, FP35 Cueva Lucero, Puerto Rico; Cave 6, Mona Island) and three lie at the preceramic/ceramic divide (the three samples from Aruba)—or are debatable (two: Sample Numbers FP27 Cueva Lucero, Puerto Rico, F16 Cueva Soto, Puerto Rico).
- Two of eight Archaic results are well-known in the literature: the uncalibrated 1405 BC for pictographs from Curaçao and 1890-1255 BC for the rock art from the Berna cave in the Dominican Republic. Four other results are newer: an irregular crossing-lines motif at Cueva Ventana Intermedia in Puerto Rico with a Mean of 560 BC the Cuban El Fustete cave mural with abstract designs from 2465-2269 BC and two dates from

anthropomorphic and possible bat motifs at the Cuban Cueva de los Muertos, presented in this article by Fernández Ortega *et al.* (see below) near the BC/AD divide (Archaic cultural patterns may well have continued, at least in some areas of Cuba, well into the Late Ceramic). Also included are two dates of 2498-2865 and 802-909 BC from abstract and facial images respectively, of the Dominican Republic's José María Cave, although the dates have been questioned by Foster *et al.*, 2011. The three dates from Aruba which bridge the Archaic/Ceramic periods may also be considered. While the execution of rock art during the Archaic is recognized from different lines of argument, it is certainly welcome to note that these newer dates expand the chronological and geographical presence of this period's rock art (see Roe, 2009, Table 15.6, pp. 215-217).

- The four Early Ceramic dates also extend the region's rock art ranges: sample number CT3 a simple triangular face from Cueva Pita, Puerto Rico with a Mean of AD 300; CM1 from the Puerto Rican Cueva Mason with a date range of 900 BC-AD 10, and sample numbers Beta 281909, 281910 representing an abstract lined design and a simple face from Cueva del Puente in the Dominican Republic with Intercepts of AD 400 and 540, respectively. These late Early Ceramic dates feed into the issue of this period's rock art presence, or lack thereof, a topic examined further in the next section.
- The majority of the Late Ceramic dates reinforce the current understanding that the region's rock art development reached its greatest degree of expression in terms of such factors as numbers, compositional complexity and locations during this period. The large number of dates from Puerto Rico critically provide the data to investigate this elaboration in greater detail, an effort Rodríguez Ramos (2022; *et al.*, 2021) has already begun, which is also outlined in the next section.
- Somewhat surprisingly, but not illogically, are the several dates that point to continued production or use of Indigenous rock art into the Historic period (see also Rodríguez Ramos, 2017, p. 36 and 2022 for a similar observation). For example, two images—a lizard-like zoomorph and an abstract lineal design (Sample Numbers FP7 and FP8)—from Cueva del Abono in Puerto Rico have Mean dates of AD 1585, with another lizard motif (Sample Number FP23) from Cueva Ventana Intermedia, again in Puerto Rico, dating to later in the Historic period with a Mean of AD 1800. Post AD 1500 Native and Colonial use of rock art spaces has also been detailed by Samson *et al.* (2016) for Cave 18 on Mona Island.
- Another logical, but rarely collaborated aspect of rock art in the region (for an example see Roe *et al.*, 1999) concerns multiple-period use of rock art sites documented here by several cases including: the late Early Ceramic throughout the Late Ceramic phases at Cueva la Pita; the Late

Ceramic phases to mid-Historic at Cueva Lucero, and the Archaic, Late Ceramic and Post AD 1500 time periods at Cueva Ventana Intermedia, all on Puerto Rico.

Rock Art Developmental Sequences

Despite the relative lack of directly dated images, various researchers employing indirect dating methods and settlement/artifact/stylistic associations have modeled the region’s rock art changes through time (for additional discussion see Roe 2009, pp. 214-220). Details on the four frameworks reviewed here are outlined in Table 2. Table 2 presents the initial proposal date, rock art type and locational coverage and methodology, in addition to dating/framework characteristics by major archaeological time period for each of the four sequences. Figures 2.3 through 2.6 depict selective aspects of the same four rock art trajectories.

Table 2. Elements of Caribbean Rock Art Developmental Sequences by Jönsson Marquet, Roe, Waldron and Rodríguez Ramos

	<i>Sofia Jönsson Marquet</i>	<i>Peter Roe and Rivera Meléndez; Roe</i>	<i>Lawrence Waldron</i>	<i>Reniel Rodríguez Ramos et al.</i>
Initial Proposal Date	2002, 2009	1995, 2005	2019	2021; see also 2022
Coverage Rock Art Type	Petroglyphs	Petroglyphs	Petroglyphs Pictographs	Pictographs
Coverage Geographical Location	Lesser Antilles Five Windward Islands	Puerto Rico	Region-wide	Puerto Rico
Method	Contextual Analysis	Seriation	Logic and Cross-media Comparative Design Elements Arguments	Radiocarbon Dating
Archaic	Not Addressed	Not Addressed	Follows current characterization: -petroglyphs much less frequent -emphasis on pictographs and within this class emphasis on geometric designs -some zoomorphic and anthropomorphic motifs	-One intersecting lined image from Cueva Ventana Intermedia FP18 Late Archaic cal. 740-400 BC -consistent with expected emphasis on geometric designs

Continued Table 2

	<i>Sofia Jönsson Marquet</i>	<i>Peter Roe and Rivera Meléndez; Roe</i>	<i>Lawrence Waldron</i>	<i>Reniel Rodríguez Ramos et al.</i>
Early Ceramic	Characteristics: Tradition A: Simple and Geometrical Designs AD 200-300 -simple geometric and anthropomorphic designs almost never in association with each other -are unelaborated -geometric designs often circular -pecking primary production technique -all located on south coast or near-coastal settings -no compositional rules to arrange multiple images evident -individual figures cover the entire rock surfaces of whatever size -unclear if particular rock surfaces chosen for certain designs or vice versa	Apparent Lack of Production	Characteristics: Pictographs -complex interplay of painted and unpainted areas -may precede petroglyphs -three pictograph examples: fish motif from Cuevas de Borbón and two masked images from Hoyo de Sanabe, all in Dominican Republic Petroglyphs -example of developed triangular-shaped motif from Layou, St. Vincent -example of frog labyrinth design Balenbouche, St. Lucia	Example: -one triangular-shaped head with eyes and mouth from Cueva la Pita CT3 Later Early Ceramic cal. AD 220-380 -hiatus in production cal. AD 400-700

Continued Table 2

	<i>Sofia Jönsson Marquet</i>	<i>Peter Roe and Rivera Meléndez; Roe</i>	<i>Lawrence Waldron</i>	<i>Reniel Rodríguez Ramos et al.</i>
Late Ceramic	<p>Characteristics: Tradition B: Elaborated and Enclosed AD 500 -enclosed facial/body figures -made via incision, abrading, carving and fine pecking -lines are either fine or broad and exhibit little variation -faces often lack internal design elements -faces attached to non-outlined appendages -bodies possess varying arrangements of straight and curved lines with and without circles -images located on single vertical surfaces and tend to be found forests or close to the coast</p> <p>Tradition C: Variation and Elaboration AD 400-500 -facial and full-body images that exhibit a high degree of variability -figurative geometrical designs -anthropomorphic and geometric designs occur together</p>	<p>Common or Diagnostic Traits: Phase A: 800-1000 AD -simple and enclosed faces -circular heads -pitted eyes -pitted mouths -elongated/dashed mouths -hemispherical ears -vertical nose -rays below face -feather-like headdresses -rectangular torso -stick legs -possible ear spools present</p> <p>Phase B: 1000-1200 AD -circular heads continue -elaborated eye shapes (enclosed, surrounded, round or elongated, connected encircled, horizontal hourglass) -circular nose -rayed face, above and below or continuous design element encirclement; also termed "solar" face/head -crowns or diadems -ear spools</p>	<p>Characteristics: Rock Art in the Region -may have developed from Saladoid complex motifs to simpler linear and silhouette forms of single view/event/ritual depiction formats to more complex motifs within more interrelated or grouped themed formats -majority of rock art dates via direct dating or stylistic comparison to Late Ceramic, especially at end of period -regional styles indicated -pictographs may precede petroglyphs Pictographs -simpler in design and execution varying from surface outlines of thin and grainy to broad and smooth -more linear -linear stick figures often with large enclosed heads representing zoomorphs like frogs in dorsal views, stilt-legged aquatic birds and dogs in profile and anthropomorphs individually or in groups in various positions</p>	<p>Phases: AD 800 two faces; one with rays below face in line with Roe's scheme; the other continuance of triangular head shape and possible Saladoid continued influence AD 900 -after this date marked increase in the quality and diversity of figures -panels of diverse images produced at same time -enclosed or wrapped facial/body figures appear -so-called solar images noted (continuous crowned elements) AD 1000 -positive painted figures with total or partial in-filling -zoomorph and concentric circle noted in sample AD 1100 -increase in zoomorphs especially marine and birds -continued production of solar images AD 1200 -one abstract lined-circle-dot figure AD 1300 -significant increase in pictograph production after this date</p>

Continued Table 2

<i>Sofia Jönsson Marquet</i>	<i>Peter Roe and Rivera Meléndez; Roe</i>	<i>Lawrence Waldron</i>	<i>Reniel Rodríguez Ramos et al.</i>
<p>-some evidence for rock surfaces being chosen to accentuate certain design features such as making of asymmetrical figures</p> <p>-images found on boulders and panels produced via a combination of fine and gross pecking</p> <p>-geographical settings variable</p> <p>-at one location Mount Rich in Grenada</p> <p>evidence of extended production</p> <p>-cross media parallel design elements evident between petroglyphs and modeled <i>adornos</i> with such attributes as concentric circles for the eyes and open mouths on Saladoid-Barranoid vessels</p> <p>Tradition D: Late Developments AD 985-1400</p> <p>-increase in figure size</p> <p>-high degree of variability continues</p> <p>-tendency to coarse rather than finely executed images</p>	<p>Phase C: 1200-1400 AD</p> <p>-heart shaped heads</p> <p>-increasingly present elongated closed or dead goggle shaped eyes</p> <p>-increasing facial elaboration with addition of nostrils and lip-lines = complex winged nose, cheek and chin elements and V-shaped hair line</p> <p>-developed crowns</p> <p>-elaborated ear spools</p>	<p>-locations with use over a number of years with high numbers as in Dominican Republic caves of Los Haitises and Hoyo de Sanabe</p> <p>-frequently the simple linear figures in black or red pigments were thickened or made more dimensional via coloring in or thickening the outline enough in the case of zoomorphs to identify at general taxa level</p> <p>-pictographs are also outlined and not filled-in but could have delineated internal facial/body elements</p> <p>-faces often given more design detail that bodies</p> <p>-iconography more interpretable given ethnographic and ethnohistoric sources</p> <p>Petroglyphs</p> <p>-both rock art types same art form possessing many internal consistencies</p> <p>-both rock art human-like images predominate</p>	<p>-panels or sections with coherent scenes evident</p> <p>-anthropomorphs and zoomorphs with flexed or upright arms/legs/digits</p> <p>-continued production of zoomorphs, especially marine animals like turtles</p> <p>-increase in reptile forms either linear or filled-in</p> <p>-some reptile forms also have additional body parts indicated like a rounded thorax</p> <p>-similarities between pictographic and petroglyphic anthropomorphs across site locations</p>

Continued Table 2

	<i>Sofia Jönsson Marquet</i>	<i>Peter Roe and Rivera Meléndez; Roe</i>	<i>Lawrence Waldron</i>	<i>Reniel Rodríguez Ramos et al.</i>
Post Contact	Not Addressed	Not Addressed	Not Addressed	AD 1500 -considerable number of late precontact to early colonial period figures -precontact style elements that continue include anthropomorphs outlined in carbon, filled-in images, reptile forms and abstract designs -an example of superimposition -new images include a ship with sails -a possible African produced image Mid Colonial -continued presence of anthropomorphic, zoomorphic and abstract images

Note: The four Tradition characterizations for Jönsson Marquet are taken from the 2009, pp. 151-160, source.

Note: Roe and Rivera Meléndez's, 1995 three phase traits (discussed, but lacking the figure or graphic depiction in this source) are also found in Roe, 2005, Figure 8.5, p. 292 and pp. 289, 291, 302-310.

Note: Waldron's rock art observations are found in Chapter 4, pp. 121-208 of his 2019 publication; see especially pp. 121-156 for developmental characterizations

The initial proposal dates for the Jönsson Marquet (2002, 2009) and Roe (Roe and Rivera Meléndez 1995; Roe 2005) frameworks are from the 2000s separated by a considerable number of years from those of Waldron's 2019 and Rodríguez Ramos *et al.*'s 2021 efforts. Jönsson Marquet's evolution of southern Lesser Antillean petroglyphs-only rests on contextual analysis or relating undated rock art sites with nearby dated non-rock art sites; Roe's categorization of Puerto Rican petroglyphs derives from seriation whereby selected design elements are ordered according to linked rock art assemblages and securely known non-rock sites; Waldron's (2019) effort concerns both painted and carved images within the region based on what can be termed logical and cross-media stylistic comparison arguments, while Rodríguez Ramos *et al.* (2021) relies on radiocarbon dates to classify, in this case, Puerto Rican pictographs.

Jönsson Marquet's (2009) chronological framework covers five Windward Islands—Martinique, St. Lucia, St. Vincent, the Grenadines, and Grenada—involving twenty-seven rock art locations. The sequence (Figure 2.3) begins with petroglyph production towards the end of the Early Ceramic or Saladoid cultural Period, AD 200-300 divided into four Traditions. The first, Tradition A, encompasses simple geometric and anthropomorphic designs that are normally not reproduced together with circles as frequent geometric designs and lack of obvious-to-modern-society compositional rules. Traditions B and C overlap in terms of their initial production times, dating to around AD 500 transitioning from the very end of the Early Ceramic into the Late Ceramic. Tradition B is characterized by elaborate enclosed head and body motifs, while C is typified by variable facial and full-body images, in addition to diverse geometrical or abstract designs. The last Native Tradition D (AD 985-1400) sees an overall increase in the size of motifs; a high degree of variability within a corpus of simple to complex faces, zoomorphs, and geometric designs. Ordered compositions are apparent, featuring larger centrally placed figures amid smaller facial images. Execution during the Archaic and Post AD 1500 periods is not addressed by Jönsson Marquet; not, it is suggested, because she discounted the possibility of production during these periods, but because at the time of her study there was a lack of applicable data. For instance, there were no reported Archaic sites for these islands which continues to be the case.

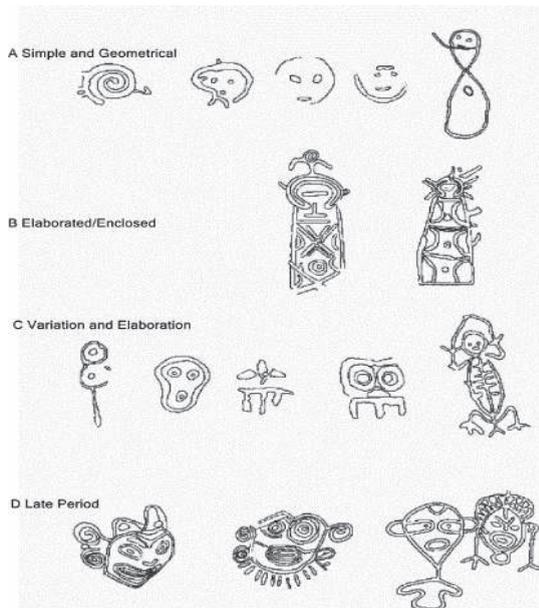


Figure 2.3. Representative Images of Petroglyph Traditions from the Lesser Antillean Windward Islands (Jönsson Marquet, 2009, Figure 11.2, p. 153).

Roe's (Roe and Rivera Meléndez, 1995; Roe, 2005) seriation of twenty anthropomorphic individual design elements and related motifs yielded a three-phase sequence anchored by the type sites or representative petroglyph assemblages of Maisabel (large village site), El Bronce and Caguana (ball courts or enclosures) (Figure 2.4). They were chosen for their close association with dated sites and chronological span. The series begins and ends with the Late Ceramic or Ostionoid cultural period, leaving out the entire Saladoid, as well as not specifically addressing any Post AD 1500 occurrences. Roe does, however, discuss Archaic rock art features in other publications (for instance, Roe, 2009, 218; Roe *et al.*, 2018), just not for this model.

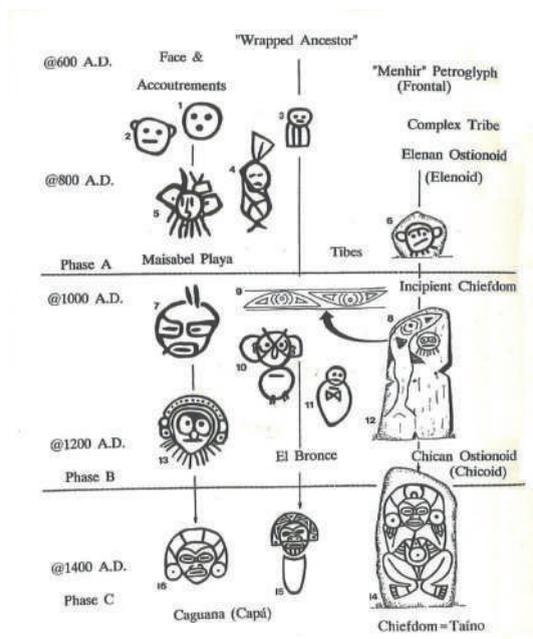


Figure 2.4. Roe's three-phase chronological model for Puerto Rican Petroglyphs (Roe, 2005, Figure 8.5, p. 292).

A number of time-sensitive design elements and motifs in the sample assemblages were noted involving the predominance of simple round faces, a vertical nose element, the presence of faces with rays below the face and depictions of enclosed or wrapped bodies with simple faces for Phase A (AD 600 to 800). In Phase B (AD 1000 to 1200), round faces continue but with additions such as enclosed eyes, rays above and below the face, a nose and more complex crowns or headgear. Phase C (by AD 1400) represents the highest degree of facial and body elaboration, in addition to unique design elements involving nostrils, V-shaped hairlines and heart-shaped faces.

Roe (2009, pp. 219-220) attributes the hiatus in rock art production from the Archaic to the Late Ceramic to culture lag or the tendency for different cultural institutions, in spite of their mutual interaction, to change at different rates. In the case of Saladoid people's movement from a South American continental homeland into a new island setting, the conservative aspects of religion and visual expression transformed more slowly than the environmental adaptive aspects of technology and social relations. Their conceptual outlook continued to reflect their continental origins focusing on, in the material culture realm, the production of individual, societal subgroup and status-related personal presentation objects. For example, the manufacture of complex vessel shapes with plastic and painted designs, in addition to finely-worked beads and stone pendants. Visual representations also retained South American linkages with tapirs and monkeys commonly modeled onto ceramic vessels. Roe considers that these same mental constraints may have postponed rock art production, despite the fact that the islands offered abundant rock surfaces for such representations. By around AD 600, a shift from continental to island mindset is evident: island fauna are depicted on pottery and stonework, while carved and painted images appear in caves, along waterways and prominently at ball courts.

Waldron (2019, pp. 141-156) picks up on the possible Early Ceramic hiatus in rock art production—and Roe's explanation for it—by arguing the opposite: the lack may be more apparent than real. He posits that rather than a lengthy settling-in period, the Saladoid entrance into the Eastern Caribbean more immediately reflected a physiological or conceptual need to visually mark their new island home as they would have undoubtedly been doing with language. Pictograph production could have begun early in the period, with the images not surviving because they may have been executed with semipermanent pigments or made to be ephemeral. Acknowledging that the Lesser Antilles offers significantly fewer protected rock locations, he suggests that the larger islands of Puerto Rico and Hispaniola offer more opportunities to discover Early Ceramic pictograph examples. Waldron follows his own advice by identifying certain pictographs from Cuevas de Borbón and Hoyo de Sanabe in the Dominican Republic as possibly Saladoid by comparing their representational style with Saladoid ceramic conventions.

White-on-Red or WOR Saladoid ceramic conventions involve bold bichrome designs and certain visual plays that Waldron identifies in three rock art examples illustrated in Figure 2.5. A fish painted in black on the contrasting white limestone cave surface at Cuevas de Borbón exhibits Saladoid style traits of multiple line and drop-out dot, swirl and bar motifs (Figure 2.5a), while two masked images from Hoyo de Sanabe repeat the striking black paint on white surface along with a complex interplay of painted and unpainted design elements, just like the fish motif (Figure 2.5b).



Figure 2.5. a) black/white fish, Cuevas de Borbón (left), b) black/white facial designs, Hoyo de Sanabe, both from the Dominican Republic (right) (López Belando, 2019, Figure on page 412, lower right column and cover page, respectively).

As for petroglyphs, they could also have been produced in the Early Ceramic. Waldron notes one particular carved image from Layou on St. Vincent that shares Saladoid design elements with one of the masked motifs from Hoyo de Sanabe. The image on the right side of Figure 2.5b and the petroglyph of Figure 2.5c appear to be representations of anthropomorphized three-pointers, of particular note in the Late Ceramic, although these sculptural forms were present in the Early Ceramic. Leaving aside the issue of the equivalence of the two disparate time periods, both possible three-pointers are frontal images that exhibit circular eyes and gnashed teeth. In the petroglyph (see Figure 2.5c) the circular eyes are joined by an arching unibrow in the style of Barrancoid and Cedrosan Saladoid ceramics from the general Windward Islands area. The depiction of the stylized, flaplike ears in the pictograph employing painted and dropped-out geometric areas and for the petroglyph the prominent use of the Saladoid drop-out hourglass motif and joined eyes raise the possibility of Early Ceramic rock art production for Waldron. Additional Saladoid ceramic designs appearing in rock art of the Lesser Antilles include the frog labyrinth as observed on a river boulder at Balenbouche, St. Lucia in Figure 2.5d. Indeed, the frog symbol represents a common motif in diverse media from the Early into the Late Ceramic.

Waldron's work could be characterized as less a formal developmental model and more a wide-ranging essay, in resourceful almost poetic language, on the nature of Caribbean rock art. Linked to his suggestion for Saladoid-period produced rock art, is the realization that this premise would need further investigation, in particular dating of any suspected examples like the fish motif in Cuevas de Borbón. He goes on to offer a number of interpretations of individual images and assemblage locations, as well as a series of rock art features during the entire Native period detailed in Table 2. For example, he views a concern with concealment and revelation as typifying Late Ceramic

figures where certain images that are buried, difficult to view or obscured in caves reveal a partially obscurantist aesthetic with rock art being visionary and not merely for viewing.

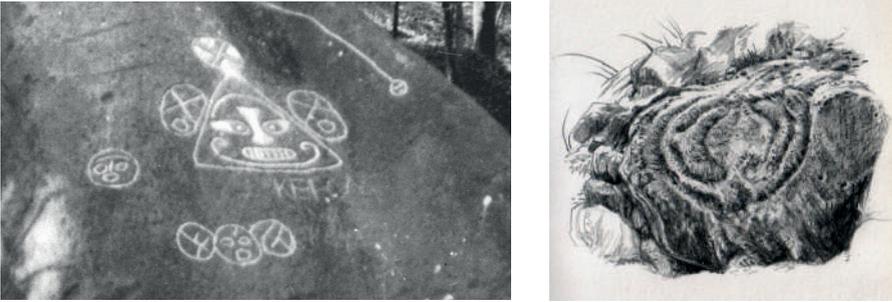


Figure 2.5. c) triangular bodied petroglyph, Layou, St. Vincent (cropped from Dubelaar 1995, Figure 101, p.ge 106), d) frog labyrinth petroglyph, Balenbouche, St. Lucia (courtesy of Lawrence Waldron).

Rodríguez Ramos *et al.*'s (2021) model relies, as noted above, on a significant number of directly dated pictographs from various caves on Puerto Rico to sequence the images. His method focuses on motifs, similar to Jönsson Marquet's and Waldron's approaches, but differs from Roe's attempt to identify time-sensitive individual design elements to structure a developmental framework (Roe and Rivera Meléndez, 1995; Roe, 2005). Such a method presents opportunities for finer-grained categorizing of the pictographs as observed in Table 2 and illustrated in Figure 2.6.

Two aspects of the model are especially noteworthy: the extension of production at the beginning and end of the sequence for the island. At the beginning are three images: one dates to the later Archaic period cal. 730-390 BC, a second occupies the Archaic and Early Ceramic cal. 900 BC-AD 10, while the third dates towards the end of the Early Ceramic cal. AD 220-380. The Archaic intersecting lined design (FP18) comes from Cueva Ventana Intermedia; the Archaic/Early Ceramic image CM1 from Cueva Mason, and a triangular-shaped head with eyes and mouth (CT3) is located in Cueva la Pita. Rodríguez Ramos *et al.* (2021, pp. 15-16) adds that the lined design is consistent with the expected emphasis on geometric figures in the Archaic period for the region (see Hayward *et al.*, 2009; Roe *et al.*, 2018). He further adds (2021, p. 16; 2022) that the triangular-shaped head is near another similar pictograph and both display stylistic similarities with Saladoid ceramic island adornos as in the lenticulate eyes and triangular-shaped head and therefore likely made by Saladoid artists.

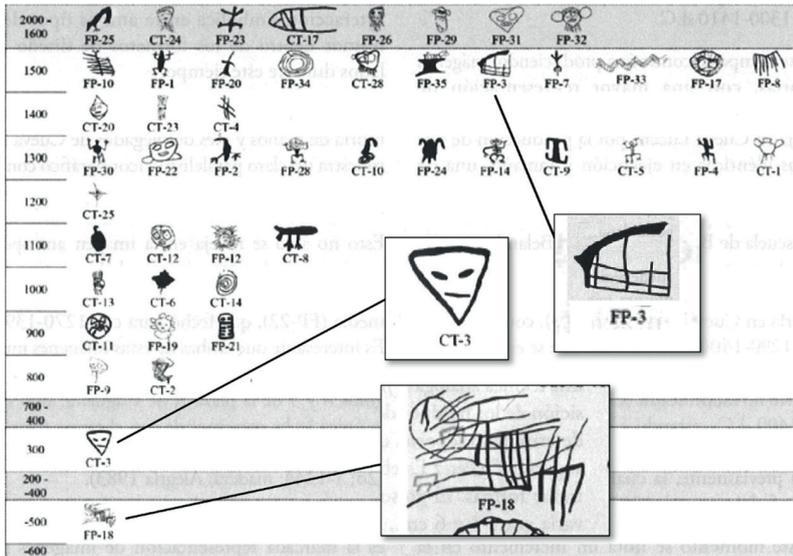


Figure 2.6. Rodríguez Ramos Chronological Phases for Puerto Rican Pictographs (modified with the addition of three enlarged motifs from Rodríguez Ramos *et al.*, 2021: Figures 2 and 5).

As he points out, a sizable number of the island’s pictographs are from the very late Indigenous period and well into Post AD 1500 times. Indigenous style elements that bridge the Native and European cultural divide include carbon-outlined anthropomorphs, reptile forms and abstract designs. New images are also created including a ship with sails—FP3 from Cueva Matos, that he also notes (2021, p. 21; 2022) are found, along with horse representations elsewhere on Puerto Rico and the region. A possible African-descendant-produced encircled face FP17 from Cueva Ventana Intermedia cannot be discounted (2021, pp. 21-22).

Commentary on Developmental Sequences

Methods:

- Three of the present authors (Hayward et al. 2019) evaluated Jönsson Marquet’s (2002, 2009) framework by comparing these authors’ updated rock art site data (new total of 35 locations and adding the islands of Barbados and Dominica) against a comprehensive settlement survey for the same islands by Bright in 2011. Our review resulted in limited success primarily because Jönsson Marquet classified all available rock art sites at the time, while Bright did not consider any dating, or separate examination, of these site types. Nonetheless, it appears that Jönsson Marquet employed reasonable rock art-to-non-rock art site chronological associations for the

beginning and ending phases of her sequence leaving a mixed or unclear middle period.

- Two of the present authors (Hayward *et al.*, 2013b) also examined Roe's seriated sequence. Developing a statistical protocol to arrange similar-to-Roe's petroglyph design elements from several sites, the attempt was made to create a simple measure to order unknown or weakly dated rock art sites according to Roe's three-phases. The attempt met with limited success; the results were not straightforward and instead indicated multifaceted production relationships. The authors concluded that if a rock art assemblage possesses a high number of developed images, then the rock art likely dates to the end of the Late Ceramic. If an assemblage possesses a high percentage of less elaborate designs, then it may or may not date to earlier in the Late Ceramic. Additional supportive data such as any well-grounded site/artifact associations should be employed in considering a rock art assemblage's chronological placement.
- Waldron's interrelated logical argument that rock art may have been executed during the Saladoid rests on assuming that pictographs were made to be ephemeral or have since weathered away prompted by a conceptual need to mark their new territory/special places from the beginning of their entry into the region. The first part is hard to accept, while the second part is a reasonable expectation. Absent other relevant data, if Roe can argue that peoples entering into a new environment different from their homeland inhibited rock art production, then Waldron can argue that rather than inhibiting execution groups took advantage of a new medium to express their new and continued occupation of the island area.
- Waldron's considerations invite further examination of the interplay among ceramic and other media design elements, the visual conventions in rock art, and estimating its chronological production. Specific cross-media correspondences for any rock art examples might be evident, in addition to complex contexts of use of old, new and revived motifs and compositions. Roe and Ortíz Montáñez (2011), among others, have noted a conservative/innovative phenomenon in Late Ceramic pottery, that also appears in the region's rock art tradition where, for instance, simple faces remain a common motif throughout Indigenous production
- Rodríguez Ramos's (2017; Rodríguez Ramos *et al.*, 2021) use of directly dated pictographs to classify the images underscores two key aspects of any dating project: the need to include a large-as-possible total sample from diverse locations, as well as multiple samples from different locations and image types within the same locations.

Results:

- The models incorporate or contain complex, as well as simple motifs, compositional arrangements and ideological or symbolic messaging. Such a situation may reflect that image makers could draw upon a deep historical canon of designs to execute rock art conditioned by such factors as the artist's talents, geographic location (cave, enclosure, waterway, open air), individual/collective purposes, sociopolitical influence and religious or worldview principles.
- The evidence from directly-dated pictographs, still meager at only four cases—two from Puerto Rico and two from the Dominican Republic—nonetheless strengthens these developmental framework and other researcher (for example, Keegan and Hofman, 2017, pp. 80-81) inferences for Saladoid rock art production. Roe for one is now open to the possibility of Saladoid pictographs and, at least by the end of the Early Ceramic, petroglyphs (personal communication, 2023).
- In concert with the directly-dated sequence of pictographs, the models consider the Late Ceramic to have been the primary period of image-making on a variety of rock art surfaces that continues at least in some form well into Post Indigenous times.
- The frameworks offer models and avenues for further investigations. As just outlined, a research design for pictograph dating by Rodríguez Ramos and the various observations by Waldron that open up our understanding of rock art as having emotional, in addition to active spiritual and social contexts, involving their production and roles (see Waldron essay below).

Area Studies

The essay under the heading of Area Studies involves those investigations that are concerned with small-scale or relatively limited objectives, like explanations of particular image classes, the documentation of one location or the maintenance of a rock art site registry. In this case from Cuba, Fernández Ortega, Morales Valdés and Martínez Guerra stress the importance for review of even previous reports with more advanced procedures that can be employed to improve the accuracy of recorded new or prior figures. Their use of photogrammetry and 3D laser scanner procedures yielded corrected images, in addition to 3D mapping of cave interiors and the virtual replacement of displaced carved figures. Their report also presents results from a physical-chemical analysis of paint pigments, in addition to three new 14C (AMS) dates from a charcoal sample under a pictographic mural and the first directly dated Cuban pictographs.

Status of Rock Art Investigations in Cuba

Fernández Ortega, Morales Valdés and Martínez Guerra

In recent years, surveys for new Cuban rock art locations have added 17 sites to the national inventory involving nine of the country's 15 provinces (Chirino *et al.*, 2021, pp. 29-39; Gutiérrez *et al.*, 2021, pp. 5-28). Re-examination of previous rock art reports has also been a focus of investigation: first, to obtain fresh images with today's advanced photographic techniques, and second, to verify the accuracy of the recorded information.

Del Indio Cave

One particular interest is del Indio cave site, Caibarién municipality, that was discovered in 2017 by the members of the Candil group of the Cuban Speleological Society. A pictographic mural has been executed on one of the walls comprising six diverse geometric designs, including concentric circles, zigzags and parallel lines (Figure 3.1a). Not far from the mural to its left side, is an opening that blocks the natural light so that this section of the cave remains in darkness heightening the pictographs' visual impact (Rodríguez *et al.*, 2019, p. 278).

The conservation status of the images is good, in part because human activity in this section of the cave is low. However, a surface layer of calcium carbonate covers the mural leaving a thin calcite stratum that has affected the images' pigmentation, probably the result of forest conditions outside the cave (Rodríguez *et al.*, 2019, p. 279).

Las Manos Rojas rockshelter

The rockshelter is located in the Caguanes National Park, Yaguajay, Sancti Spiritus province. The Caguanes Park speleological group found this assemblage of red-painted handprints and fingers in 2016 (Figure 3.1b). Occupying the center and extreme left of the small overhang are two handprints (from which the site derives its name), in addition to five distinct finger-design groupings. It is worth noting that black abstract lines and groups of dots have been placed atop three of the red-finger designs, as well as next to the shelter's walls. Further, one of the black dot motifs has red markings over part of its design (Chirino *et al.*, 2021, p. 35).

Additional recent tasks involved visits to cave and non-cave sites to re-photograph and re-examine the rock art reported in previous decades, verify their conservation status, and identify past recording errors due to inadequate tracing practices and lighting conditions. Such re-recordings successfully resulted in more faithful identifications of the pictographic and petroglyphic image features (Fernández *et al.*, 2022:27), as well as rediscovering a motif that had not been seen for more than 92 years (Grau *et al.*, 2021:442).

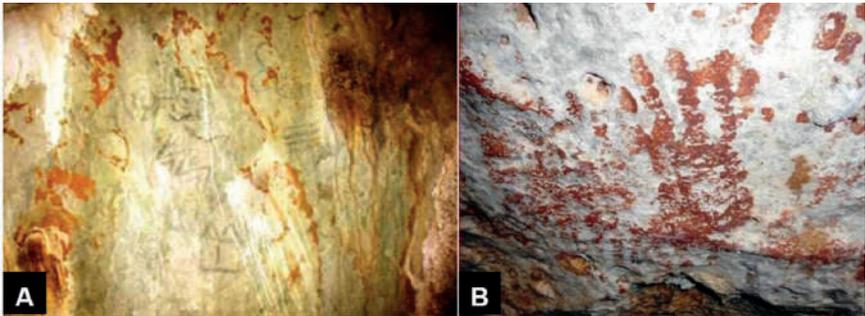


Figure 3.1. a) Pictographic mural, del Indio cave, Caibarién municipality, Villa Clara (courtesy of Lorenzo Morales Santos), b) red-hand and finger motifs, Las Manos Rojas rock shelter, Caguanes National Park; note the striking contrast between the snow-white color of the shelter's roof and the red pictographs (courtesy of José Chirino Camacho).

La Virgen Cave

La Virgen cave lies on marine terraces that rise 30 meters above the Habana-Matanzas elevation in the Habana del Este municipality. This cave was recorded as a prehistoric archaeological site at the beginning of the twentieth century by Fernando García Grave de Peralta, a member of the Junta Nacional de Arqueología y Etnología. It was not until the 1960s that the cave was also reported to have a rock art assemblage by Antonio Núñez Jiménez.

In Núñez Jiménez's book, *Cuba: Dibujos rupestres*, which constitutes a classic of the island's rock art literature, he describes one of the pictographs in the following quote:

La pictografía número 8 está dibujada en rojo, con tierra roja oscura, en la pared, a 5 centímetros sobre el suelo de una baja y estrecha ramificación que marca uno de los más recónditos rincones de la Cueva de la Virgen. Está formada por varias gruesas líneas pintadas con los dedos casi unidos de las manos del primitivo artista. En total son cinco líneas, de las cuales cuatro tienen un punto común de unión, formando una figura groseramente estrellada (Núñez Jiménez, 1975, p. 115) (Figure 2.2a).

(English translation) Pictograph number 8 is executed in red, with dark red earth, on the wall, 5 centimeters above the ground of a low and narrow extension that marks one of the most hidden corners of the Cueva de la Virgen. It is made up from several thick lines painted with fingers that almost form the hands of the early artist. There are five lines in total, four of which have a single point in common, forming a very thick star motif.

A detailed reexamination yielded a different conclusion, at least regarding this particular pictograph. Both simple and under magnification visual inspection of the image at the cave, along with subsequent digital processing using Adobe Photoshop CS5 extended version 12.0 of the photographs published by Antonio Núñez Jiménez (1975, p. 375), plus those obtained during the revisits of 2006 and 2014, pointed instead to a modern origin of the image. It can be observed in Figure 3B that the fifth thick line, from left to right, is drawn over modern letters or writing.

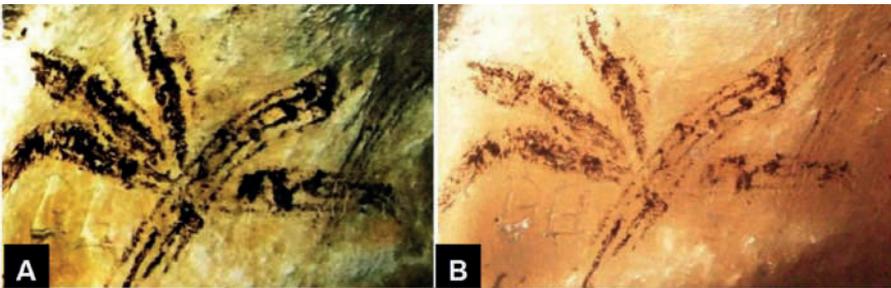


Figure 3.2. a) Pictograph number 8, La Virgen Cave, from Núñez Jiménez's 1975 book *Cuba: Dibujos rupestres* page 375 and b) the same pictograph after enhancement, in both pictures, where the thick branch at the extreme right overlies modern design elements.

Indio rock shelter

A similar false prehistoric identification can also be demonstrated for the pictograph assemblage from the Indio rock shelter. The shelter is located in the Camajuaní municipality on a small hill between the boundaries of the Corralillo and Caibarién Coastal Plains, north of the Villa Clara province (Gutiérrez Calvache *et al.*, 2021, p. 14).

According to the recorders' examination of the shelter's images:

on the wall of the shelter a grouping of black-colored geometric designs were identified, some lines and one of these, elaborated via the technique termed 'completely filled-in' ... that due to its composition, brings to mind a certain well-known pictograph from the Oscura Cave, in Baracoa, Guantánamo province (Gutiérrez Calvache *et al.*, 2021, p. 14).

Yet if the published photograph is examined via digital processing with the software packages of DStretch ImageJ and Adobe Photoshop CS5 extended version 12.0, a practice that has been common and frequent for more than

a decade in the registration and documentation of the island's rock art, a distinctly different impression is observed (Figures 3.3a, 3.3b). In the center of the motif, modern writing can be observed indicating the name of the visitor who left his identifying mark for posterity on the cave's wall. The graffiti artist's name is outlined by a rectangular with nine triangles attached at their bases. The remaining pictographs' analogous characteristics call into question their assignment to the precontact period by the same investigators.

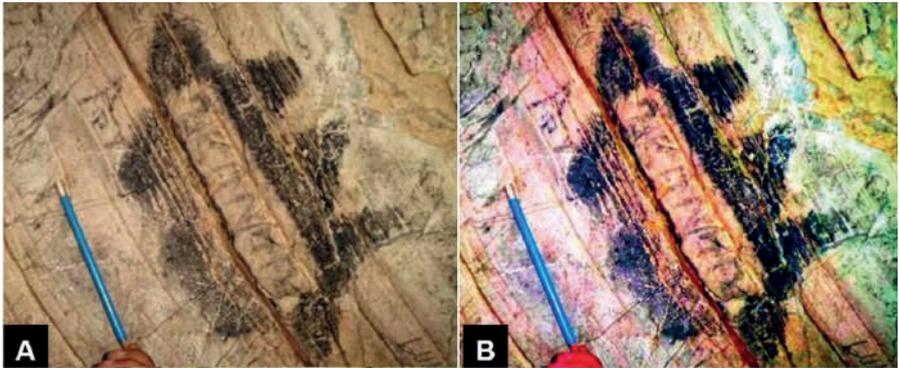


Figure 3.3. a) Pictograph from the Indio rock shelter by original recorders (courtesy of Marcial García García) and b) the same image processed via software packages DStretch ImageJ and Adobe Photoshop CS5 extended version 12.0. In both pictures, modern lettering (GERMAN) is observed within the center of the pictograph.

The application of new digital technologies, improvements in the sensitivity of photographic equipment and the availability of more effective lighting systems have given present researchers the ability to correct recording errors of earlier investigators. Nonetheless, they should be acknowledged as founders of Cuba's rock art studies that paved the way for continuing improvements in the study and understanding of this form of past cultural expression. These new investigative techniques outlined here demonstrate their effectiveness to produce more faithfully reproduced images.

Photogrammetry

Photogrammetry has proven of utility in the region not only in the virtual reconstruction of rock art images (Grau González-Quevedo *et al.*, 2021, p. 441) but also in the digitization of cave interior features. For example, the

authors collaborated with investigators from the Academia de Ciencias of the Dominican Republic in a project that yielded a 3D model of the José María cave, measuring 348 meters long by a maximum depth of 15 meters with more than 1,200 pictographs (Grau González-Quevedo *et al.*, 2020, pp. 31-55).

Photogrammetry is a remote and non-destructive documentation technique, of wide use in various disciplines, including rock art studies, that provides for precise and accurate measurements that can be converted into 3D models. These models facilitate conservation and restoration works, as well as cultural heritage preservation efforts and the dissemination of rock art information and its importance to the general public.

Los Cayucos cave

Los Cayucos cave is located at the easternmost part of Cuba, between the first and second emergent marine terraces in Maisí. The area is part of the Maisí-Caleta Reserva Ecológica. The cave dimensions run 30 meters long by an average depth of 4.5 meters. The system is divided into two sections near the center by a stalagmite flow and columns where the majority of petroglyphs are found.

Between 1915 and 1919, the American archaeologist Mark R. Harrington explored the Maisí area including the cave, deciding to remove one of eventually five missing or removed petroglyphs to the United States. His publications made no mention of the cave or its rock art. In 2012, the Cuban archaeologist Daniel Torres, located a petroglyph cataloged as “Los Cayucos cave in the town of Maisí, Cuba” in the Harrington collection of the Cultural Resources Center of the National Museum of the American Indian, Smithsonian Institution, Maryland, United States (Grau González-Quevedo *et al.*, 2021, p. 441).

In 2017, a cave was relocated that contains seven petroglyphs of anthropomorphic facial and zoomorphic figures (Figure 3.4). The photogrammetric documentation of the cave included the use of a Canon EOS 70D camera with a 24-mm lens. The complete modeling project involved a total of 18,000 images converted to JPG format at 8 mpx and RAW at 20 mpx. The cave was illuminated with two Flash YONGNUO SPEEDLITE YN-560 III instruments, side by side with the camera, synchronized by the control system YONGNUO model rd-603c with a frequency of 2.4 Hz. Such an operation produced a homogeneous light throughout the area of study (Grau González-Quevedo *et al.*, 2020, p. 45).

To generate the 3D models, the *Agisoft Metashape* software (latest version 1.6.3) was employed, linking together the images to cover 70 percent of the whole cavern, prioritizing the ceilings and walls of the two galleries with the rock art. While 80 to 90 percent coverage was achieved for the walls with petroglyphs, a lower percentage was obtained for the floors of the central gallery where less detailed imagery was recorded.



Figure 3.4. 3D photogrammetric-derived model of Los Cayucos cave with the petroglyph locations indicated (modified from Grau *et al.*, 2021, p. 444).

With the 3D photogrammetric-derived model of the cave, in addition to the digitally scanned stalagmite with its carved image from the Smithsonian, it then became possible to virtually reposition the missing rock art (Figures 3.5a, 3.5b) (Grau González-Quevedo *et al.*, 2021, p. 445).



Figure 3.5 a) 3D models of the Los Cayucos cave and a removed petroglyph, currently at the Smithsonian Institution, United States, b) has been virtually replaced in its original position within the cave (modified from Grau González-Quevedo *et al.*, 2021, p. 445).

3D Laser Scanner Studies

Various examples of 3D laser scanning projects are discussed next, unfortunately made necessary due to the removal of certain petroglyphs from their original locations in the 1940s and 1950s (Fernández *et al.*, 2009, pp. 124-135 and Hernández Casal, 2017, pp. 3-74).

These efforts came about as the result of the academic thesis entitled “Aplicación de la *Tecnología Scanner Laser 3D* al Registro Gráfico de Petroglifos”. The thesis was submitted by Luis Hernández Casal in partial fulfillment for the degree of Licenciado en Preservación y Gestión del Patrimonio Histórico-Cultural of the Colegio Universitario San Gerónimo de La Habana.

For his thesis, Hernández Casal used the land-based laser scanner Z+F IMAGER 5010C manufactured by the German company Zoller+Fröhlich in 2013. This scanner is capable of registering 1,016,000 pixels per second. The computers employed to process the scanned images relied on the software packages of Z+E Imager and JRC Reconstructor 2 that employ a designated processor 15 or 16Gb of RAM memory. An additional software package *Geomagic Design X 64* was utilized that possesses a Core 2 Quad processor, 6Gb of RAM memory and a video card with 1Gb of RAM memory (Hernández Casal, 2017, p. 37).

The use of the software Z+E Imager is critical to the entire process as it manages the data collected by the scanner for computerized manipulation (note this software varies according to the particular manufactured scanner; thus, other attempts may not produce the same results as presented here). The JRC Reconstructor 2 package operates in conjunction with the laser scanner and can read and edit the point cloud files generated by the Z+F IMAGER. The program *Geomagic Design X 64* produces the 3D models (Hernández Casal, 2017, p. 37).

Examples from the eastern region of the country included a 0.94-meter-high petroglyph that was cut from a stalactite within the Waldo Mesa cave in Banes, Holguín province (Figure 3.6). The remaining petroglyphs elaborated on different underground cave or rockshelter rock forms that were from the Maya River canyon, Maisí municipality, Guantánamo province.

Excellent scanning results were also obtained for three petroglyphs in private or institutional collections that were, after 1959, integrated into the holdings of the Instituto Cubano de Antropología.

Reproduction at half the actual size of the petroglyphs has proved ideal for conservation, registration and documentation of the rock art. Further, it serves to facilitate the dissemination and exhibition of the pieces for individuals with low or no vision.



Figure 3.6. a) Removed petroglyph from the Waldo Mesa cave, Banes, eastern Cuba (Fernández *et al.*, 2009) and b) same figure as a laser scanned 3D image (Hernández, 2017).

Physical-chemical characterization of pictographs

For decades, Cuban researchers have considered that precontact image-makers used manganese dioxide, iron oxide, turgite, magnetite, limonite and asphalt in the production of paint pigments (Dacal and Rivero de la Calle, 1996; Moreira de Lima, 1999; Linville, 2005; Romero Emperador, 2006), without any physical-chemical studies to confirm such compounds. More recent investigations have been carried out to identify pigment compositions involving 15 locations from seven provinces. Naturally-derived mineral elements, in addition to possible organic binders have been identified that further suggest specific methods of preparation (Arrazcaeta and García, 1994, pp. 22-31; Fernández *et al.*, 2018, pp. 289-305; Gutiérrez Calvache and González, 2018, pp. 176-178; Armitage *et al.*, 2020, pp. 878-892; Fernández and Morales, 2022, pp. 3-13).

Procedures including Scanning Electron Microscopy, X-ray Energy Dispersive Microanalysis (SEM-EDX), Raman Microspectroscopy, Mass Spectrometer for Pyrolysis by Injection (Pyr-CG-MS) and Gas Chromatography coupled with Mass Spectrometry (GC-MS), among others, have provided concrete element descriptions. Researchers are now better able to interpret the use of natural resources and sources of raw materials, the technical steps

or *chaîne opératoire*, as well as the outlines of economic production practices of the island's precontact groups in general.

Key study results presented in Figure 3.7 demonstrate the use as a binder of substances (ellagic acid) of vegetable origin obtained from trees in the surrounding environment, the collection of bat guano from inside the cave as a color additive, and the use of egg and milk (La Espiral cave) or the presence of fatty acids from plant species (García Robiou cave) in the pigments. Additional studies are expected to expand the listing and interpretive results (Fernández *et al.*, 2018; Fernández and Morales, 2022; Fernández *et al.*, 2022; Fernández *et al.*, 2023).



Figure 3.7. Map of the rock art locations in Cuba with physical-chemical characterization studies of paint pigments and dating of pictographs (updated and translated from Fernández and Morales, 2022).

The results from the most recent and increased sample locations lay out the recipe ingredients for the pigments used from the La Espiral cave in Artemisa. Substances of plant origin (ellagic acid) obtained from local trees such as *Juglans jamaicensis* C. DC were used as a binder (local walnut). Tryptophan amino acid residues were also located in milk and egg, at 1312 cm^{-1} , which could correspond to amide III groups with alpha-helix structure in milk globulins, at 1450 cm^{-1} . CH_2 groups, residues of egg albumin and milk globulins and also possible carbonyl groups ($\text{C}=\text{O}$) of fatty acids at 1728 cm^{-1} . Additionally, the collection, in the cave itself, of bat guano accounted for the color the preparation (Fernández *et al.*, 2018).

In the Garcia Robiou cave in Catalina de Güines, Mayabeque, the presence of binders based on fatty acids of plant origin was detected; however, the results are preliminary pending confirmation by subsequent studies (Fernández *et al.*, 2023, in preparation). For its part, the results obtained from the analysis of a sample of the pictographs of the Los Plátanos (El Toro) and El Aguacate grottos from the Las Charcas area in the aforementioned province of Mayabeque, indicate the presence of vegetable fatty acids such as palmitic, stearic, oleic and resin acids characteristic of oxidized pine resin.

It should be noted that the Las Charcas area is approximately 100 km from regions in the west of the country—Sierra del Rosario, San Cristóbal and Los Palacios, in the province of Artemisa—in which the native and endemic species *Pinus caribaea* Morelet “male pine” and *Pinus tropicalis* Morelet “female pine” were abundant. The so-called “male” is recognized for its usable wood, aromatic and medicinal properties; which suggests that the resin or the fresh branches of the plant were transported with the express objective of preparing the paint, although other purposes are not ruled out.

The aboriginal groups primarily relied upon the use of various vegetable fatty acids for the preparation of paintings, as evidenced by the three examples exhibited from the western territory. One could speculate that different groups might be identified based on their particular rock art traditions of pictographic paint preparation and production.

Direct Dating of Pictographs

In the El Fustete 02 cave in Niquero, Granma, charcoal samples were recovered under a pictographic mural with irregular or abstract designs; SEM-EDX studies confirmed the vegetal nature of the samples and their correspondence with angiosperm, dicotyledonous plants. An Acceleration Mass Spectrometry (AMS ^{14}C) analysis at the Institute for Environmental Research of Australian Government (ANSTOC) reported a conventional dating of 3865 \pm 40 BP and 4415–4 219 Cal BP (OZR174) (Fernández *et al.*, 2019).

For direct dating purposes, the caves La Pluma and La Cachimba in Matanzas; El Aguacate, Los Plátanos (El Toro) and Los Muertos in the Las Charcas area in Mayabeque, were reviewed for possible sample collection. The Los Muertos cave ultimately yielded appropriate samples for processing via the oxidation method with low temperature chemical plasma, as well as that of AMS (Fernández, 2014) (Figure 2.7). The Armitage Lab of Eastern Michigan University undertook the analysis of the samples producing the first direct dating of Cuban pictographs: 210 Cal BC-400 Cal AD and 75-380 Cal AD (Armitage *et al.*, 2020, p. 888).

The date 210 Cal BC-400 Cal AD was obtained from the sample designated S2, taken from an enigmatic image similar to a bat; while sample S3 was collected in the left section of the main mural of the cave, which is the largest in the Las Charcas area, approximately 1 m high and 1.3 m wide. This second

sample was from an anthropomorphic design that is crossed, in the trunk portion, by three horizontal lines (Armitage *et al.*, 2020, p. 880).

Rock Art within the wider Caribbean Cultural Context

Rock art, though a distinct component of past cultural expression, nonetheless developed within and was influenced by the wider cultural context. The intersection of rock art characteristics and development have been explored by a number of investigators over the years, most notably the interplay between the execution of images and their role within sociopolitical systems. Roe in this next essay accounts for the strongly anthropomorphic focus of Antillean rock art by linking changes in design forms to sociopolitical shifts from the considered Early Ceramic Saladoid egalitarian to Late Ceramic Ostionoid ranked societies. The essay also displays the effective use of ethnohistoric sources and ethnographic analogy in rock art interpretation, a prominent feature of the region's investigative structure.

The Human-Centric Imagery of Petroglyphs

Peter G. Roe

The preponderance of anthropomorphic petroglyphic imagery in both the Lesser and Greater Antilles certainly invites possible explanations (Figure 4.1). This pattern is more prominent in the Caribbean than in the surrounding areas save, tellingly, for the Temehri type from the Guianas (Im Thurn, 1883, Figure 35, pp. 394-395; see reference to Guianas as ancestral to post-Archaic Saladoid groups under Data Sources). The first explanation is a simple one derived from these islands' impoverished faunal assemblages. Aside from the small surviving Caribbean cayman of the Greater Antilles (now restricted to Cuba), there were no large and impressive or dangerous terrestrial species in the Antilles. This may explain the prominence of the humble tree frog, as well as the bat, in the iconography (Petitjean Roget, 1997, p. 105), a case of local "iconic substitution" for the larger mainland fauna. Perhaps the low percentage of non-human faunal images in the Antillean petroglyphs is just the obvious result of the lack of suitable faunal icons like jaguars, black caymans-anacondas, and harpy eagles, linked species of mainland South Amerindian cosmology and mythology (Roe, 1982, 1992). It may also reflect the presence of numerous human inhabitants, particularly in the later Ostionoid (AD 600-1500) phases (Oliver, 2009, p. 163). This would certainly explain the petroglyphs of Guadeloupe (Richard, 2009, Figures 10.1-10.4), and the smaller islands of the Lesser Antilles such as St. Kitts or St. Vincent (Fewkes, 1907 [1970]: Plate XII, upper and lower) in the Windwards (Jönsson Marquet, 2009, Figure 11.2), where there is no, or minimal, archaeological evidence of supra-tribal social organization.

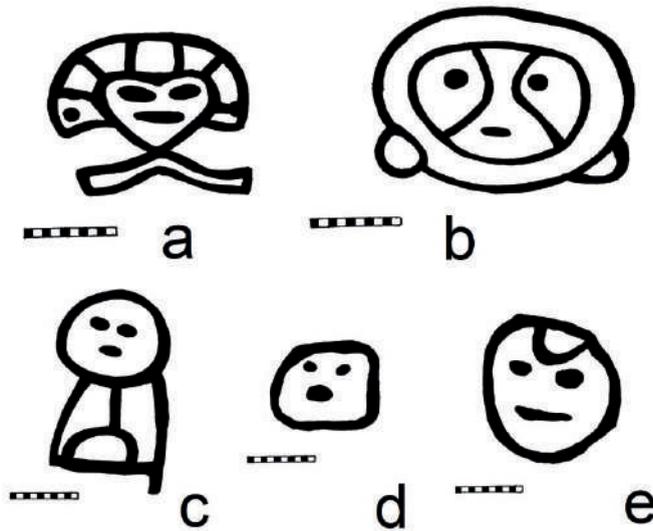


Figure 4.1. Anthropomorphic Images a) crowned heart-shaped head with upper body outline b) double encircled face with eye and mouth internal elements and external ears; c) enclosed or wrapped body with simple circular-shaped head, d) simple squared-shaped face with pitted eyes and mouth, and e) simple face with pitted eyes, dashed mouth and hairline. Petroglyphs, Cueva de Mora (Roe *et al.*, 1999: Figures 10a, b and 7a, c, d, respectively).

The other explanation rests on changes linked to socio-cultural evolution in the Greater Antilles—chiefly Puerto Rico, Hispaniola, Jamaica and eastern Cuba. In this central area there is evidence of a progression from the egalitarian tribal societies of the founding Cedrosan Saladoid immigrants (500 BC-AD 600) to a transition to Proto-Chiefdoms of the intermediate Elenan-Ostionan/Ostionan-Ostionoid period (AD 600-1200), culminating in the complex chiefdoms of the proto-historic Chican Ostionoid Taíno, AD 1200-1550 (Rouse, 1992; Wilson, 1990; Keegan and Hofman, 2017). Here Roe does not consider the largely geometric pictographs of the various Archaic (5000-500 BC) Indigenous inhabitants of these islands, which may reflect a more egalitarian lifeway, although not without evidence of some status differentiation (Roe, 2011, p. 520).

The human-centric nature of the iconography at the Elenan Tibes multi-court site on the south coast (Curet and Stringer, 2010; González Colón, 2021) and other locations may reflect Greater Antillean societies shifting away from the “lateral-view” of animistic tribal society (looking to the world of nature bracketing human society) to the “vertical-view” of stratified chiefdom societies where it is people, other higher-ranking humans, not non-human

animals, that determines one's existence (Figure 4.2). Images of people filled the rock art as society complexified.



Figure 4.2. Photograph of stone pavement along the principal plaza at Tibes, a multi-court site from Late Ceramic, Puerto Rico, with two simple facial motifs, one with large detailed ears (possible frog or lizard face) (at left) and one with ears (at right) (courtesy of Peter Roe).

When the post-Archaic horticultural-ceramicist immigrants, the Cedrosan Saladoids, arrived on Puerto Rico and proximate eastern islands (Vieques-Martinique), most likely directly from the lowlands of northern South America (Urbanus, 2021, p. 22), around 500 BC, indications are that they were on a tribal egalitarian level. If their late surviving seventh to ninth century AD village of Golden Rock on St. Eustatius in the Lesser Antilles (Versteeg and Schinkel, 1992) is any indication, their circular villages were composed of round and oblong malocas, or conical-thatched communal huts, remarkably like the Guianan circular villages such as Shefarimo (“Big Dog Village”) on the Upper Essequibo inhabited by egalitarian Waiwai (Roe, 1987).

Even earlier Saladoid villages on larger islands, like Maisabel on the north-central coast of Puerto Rico, have a similar circular configuration (Siegel and Roe 1991; Siegel, 1989). Moreover, the visually impressive and technically masterful polychrome and incised Cedrosan Saladoid pottery (Roe, 1989; Rodríguez López, 1997, p. 84) is typical of a “personal presentation” material culture (Roe 1995, pp. 155-156), like that of the tribal Shipibo of the Ucayali River in eastern Peru, whom Roe has studied ethnographically (Roe, 2022, pp. 411-412). These individuals express, and assert, their own persona in intimate interactions (intra-village and inter-village host/guest feasting contexts)

through complex and beautiful individual body art (face and body painting, jewelry and dress), in addition to idiosyncratic, and finely-crafted, small objects like pottery. The latter requires direct physical handling and close visual appreciation.

On a spiritual level, Cedrosan Saladoid ceramic adornos, along with hollow ceramic figurines, also continued to depict mainland fauna in hyper-realistic fashion, illustrating their animistic/egalitarian “lateral view” to the forest world, and its plethora of animal spirits (Roe, 2011, p. 526) (Figure 4.3). Their pottery reflects this tribal-level equivalence with, and transformation from, kindred animals and birds, mediated by the visionary ingestion of hallucinogenic substances. Stylistic devices like “pictorial dualism” (Roe, 2004, Figure 7.4) reflect this “real/unreal” set of cultural categories (Kensinger, 1995, pp. 83-85).

Many adornos not only depict people or animals as singular subjects but also combine these figures in a variety of ways. Figures are seen stacked, one atop the other...; spliced together while sharing a common feature...; emerging out of the head of another in the manner of an alter ego or spirit guide...; or appearing only when the adorno is turned or inverted... These varied modes of visual hybridity suggest a Saladoid interest in multiple and liminal existences, and in transformational states between corporeal, spiritual, and cultural categories (Waldron, 2011, p. 3).

This “anotropic organization” (inversion) persists into Elenan Ostionoid ceramics (Roe, 2004: Fig. 7.8c-h) and petroglyphs (Roe, 2005, Fig. 8.11b) and continues through late Indigenous Taíno non-elite earthenware production (Roe, 2004, Fig. 7.9).

Waldron (2019) has suggested, via iconographic analysis, that certain complex Puerto Rican and Dominican pictographs were produced by Saladoid artisans (see discussion under Dating entry). This situation is understandable since pictographs are common in the lowlands of South America and at a very early date. They do not require work in stone, an unfamiliar material for dwellers of water and mud like the Cedrosans, at home along the meandering rivers of the Amazon and Orinoco. Concerning later petroglyphs, Roe has seriated the transition between Cedrosan material culture and Cedrosan-descendant (Elenan-Chican Ostionoid) rock art (see Dating entry for his developmental model). He noted a “diachronic cross-over in art media” (Roe, 1995, Figure 2.6) whereby the emphasis on the elaboration of polychrome ceramics characteristic of the Saladoid (500 BC-AD 600) shifted to the relatively plain (incision, modeling and slip only) Elenan pottery (AD 600-1200) and, ultimately, the purely modeled-incised Chican (AD 1200-1500 AD) ceramics of the last Indigenous phase.

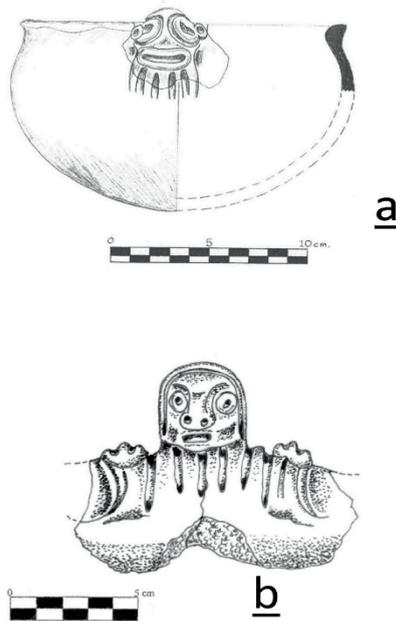


Figure 4.3. a) modeled-incised adorno or handle on vessel rim, human-like face with ear spools and vertical rays below face, Early Ceramic AD 800-1200, Jardines de Loiza, Puerto Rico (Roe, 2004, Figure 7.8a, p. 107), 4.3b similar modeled-incised adorno projecting from vessel rim, also Early Ceramic, Punta Mameyes, Puerto Rico (Roe, Ortíz Montáñez and Roe, 2011, Figure 4.e, p. 313).

Simultaneously, in the Puerto Rican Pre-Taíno (Elenan) complex tribes or incipient chiefdoms, the lapidary arts saw a concomitant shift from Saladoid small items of jewelry and decorative accoutrements (Roe, 1995, Figure 2.6d) to large-scale architectural and sculpted works. The first appearance of stone/earthen-lined enclosures (2.6f), initially accompanied by simple petroglyphs and layouts (2.6e) is observed. The prime example being the multi-court site of Tibes on the south coast of Puerto Rico dominated by small facial petroglyphs carved into boulders along the boundaries of the main plaza (2-6f) (see Figure 4.2). Even larger and more elaborate stone architecture and portable art (compare Figures 1.4a,b above; see also the evolution of three-pointers in Roe, 2011, Figure 33.3) characterized Chican Ostionoid lithic production. Such displacement of emphasis between media has occurred in other Amerindian material cultures as their societies developed, as Silverman and Proulx (2002, p. 246) noted for the shift from elaborate Paracas textiles in egalitarian tombs

to complex Nasca 3 polychrome pottery coincident with the development of the Cahuachi ceremonial center on the south coast of prehistoric Peru.

Around the end of the thirteenth century AD a complex facial petroglyph from the Elenan El Bronce enclosure signals a further elaboration in Native sociopolitical organization. The image is one of several occupying 30 percent of the stones aligning the plaza consisting of a crown and rayed face with enclosed eyes, nose and dashed mouth (Robinson, 1985). Such elaboration, as well as the detail of earplugs, suggests an élite personage who perhaps oversaw the various activities proposed for enclosures including ceremonial dances and public political affirmations.



Figure 4.4. a) crowned, ear-spool and rayed face, indicating elite/chiefly status, El Bronce enclosure, AD 1300 (Roe 1991, Figure 14a, p. 359), b) with accompanying photograph of the motif on enclosure boulder, Puerto Rico (courtesy of Peter Roe).

This shift from the common physiography of a human face (see 4.1 examples), which everybody shares, to the accoutrements of status appended to that face with crowns, earplugs and pendant necklaces, indicates a shift from an animistic egalitarian status to a human-centric focus on higher-ranked personages (the caciques, or chiefs) in non-equalitarian societies like chiefdoms (Wason, 1994, pp. 43, 53).

By around AD 1300 this transfer from personal assertion to public power reached a climax in the elaborate chiefdoms of the succeeding multiple hegemonic, competing and intermarrying Taíno chiefdoms (Wilson, 1990). They reached their apogee within the eastern Hispaniolan and western Puerto Rican interaction zone (later expanding to Jamaica and eastern Cuba).

Taíno society was ... hierarchical. It was divided into three social strata. At the head of these were the *nitaino* ('good or noble people'), members of chiefly families or lineages, who were considered to have 'better blood' and constituted the ruling class ([Las] Casas 1527 [1992], 3, p. 1280). Under the *nitaino* were 'the common people,' free people of Taíno descent, but who did not belong to prestigious lineages. The Native term for these commoners is not known; in colonial times they were referred to...as *indios de servicio*. Finally, there were the *naboría* who, according to Spanish sources, had a servile status (Santos-Granero, 2011, p. 337).

"This cacique decided all juridicial controversies and his judgment was absolute [LAS CASAS] (Lovén, 1935, p. 501-emphasis, Roe's). "These rulers did not really talk to the people, but made known their orders with a sign of the hand, understood as a marvel [NAVARRETE] (Lovén, 1935, p. 501). They controlled production, assigned individual and collective tasks [LAS CASAS] (Lovén, 1935, p. 501; Veloz Maggiolo, 1997, p. 37), and received tribute. Indeed, a cacique could ultimately determine the life or death of any commoner or *naboría* servant (F. Columbus 1496 in Griswold, 1997, p. 171). All eyes and deference were upon this exalted cacique, who added authority to his power by acting as a priestly intermediary to his people, his residence, the *caney*, becoming a temple (Lovén, 1935, p. 505-506).

These *cacicazgos* had definite borders, often in dispute with neighboring, contending and similarly-organized polities (Oliver, 2009, pp. 158-159). This introduces another function of petroglyphs, ethnic and/or political signaling, something also noted for petroglyphs in Colombia. For example, the *menhir* petroglyphs lining the plaza of the Salt River village site in St. Croix, Virgin Islands, was

...the easternmost established Tainan ball court...an outpost of the Classic Taino interaction sphere.... The recent discovery of Tainan culture on the island of Saba, the first of the Leeward Islands east of St. Croix, suggests an ongoing process of Taino expansion. The Salt River area, with its ideally located and protected harbor, could have been a gateway community (Morse, 1997, p. 45).

Indeed, petroglyphs guarded the "gate".

In such thoroughly humanized contexts, a further baroque stage in the evolution of anthropomorphic petroglyphs occurred (see also pictographic discussion in next essay). A male and female pair, illustrated in Figure 4.6 a, b, stand right next to each other, incised on two of the alignment menhirs overlooking the central plaza, A, at Caguana in Utuado, Puerto Rican highlands (Oliver, 2005, Figure 7.20). They present as full-figured, frontal menhir petroglyphs, the male situated to the right (viewer perspective) of the female on the left (their respective positions are sexually so-coded for lowland South Amerindians). These hybrid personages are complete with élite accoutrements like large ear-spools and complex semi-circular headdresses. Roe, following Rouse (1992, p. 119), has suggested a supernatural aspect to this petroglyphic scene.

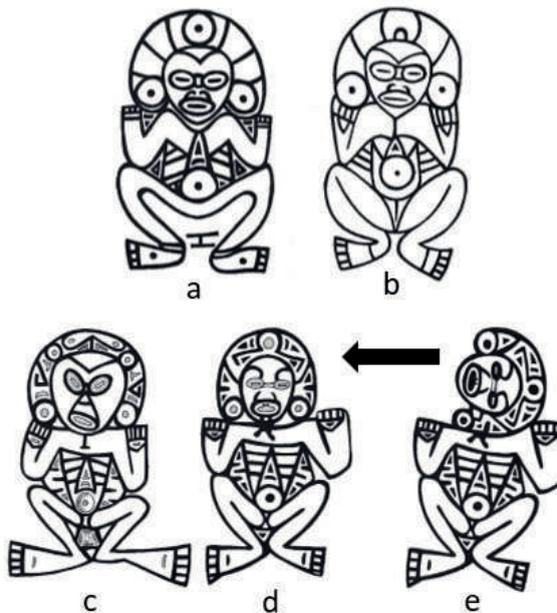


Figure 4.5. Elaborately detailed figures from Late Ceramic Caguana and Jácana enclosures, Puerto Rico, a) full-body frog-like petroglyph from main plaza at Caguana, may represent the male supreme deity Yucahú, b) adjacent full-body frog-like petroglyph, possibly the supreme female deity Atabey (Roe and Roe 2015, Figure 13a, b, page 185 bottom row), c) and d/e) more elaborate versions of same figures from later-in-date Jácana (e represents original positioning with decapitated head, and repositioned for comparative purposes in d) (Roe and Roe 2015, Figures 12a, b, page 185 bottom row and Figure 9a, page 184, respectively).

The famous female figure may represent *Atabey* (*Atabeira*), the supreme female deity, and one to whom women prayed for successful childbirth. *Atabey* was also the goddess of rain, rivers and lakes (Arrom, 1989, p. 17-36), hence soil and crop fertility. Stevens-Arroyo (1988, Figure 12), identifies her portrayal at Caguana as “bactrianthropic”, with a “froglike posture” (Stevens-Arroyo, 1988, p. 226). This quasi-anuran depiction reinforces her association with freshwater as the frog is a freshwater amphibian. “Certainly, rainwater is necessary for the maturation of yuca [manioc, the staple] and yuca was planted during the rainy season” (Stevens-Arroyo, 1988, pp. 223, 226). Her probable origin was as the South Amerindian (Guianan) frog-woman seductress (Roe, 1992, 1993, 2005, 2011). She is also described as the mother of *Yucahú* in the Pané source (Arrom, 1974, p. 21; [Pané, 1999, pp. 3-4), the supreme male deity, possibly the figure to her right. He was the Lord of yuca (manioc, the staple), and master of the sea.

Due to the tuber’s elongated, pointy shape it is ethnographically linked in the lowlands with the phallus so it makes sense that *Yucahú* was identified as male. We know that the curious Taíno three-pointer stones, pointed objects being male associated in lowland ethnotaxonomy, were buried in the *conucos* (horticultural fields) as “manioc stones,” echoing the Guianan magical yuca increase practice. We also know that the Taíno considered the earth as their mother (Lovén, 1935, p. 564, ref. the Admiral and Las Casas), thus the insertion of the three-pointers into the earth was tantamount to a symbolic act of intercourse, with the resultant tubers being their offspring. Because *Attabeira*’s fresh water is essential for making the earth fertile Roe believes that *Attabeira* was also an Earth Goddess.

He further differs from the chroniclers by regarding her as the wife of *Yucahú*, not his mother. It is possible that the chroniclers or, perhaps, a converted informant, identified *Attabeira* with the Virgin Mary, the “Mother” of God, and thereby conflated her with the mother of the god *Yucahú*. The complementary relations of these deities are more indicative of consorts than mother/son relations. In addition, Amerindian gods are always provided with goddesses as spouses. *Yucahú*’s salt water (the sea) contrasts with *Attabeira*’s freshwater (rain, rivers, lakes). Moreover, men supplied the essential protein, fish (land mammal hunting was less significant) from the sea, whereas women provided the carbohydrate (bitter manioc in the form of unleavened cakes, *cassava*), derived from their land-based horticultural work in the *conucos* (raised fields); both together, like husband and wife, contributed to the aboriginal “sandwich” of Antillean subsistence.

In contrast to this deistic interpretation of the primordial pair of consorts at Caguana and Jácana (Roe and Roe, 2015), Oliver (2005, p. 269-270, Figure 7.20, p. 270; and see Figure 5.6 below) has argued for a political reason behind this pair’s representations. He interprets this petrolyphic scene as

an act of status aggrandizement, the male being the ancestral cacique, while the female (petroglyph designations in the following discussion are those of Oliver, 2005; petroglyph 10; see Figure 4.6b) mother/consort, was the ancestral cacica (female cacique). He places the living cacique (petroglyph 11), who actually presided over plaza performances, next to the ancestral male (petroglyph 9, see Figure 4.6a), complete with his élite accoutrement, the *guaíza* or high-status-indicating mask pectoral. Yet if just a human cacique and female associate, why the exaggerated anuran, or frog-like, posture and the amphibian-like feet of 10 and 11? Those elongated feet are even further exaggerated, in unambiguous froglike-form as Oliver (2009, p. 136) points out, on the slightly later, and even more baroque, menhir petroglyphs at Jácana, as seen in Figure 4.6 c, d, e (Roe and Roe, 2015). There the female associate/consort is “beheaded,” with her head lying on its side above the torso (Oliver, 2009, Figure 9), perhaps referencing a myth like the Aztec dismembered and decapitated female goddess, Coyolxauhqui. Since these images are composite anuran-anthropomorphs, a supernatural aspect is likely because it is common for spirits/deities to be human-animal composites among Amerindians. That mythic narrative is further strengthened by the appearance of the “Magical Twins,” typical Amerindian heroes (Roe, 1982, pp. 146-147, 154-156, etc.), next to the cacique (menhir petroglyphs 12 and 13). The appearance of the giant blue heron (petroglyph 7) to the left of the female is also a possible mythic reference (Roe, 1993).

Perhaps both a political and a mythic function may have applied to these famous images. Maybe the cacique and cacica, who already possessed supernatural roles as prognosticators of visions, were further assimilating the role of deities. After all, this was common practice among Mesoamerican (Alex, 2022, pp. 50, 55 on the Maya; Nicholas and Feinman 2022, p. 130 [5], 12, for Zapotec Monte Alban) and South American rulers (Davies, 1995, p. 62 for the Inca).

By assuming a quasi-god-like aspect the cacique/cacica wielded religious authority, reinforcing their secular power by employing the sacred deceptions common among behiques, or shamans. We have testimony from Columbus (quoted by his son Fernando [a.k.a. “Hernando”] Columbus, 1571) that a cacique continued to use deception while transforming his role into that of a priest attending a sacred idol (a carved wooden statue?), housed in his large *caney*, which thus became a thatched temple. Upon entering one such temple Columbus discovered the ruse of a speaking tube being used to emulate the voice of the idol; the cacique made the ruse clear by pleading with the Spaniards to not reveal his stratagem since that was how he maintained his control over the populace (Griswold, 1997, pp. 170-171). This instance was but a Hispaniolan version of the classic “Priest-Temple-Idol” complex of the Intermediate Area (from Nicaragua to the Atlantic Watershed

of Costa Rica, thence to Panama, Venezuela and Ecuador), that is considered part of this culture-geographic area.

In short, both the style cycle and the iconography of Antillean petroglyphs illustrate the diachronic evolution of human-centric, chiefly Taíno authority and power, out of ancestral animistic Saladoid tribal egalitarian culture. They also signal the importance of searching for narratives in these images. These lithic stories appear in both cosmological recapitulation, as argued for the assemblage from Cueva de Mora Puerto Rico (Roe, 2005), as well as diurnal/nocturnal cyclical ethnoastronomical modeling at Mural de Zamas, also from Puerto Rico (Hernández Llanes, Roe, Driver, 2017). Such petroglyphic narratives elicit myths recorded by the Spaniards, like the paired, yet dyadically-opposed, “sweating” = “rainy/dry” Iguanaboína cave guardian petroglyphs (the *cemí* “Magical Twins” of Boínayel, fertilizing rain from gray clouds, versus Márohu, for no clouds, a dry, sunny day, Pané (1999, p. 17). They also record myths ultimately derived from the lowlands of South America, as in the Caguana-Jácana female being both Atabey the Earth and Rain Goddess while probably developing from the lowland South Amerindian “frog woman” seductress (Roe, 1993).

Rupestrian Images as Art

Waldron brings an underutilized art historical perspective to the study of Caribbean rock art. His assessment ranges from the macro region-wide to micro scales of image groupings and individual motifs. He interjects the fact that image-makers were artists who executed designs in a variety of forms on a variety of surfaces that reflect the everyday, narrative and conceptual thought processes of Native Antillean societies. Waldron draws upon physical location and design element details across rock art and other media, complemented by ethnohistoric and ethnographic sources to offer both intriguing new, in addition to more traditional approaches to interpretation. He also raises questions for investigation that deserve more consideration, including identifying who the artists were and the ritual or ceremonial contexts associated with rock art.

The last essay also serves as a summation for the entire article by covering in large part the status of rock art investigations: successes, limits, and a plea for increased integrative research among those involved in visual cultural analysis: art historians archaeologists and cultural anthropologists.

Ritual and Folkloric Contexts of Antillean Rupestrian Art

Lawrence Waldron

The rupestrian art of Indigenous Antilleans gives us a glimpse into their empirical, narrative, and conceptual thinking. In fact, these images are the

material remains of several ethnic and eval worldviews modifying the natural environment—from the painted caves of Archaic western Cuba to the hypergraphical cave walls and river boulders of the Taíno-era Greater Antilles and neighboring islands to the clustered and singular petroglyphic landmarks of the Lesser Antilles. Petroglyphs were also engraved on the cultural environment, most notably on the lines of monoliths edging the sacred precincts of ceremonial centers in the Greater Antilles and Virgin Islands.

Indigenous Antillean rupestrian artists employed a broad range of techniques to modify the stone surface. Archaic artists showed the most interest in painted images, usually in red or black on pale limestone, creating hundreds of individual motifs and dozens of murals in caves in Cuba and Hispaniola. Their Ceramic-age neighbors of the Taíno era (circa AD 1200-1500) preferred to draw pictographs in charcoal (Figure 5.1) but made painted ones as well, usually in jagua (*Genipa americana*) black and, far less commonly, with red from ochres and roucou (*Bixa orellana*). A pictographic motif could be scrawled with nervous lines by a non-specialist or it could be rendered by a confident hand well-practiced in drawing, painting, or design. We do not know if this indicates that pictographic artists were ritual specialists of varying skill or mostly artists who were sometimes joined by ritual specialists out of necessity.



Figure 5.1. Great mural with linear and silhouette figural motifs including scenes from Taíno-era traditional narratives (e.g., top center), Hoyo de Sanabe, Dominican Republic, presumably Taíno. Carbon-based pigment on limestone, anthropomorphic figures approx. 20-30 cm height (courtesy of Daniel DuVall).

Petroglyphic artists, however, all required a base level of technical skill to peck and carve their images on obdurate materials such as limestone and granite. Both Archaic and Ceramic Age rock artists produced petroglyphs but this artform was far more heavily favored by the latter, especially in the Taíno era. Petroglyphs of uncertain antiquity, some possibly dating back to the later part of the Saladoid era (circa 500 BC-AD 700) (see above dating section) and Early Ceramic Troumassoid (circa AD 750-1200), also appear throughout the Lesser Antilles, sharing much of the iconography though not always the same style traits of those in the Taíno west (Figure 5.2). Modified stalactites, stalagmites, pillars, and flowstones are more common in the karstic regions of Puerto Rico, Hispaniola, and Cuba than in the Lesser Antilles but have been found as far east as Barbados.



Figure 5.2. Anthropomorphized bat (left) and frog (right) motifs. Early Ceramic Troumassoid. Pecked and incised stone (modern pigment added). Engraved stone, larger figure 81x61 cm (courtesy of Jacqueline O'Connor).

Across media, ancient Antillean arts display a wide range of representational modes. These include (1) the idealized naturalism of some ceramic adornos and shell sculptures in which the usually zoomorphic subject is portrayed to look as it might in the flesh but slightly edited to eliminate irregularities; (2) the stylization that we see in most art made by post-Archaic groups from the Saladoid to the Taíno era in which the forms of nature are turned into deliberately designed motifs, patterns, and other visual schemes so that design and depiction are near equal partners in representing the anthropomorphic or zoomorphic subject; (3) the abstraction of some Saladoid and Taíno motifs so that design outweighs depiction. The ubiquitous

motif coined as “the frog labyrinth” by Henry Petitjean Roget (1975) is the consummate example of this level of abstraction. In it, the image of the frog seen from above is turned into a quincunx with a circular body at the center and the four legs meandering out from it tightly folded back upon themselves. Without being told this represents a frog, the viewer might miss the flexed legs for the meanders (Figure 5.3).



Figure 5.3. The frog labyrinth motif: a) Late Saladoid WOR (white-on-red) seed pot with incised and white slip-filled flexed frog design on red-slipped bowl, Canas, Puerto Rico, 16 cm diameter, (left); b) linear rendering of the frog labyrinth motif (center); c) petroglyph on boulder at Balenbouche, St. Lucia, late Saladoid or early Ceramic Age Troumassoid (right) (a, Waldron, 2016, Figure 7.31 color photograph plate and non-color image page 188; b, Waldron, 2019, Figure 2.12 center, p. 6; c, courtesy of Lawrence Waldron).

While stylization is the preferred idiom across the arts of the Antillean Ceramic Age, their rupestrian artists were decidedly abstract in their chosen mode of representation. This was not a pure abstraction concerned with design principles and aesthetic concepts independent of any pictorialism (as we see in Islamic tilework or some abstract expressionist paintings) but a representational abstraction employing learned visual conventions that were intended to communicate established symbolic categories. This is not to say that rupestrian images served as some kind of glyphic “writing” but that the communicative, indeed didactic intent behind motifs is usually evident in their occurrence and recurrence in recognizable scenes, sequences, and locations (see discussion below).

The locations of rupestrian images helped determine their significance just as they, in turn, gave dimension to the places they inscribed. The three most likely places to encounter Caribbean rock art is in caves and rock shelters especially in the Greater Antilles, on riverside boulders across the island chain, and in the Taíno-era ceremonial centers.

Today, painted and drawn images are usually encountered in rock shelters and the dark zones of caves, along the walls, including high up beyond the normal human reach where climbing, hanging or boosting must have aided

the artist. Some caves also bear pictographs on their ceilings. In these sheltered locations, the pigments of the works have been well preserved. Caves in Taíno-era lore at least were the origin places of both major celestial bodies and the human race. In one of only two references to rock art found in Fray Ramón Pané's (1999) Contact-era account of Antillean customs, the sun and moon first emerged from a painted cave called Iguanaboina and Pané notes that people returned to this cave to make offerings and pray for rain (Pané, 1999, p. 17). Both archaeological and ethnographic evidence establish that caves were also seen as passages to the underworld throughout much of the tropical Americas, making them occasional burial places and shrines in which icons were worshipped and offerings were deposited (Oliver, 2009, pp. 143-144; Oliver, 2005, p. 231-241; Waldron, 2019, p. 121-165). Caves, then, were other-worldly wombs and tombs, temples, and chambers from which the weather could be mitigated or even controlled. In storms, of course, caves could also be reliable shelters and thus torchlit theaters for the instruction of captive audiences. The visual content of cave art testifies to all these functions (further discussion below).



Figure 5.4. a) Anthropomorphic, owl and bat petroglyphs at the mouth of Warminster Cave, Jamaica, Taíno. Engraved limestone, triple dot faces near bottom approx. 8-10 cm width (left) (courtesy of Reinaldo Morales, Jr.), b) drawing of the petroglyphs (right) (Waldron, 2019: Figure 4.2 right, p. 124).

By contrast, rupestrian artists pecked their petroglyphs outside, at the mouths of caves where oblique sunbeams painted their raised and sunken

contours with alternating highlight and shadows, which could change the image as the light source moved throughout the day (Figure 5.4a). Considering the role of polysemy and other forms of multivalence in Ceramic Age Antillean modeled and painted ceramics, this transformational quality of cave-mouth petroglyphs seems to have been deliberate. The same is true of the modified speleothems that can be found in similar locations but also in cave interiors where their forms might change in faint or indirect light, the dancing flame of a moving torch, or a single, seasonal sunbeam. Indeed, speleothems were often modified in response to some serendipitous or even uncanny resemblance they already bore to important characters in ethnohistorically recorded folklore (Morales and Quesenberry, 2005, pp. 44-47; Waldron, 2019, pp. 163-164). More easily found than the shapeshifting, serendipitous speleothems in cave entrances and interiors are the Caribbean's many petroglyphs on boulders alongside water courses and inland bodies of water (Figure 5.5). Their iconography seems deliberately related to these fertility-giving, sometimes drought-affected locations (further discussion below).



Figure 5.5. Piedra Escrita, Jayuya, Puerto Rico, Taíno. Engraved granite boulder, approx. 7 m height (courtesy of Reinaldo Morales Jr.).

In the late first millennium, some Saladoid and post-Saladoid villages in the Virgin Islands and Puerto Rico began to transform their central thoroughfares/plazas into more formal ritual spaces and by proto-Taíno times (circa AD 1000-1200), these spaces had developed into full-fledged ceremonial centers, with tamped earth precincts enclosed by cobblestone pavements and lines of inscribed monoliths (Curet and Stringer, 2009; Wilson,

2007, pp. 111-126). These ceremonial centers with their accompanying bateys (ballcourts) and other ritual sport pitches, along with cobblestone ramps up from nearby rivers, received pilgrims and embassies from neighboring communities and perhaps distant islands as well. The visitors participated in areytos (festivals), treaties, religious rites and rites of passage, which promoted regional cohesion, and competed in intramural ceremonial contests in the Amazonian fashion perhaps to resolve political tensions (Waldron, 2019, pp. 110-111). The petroglyphs (Figure 5.6) that grace the monoliths lining these ceremonial precincts usually reference deities, traditional narratives, ancestors of the elites who had directed the construction and transformation of these spaces, and perhaps zoomorphized and anthropomorphized celestial bodies and constellations (Curet and Stringer, 2009; Loubser, 2010; Oliver, 2009; Waldron, 2019, p. 198).



Figure 5.6. Major figures of the western monolithic line representing a wading bird, crowned and frog-posed deities (presumably earth/freshwater goddess Atabeyra at center and agro-god Yucahu at center right) among various ancestral figures and faces, main plaza at multi-enclosure Caguana, Puerto Rico, Taíno. Pecked and incised stone, approx. 1-1.5-m height (black-and-white version in Waldron, 2019, Figure 4.24 upper, p. 192).

Petroglyphic crowned and rayed anthropomorphic faces as well as visages with large earpools (often also crowned or rayed) likely represent Taíno-era leaders and deities in macaw feather headgear. By comparison, sculptors and ceramicists usually omitted the rayed image of the feather crown (to prevent breakage of those more attenuated parts of the work) abbreviating the regalia to the woven headband. Thus, “crowned face” petroglyphs provide visual confirmation of the conical style of Antillean feather crowns that the other arts do not (Figure 5.6). Faces featuring the rays on the bottom of the face, resembling a beard, may represent rayed conch-, stone-pendants, animal tooth pectorals, or feather collars. Simple encircled faces with only three dots for

eyes and a mouth are quite common on boulders and at cave mouths and are far more ambiguous in their meaning. In their lack of social signifiers, it is possible that they served a standardized, votive purpose (as Westerners use memorial ribbons or Remembrance poppy brooches) upon the loss of an affine or group of them. At Reef Bay in St. John, U.S. Virgin Islands (Figure 5.7), these simplified faces are refined yet further, losing their outlines, and forming a line of abstract triple-dots along the bottom of the petroglyphic mural, which coincides with the current water line. Disembodied pairs of eyes may be an even more simplified version of these apparent memorial faces or might reference yet other beings, perhaps less benevolent or not human.



Figure 5.7. Waterside petroglyphs: triple-dot, guaíza, owl face, bat wing, rayed and visor-eyed face, and rectilinear motif reflected in water, Reef Bay Pool, St. John, U.S. Virgin Islands, presumably Taíno. Pecked and incised basalt, approx. 2.5 meters width (courtesy National Park Service).

Divided petroglyphic faces—bisected by a central horizontal or vertical line, trisected by an inverted Y or quartered by an X—are often rayed and, while they appear anthropomorphic, may not represent historical people or deities but personified celestial bodies. Wrapped anthropomorphic figures appear in petroglyphs across the Greater Antilles and as far east as St. Lucia and St. Vincent where they might be pre-Taíno (Figure 5.8). They are often represented with crowned faces and Peter Roe's proposal that they represent revered departed ancestors and leaders wrapped in their hammocks at burial is widely accepted (Hayward *et al.*, 2009, pp. 122-124; Roe, 1991).

Petroglyphs are the most widespread form of rupestrian art in the Antilles and among those, figural motifs preponderate. However, spirals, S-curves, and meanders are fairly common on river boulders as at Piedra Escrita in Jayuya, Puerto Rico (see Figure 5.5), where they seem to represent the action of water. Spirals in particular may also represent time, as first proposed for this region by art historian Dicey Taylor (2003), and meanders can double as reptile/amphibian symbols (i.e., snakes and frogs) which themselves connote the flow and dripping/precipitation of freshwater respectively (Waldron, 2016, pp. 174-175; Waldron, 2019, pp. 62-63, 245).



Figure 5.8. Wrapped figures: a) crowned faces with central crowned and wrapped figure, Parc Archéologique des Roches Gravées, Trois-Rivières, Guadeloupe, dates unknown (possibly Ceramic Age Saladoid or Post-Saladoid Troumassoid), heads approx. 25-30 cm width each (left); b) wrapped figure with tall headgear, visor-patterned eyes, and pronounced weave-pattern on wrapping, Cueva del Indio, Puerto Rico, date unknown (probably Taíno), circular face approx. 28-30 cm height (right). Pecked and incised stone (a, black-and-white versions Waldron, 2019: Figure 4.15, p. 161 and b, Figure 4.13 right, p. 156).

Some waterside petroglyphic motifs also occur in pictographic art. Faces with weeping eyes, sometimes gnashing their teeth, are rendered in both petroglyphic and pictographic techniques. Across the Taíno arts, this was the established iconography of shamans wracked by discomforts of the cohoba ritual and of deities associated with rain, most notably Boinayel (Son of the Grey Serpent) the bringer of beneficial rains (Pané 1999, p. 17). These weeping images can be found in the engraved lacustrine tufa at Las Caritas near Lake Enriquillo (Figure 5.9) and at Los Haitises, both in the Dominican Republic. At the ever-fluctuating Lake Enriquillo, located below sea-level and salty like



Figure 5.9. Petroglyphs (bottom right) representing twins (perhaps [rayed] Boinayel and [runged] Marohu) and Boinayel as personified cloud (upper right), Las Caritas, near Lake Enriquillo, Dominican Republic, Taíno. Incised lacustrine tufa (or petrified coral), rayed faces at center approx. 24-26 cm width (courtesy of Daniel DuVall).



Figure 5.10 Batrachian figures: a) from Piedra Escrita (pecked and incised) (top); and b) from Cueva de las Maravillas (drawn with carbon, bottom) (Waldron, 2019, Figure 4.14h, p. 157).

an inland sea, the tension between rain and drought may have been a topic of pointed concern inspiring the multiple petroglyphs of Boinayel at Las Caritas, including a twin-motif of him and his brother Marohu, the god of drought.

Intimately related to water, the deftly abstracted frog petroglyphs of the Greater Antilles such as the Jayuya frog (which is emblemized in Puerto Rico's popular arts today) has painted analogues in Hispaniola at sites such as Cueva de las Maravillas (Figure 5.10). Despite their execution in different materials and techniques, they are stylistically similar in how they abbreviate the frog, ubiquitous herald of the rainy season and symbol of the agricultural and human fertility that was expected to follow that season (Petitjean Roget, 1975; Waldron 2016, p. 183-193).

This stylistic similarity usually does not occur between petroglyphic and pictographic bat motifs. The scroll or volute is the pan-Antillean bat symbol, evoking the curled wings of the animal in down-flapping motion. It is ubiquitous throughout the Antillean arts from painted Saladoid ceramics to Taíno stone effigy belts and other sculpture (Waldron, 2016, pp. 98-111). Bats in the Taíno Greater Antilles were related to Maquetaure Guayaba, the Lord of the Dead, whose subjects sometimes flew out of Coaybay on the island of the dead in the form of fruit bats to visit the islands of the living. There, they could once again enjoy the pleasures of the flesh, including feeding on the succulent fruit (guayaba/guava) that is their ruler's namesake (Pané, 1999, pp. 17-18). There was considerable variation in the familiar bat-scroll motif, so the petroglyphic volute could be flat across the top in the manner of an Ionic capital (see Figure 5.7) whereas, in pictographic art it often took the form of a V-shape with curled arms. Close inspection of Figures 5.1 and 5.5, however, reveals that the V-shaped bat scroll was executed in both techniques.

Bat faces without bodies are primarily a petroglyphic tradition, rare in pictographs. Petroglyphic bat faces are distinguishable by their erect ears above otherwise anthropomorphic looking features. Sometimes they are given hairlines that create a kind of visor effect around their eyes, a convention borrowed from ceramics. In some cases, the visored eyes are featured alone as a shorthand for the creature.

At Wingfield Estate in St. Kitts (see Figure 5.2), two figures, one representing a bat and the other a frog are featured side by side as a couple. Petitjean Roget has argued (2015, pp. 306-307) that these petroglyphs are a gendered pair, a Primordial Couple. The fertile, terrestrial frog (anthropomorphized by its face and laterally located ears) is a female aquatic symbol and the eschatological, aerial bat (distinguishable by the batwing scrolls used to render its protruding ears) is male and associated with caves/stone. Of course, the corporeal bat is also a dropper of seeds, and the frog is the harbinger of the rains that make seeds grow. These complementary relations between the bat and frog mirror those between the realm of the ancestors and descendants seen across Taíno-

era arts. In sculptures, for example, cadaverous-looking shamans are depicted with stout erections. Likewise, the junctures between the mammiform double chambers and phallic spouts of Taíno ceramic potizas are usually augmented by a bat or owl adornment, uniting their symbolism of sexual fertility with that of death and ancestry.

Close associates of bats, Antillean owls, and the owl-like oilbirds of Trinidad and Venezuela (who actually live in caves, echo-locate, and eat fruit as bats do) have been folkloric messengers from the spirit world, bringing tidings of births and deaths depending on their variable night cries (Waldron, 2016, p. 122). The oculate heart-shaped or oval faces of owls appear throughout Saladoid and Taíno ceramics and are also well-preserved in Taíno wood sculpture (Waldron, 2016, pp. 113-125). Abstract versions of these motifs as well as full figures of perched owls (also seen in Taíno wood sculpture) appear on petroglyphic boulders (see Figure 5.7) and at the mouths of caves (see Figure 5.4) where they presage the entrance into the underworld. Oculate faces, presumably those of owls, appear less frequently in pictographs where some might actually be anthropomorphs.

Most common among drawn and painted motifs (i.e., pictographs) are silhouette or linear anthropomorphic figures either with filled-in dot heads or drawn faces and animal figures, especially aquatic birds, turtles, and frogs some of them anthropomorphized (see Figure 5.1). Occasionally dogs and fish make appearances. Anthropomorphic and zoomorphic silhouette pictographs were made so by selectively thickening their torsos/thoraxes but often leaving their limbs linear. Some silhouette anthropomorphs are thickened in their calves as well to imply the cotton string ligatures worn by Antilleans (a detail often also depicted in sculpture), and some are given full faces with headgear and large flange-like ears.

Faces rendered with lines were sometimes colored in with charcoal in some sections. Rarely, elaborately designed *guaízas* (*cemí* faces/masks) and zoomorphs were drawn or painted with sophisticated interplays of pigmented and exposed limestone (refer to Figure 2.5a). While the silhouette figures were often singular, serving a more emblematic/thematic function, the abbreviated form of the more linear “stick figures” allowed them to be arranged in groups, sometimes representing well-known scenes from traditional narratives. All these types of figural representations are present at Hoyo de Sanabe (see Figure 5.1). Their diversity in style raises questions about their ages, especially since the positive-negative/figure-ground reversals in some of the more complex motifs here and at Cueva de Borbón/Cuevas del Pomier (see Figure 2.5b) on the same island make them very similar to the decorative schemes on Saladoid white-on-red pottery of three or four centuries before the presumably Taíno-era stick and silhouette figures (see discussion under Dating essay above).

At Hoyo de Sanabe (see Figure 5.1), if read in a counterclockwise spiral, the pictographic subgroup high up on the cave's great mural tells the story of shaman Bayamanaco snorting cohoba (at far right), irritably chasing after Deminán Caracaracol (presumably spitting cohoba-laced mucous on his back, at far left), after which a swelling develops on Deminán's back (second from far left), which one of his brothers is depicted prying open (second from far right) to reveal the turtle near the top of the pictographic subgroup. For some reason, a V-shaped bat pictograph hovers beside the scene, perhaps a lost thread from the version of the narrative related by Pané (1999).

All the common pictographic animals have definite symbolic value, some supported by the surviving traditional narratives and others by their presence in other Taíno artworks with known ceremonial function. A petroglyphic wading bird on a monolith at Caguana (see Figure 5.6) is virtually identical in proportions and abstract elaboration to the sculptural one in a Taíno-era cohoba pedestal from Jamaica. But then the sculpture links the wading bird (likely a heron) to a turtle or tortoise with which it touches mouths in some sort of vital exchange, and the two zoomorphs are together related to the narcotic shamanic ritual. The narrative tradition that pairs these two zoomorphs, perhaps by shared, mind-altering mucous, is now lost. But from the Taíno-era narrative of the turtle (or Turtle Woman) who is born from the aching back of the founder/culture hero Deminán Caracaracol only to become his wife and that of his three brothers the turtle is established as the symbolic mother of the Antilleans (Pané, 1999, pp. 13-14; Waldron, 2016, pp. 66-67, 218).

A wading bird standing on a turtle's/tortoise's back, *tete-à-tete*, may relate to this iconology in some way and, in turn, to the cohoba ritual. Disturbingly then, a large pictograph at Cueva del Chorro in the Dominican Republic representing an enormous wading bird grasping a tiny turtle in its 17-centimeter-long beak (see DuVall, 2010, p. 21) raises some questions. While no Taíno narratives of the heron have survived intact, potentially analogous traditions from Warao, Arawakan, and Cariban lore in South America, and the Kalinago of the contemporaneous Lesser Antilles relate wading birds to the long-distance first acquisition of tobacco seeds and the mitigation of storms and drought (Roth, 2011, pp. 342-344; Waldron, 2016, p. 154).

The images of dogs and fish in Greater Antillean pictographs are more difficult to interpret. There are no persisting narratives of fish and while there is a mythic thread linking dog iconography to the god Opiyelguobiran, an underworld guide described as dog-like by Pané's brief account, the images of dogs and fish are usually so isolated that their meaning cannot be determined by context. An image at Cueva de Borbón of two dogs mating might reference a lost thread of Antillean lore, a constellation in Antillean ethno-astronomy, or merely a quotidian vignette. Fish pictographs represent a range of shark-like predators but also reef fish (*e.g.*, Figure 2.5a).

The rupestrian art of the Ceramic Age had distinctly narratological, thematic, and socio-political functions. But in some ways, the oldest rupestrian art in the Antilles, that of Archaic societies in the Western Greater Antilles, had, from our modern viewpoint, the most practical function. With its concentric and labyrinthine crosses seeming to reference stars and other celestial bodies and its concentric, sometimes superimposed circles evoking the celestial clockwork, the painted pictographs of Archaic groups on Cuba and Hispaniola appear concerned with the science of the heavens and time itself (Figure 5.11).

For example, at Cueva 1 in Punta del Este on Isla de la Juventud (off the southwest coast of Cuba), the cave entrance presents a broad, east-facing



Figure 5.11. Facsimile of drawing by René Herrera Fritot (1938) of the Central Motif at Cueva 1 featuring secondary and superimposed motifs (including “arrows” and internally tangent circles), Isla de la Juventud, Cuba, Archaic. Original red and black pigments painted on white limestone, 1.9 m at widest diameter (Public Domain).

panorama from which the sun can be observed from solstice to solstice. The cave’s interior possesses not only seven skylight portals in the limestone ceiling ideal for spying particular stars and letting in light but a painted mural comprising several sets of overlapping concentric circles. One of these,

the Central Motif reproduced in Figure 5.11, was first observed by Cuban scholar René Herrera Fritot in the 1930s to comprise fifty-six concentric rings, twenty-eight black and twenty-eight red against the white limestone (Herrera Fritot 1942). The rings thus seem to denote the days and nights of a month (Fernando Ortiz, 2008; Nuñez Jiménez, 1991). Superimposed upon them are several geometric motifs, including a smaller circle containing yet another which is half its diameter and internally tangent (*i.e.*, with the smaller circle's circumference touching the larger's). These smaller circles may account for the moon and its synchronous rotation and revolution around the earth (Waldron, 2019, pp. 133-134). Cueva 1, therefore seems to have been an observatory and its rupestrian art its astronomical charts.

Observing the heavens helped ancient people to predict the flowering and fruiting of vegetation, movement of animals, and a host of other natural phenomena. Travel, planting, harvests, and pregnancies could all be planned according to the celestial movements tracked in these concentric murals. But since we know little of their ceremonial practices, it is unclear how else these Archaic societies used these complex diagrams to order their lives. While the great mural at Cueva 1 and murals like it throughout Cuba were made by Archaic groups, we do not know when the majority of these concentric motifs were made. There has been no widespread scientific testing of their constituent materials. The Archaic populations persisted alongside their Ceramic Age neighbors who interacted with them for almost two millennia across a westward moving frontier. They may have made some of these murals even after the arrival of their new neighbors/trading partners and likely passed on their knowledge of the Antillean skies to the latter. Although post-Archaic groups did not adopt their visual conventions for tracking the heavens, occasionally one encounters highly abstract, cryptic pictographs in the caves of the Greater Antilles (e.g., the irregular meanders at Cueva de Borbón or the dotted stalactites in nearby Sistema del Peñón) that may describe celestial operations.

Our interpretations of the narrative, thematic, and symbolic content of rupestrian works made by the Antilleans is well in line with those of the ethnographically analogous peoples of South America. In Amazonia and Orinochia, painted, drawn, pecked and incised images can mark not only territorial boundaries but major mythologized landmarks where culture heroes and gods once walked, sat, fought, or rested in their primordial adventures and individual motifs are sometimes understood to be or represent characters and tools belonging to those characters (Pereira, 2001; Santos-Granero, 1998, 2004; Schaan, 2012, pp. 12-13, 79). Antillean rock art confirms this connection between rupestrian imagery and regional lore.

Exactly what ceremonies were involved in the making of these images and how people interacted with them once they were made remains unclear.

This is because, unfortunately, the study of South American rock art is no more advanced than it is in the Caribbean. Both fields have lingered in an extended, centuries-long infancy and as yet are starved of sufficient radiocarbon data (though see Dating essay above) and systematically compiled and collated, region-wide databases of motifs (Hayward *et al.*, 2009). Addressing these lacunae and integrating rupestrian motifs in a cross-media study of Indigenous Antillean visual culture requires a veritable army of dedicated visual specialists, social anthropologists, and field archaeologists. Until more scholars are attracted to the field, we cannot provide much deeper insight into the age, iconography, or ritual contexts of the rupestrian art surveyed thus far and the art yet to be uncovered.

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Mujeres indígenas en tiempos de conquista y colonización. La isla de La Española

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Resumen

Este artículo ofrece una imagen de la vida de la mujer indígena en el ambiente de la conquista y la colonización europea del Caribe, concretamente de la isla de La Española. Integra informaciones etnohistóricas, fuentes primarias publicadas, fuentes secundarias y resultados de la investigación arqueológica. Aporta una visión general, que resume datos dispersos y en ocasiones poco conocidos, reflejando la acción de dominio sobre el sector femenino, la complejidad de su experiencia en este universo y también sus capacidades para enfrentarlo y transmitir el legado cultural indígena.

Palabras clave: *Santo Domingo, Anacaona, género, colonialismo, indio, Colón, Caribe.*

Indigenous women in times of conquest and colonization. The island of Hispaniola

Abstract

This article provides a perspective on the lives of indigenous women in the context of the European conquest and colonization of the Caribbean, specifically on the island of Hispaniola. It integrates ethnohistorical information, published primary sources, secondary sources and results of archaeological research. The text articulates a general vision, which summarizes scattered and sometimes little-known data, reflecting the action of dominance over women, the complexity of the female experience in this universe, and also their capacities to face change and transmit the indigenous cultural legacy.

Key words: *Santo Domingo, Anacaona, gender, colonialism, Indian, Columbus, Caribbean.*

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Les femmes autochtones à l'époque de la conquête et de la colonisation. L'île d'Hispaniola

Résumé

Cet article propose une image de la vie des femmes indigènes dans l'environnement de la conquête et de la colonisation européenne des Caraïbes, plus précisément sur l'île d'Hispaniola. Il intègre des informations ethnohistoriques, des sources primaires publiées, des sources secondaires et des résultats de recherches archéologiques. Il offre une vision générale, qui synthétise des données éparses et parfois méconnues, reflétant l'action de domination sur les femmes, la complexité de leur expérience dans cet univers mais aussi leurs capacités à y faire face et à transmettre l'héritage culturel autochtone.

Mots clés: Saint-Domingue, Anacaona, genre, colonialisme, indien, Colón, Caraïbes.

Mulheres indígenas em tempos de conquista e colonização. A ilha de Hispaniola

Resumo

Este artigo oferece uma imagem da vida das mulheres indígenas no ambiente da conquista e colonização europeia do Caribe, especificamente na ilha de Hispaniola. Integra informações etnohistóricas, fontes primárias publicadas, fontes secundárias e resultados de pesquisas arqueológicas. Oferece uma visão geral, que sintetiza dados dispersos e por vezes pouco conhecidos, refletindo a ação de dominação sobre as mulheres, a complexidade de sua vivência neste universo e também suas capacidades de enfrentá-lo e transmitir o legado cultural indígena.

Palavras-chave: Santo Domingo, Anacaona, gênero, colonialismo, índio, Colón, Caribe.

Las comunidades indígenas del Caribe, particularmente las de su espacio insular, fueron las primeras en sufrir el impacto de la conquista y colonización española en lo que comenzaría a llamarse el "Nuevo Mundo". La imagen de sociedades desarticuladas y de una casi total desaparición, se levanta como respuesta y síntesis básica, ocultando los detalles de un periodo caracterizado por complejas dinámicas culturales, económicas y sociopolíticas, en un universo multiétnico y en rápida transformación.

Una situación frecuentemente mencionada pero muy marcada por esta visión simplificadora, es el efecto de la conquista sobre las mujeres indígenas y el papel de estas en la sociedad colonial. Se reitera el tema de la violencia sexual, su participación en la construcción de una población y una cultura mestiza, sin embargo, la mujer aparece básicamente como un sujeto y tema secundario. Un caso importante es el de la isla de La Española, actual Santo Domingo (compartida por Haití y la República Dominicana), en el archipiélago de las Antillas Mayores. Allí se inicia la acción de conquista y colonización, resultando en las primeras experiencias de relación con las sociedades indígenas de América y también en el espacio donde se ensayan estrategias de dominación, posteriormente implementadas en otras partes del continente.

En las Antillas Mayores y Menores, y particularmente en La Española, se generan los primeros datos de valor etnohistórico y con frecuencia se parte de ellos para tratar los temas de la implantación europea en América, incluyendo la visión sobre la mujer y su suerte durante esta. Muchas consideraciones sobre las características de la mujer indígena y como se la aprecia y trata desde la perspectiva europea, inician con una rápida ojeada de La Española a través de las crónicas. Se apunta el predominio en tales fuentes históricas, de una mirada patriarcal, etnocéntrica y racista, que tiende a invisibilizar a la mujer y la encierra en estereotipos (Abrahamson, 2015; Alves, 2019; Noguero, 1994).

Pese al reconocimiento de dichas problemáticas aun es muy importante en la narrativa histórica tradicional, la asunción casi literal de estas informaciones, como ocurre en los pocos textos centrados en La Española, entre ellos los de Báez (1998) o Suárez (2009). Lamentablemente se carece de una investigación completa desde la perspectiva histórica general, o desde las coordenadas de estudio de la mujer o de los estudios de género, si bien hay valoraciones de interés sobre temas como el cuerpo femenino o el amancebamiento (ver Ares, 2006; Portorreal, 1995, 2001). En el marco del análisis para Las Antillas, permanecen las propuestas fundacionales de Sued Badillo (1985, 1986, 1989) sobre el ámbito femenino en la sociedad indígena y colonial, y sus capacidades de liderazgo.¹

Estudios que exploran diversos recursos documentales, así como otros temas, pero logran acercamientos puntuales al asunto son los Altman (2013, 2021a, 2021b), Mira Caballos (1997, 2002a, 2009) y Guitar (1998a, 1998b), quien no solo maneja información histórica sino también, en alguna medida, arqueológica y etnográfica. Desde la arqueología prácticamente no hay abordajes sobre la mujer en el ambiente precolombino, excepto los

¹ El tema entra en la discusión sobre el liderazgo indígena, la descendencia y los mecanismos de sucesión, enfatizándose para el caso femenino en la figura de la cacica Anacaona (véase Curet, 2002; Keegan y Maclachlan, 1989; Wilson, 1990).

de tipo iconográfico; esta se diluye en la estadística paleodemográfica o de comportamientos dietarios y de patologías. El esfuerzo más consistente para lo colonial viene de las investigaciones asociadas a los estudios de Kathleen Deagan, proyectados con una perspectiva de género (Ewen, 2000; Deagan, 1995, 1996, 2004, 2013; Deagan y Crucent, 2002). Trabajando sobre todo ambientes urbanos, se visibiliza a la mujer indígena a través de ciertos tipos de artefactos. Se la conecta con los espacios domésticos y se abre la discusión sobre la convivencia con los españoles, el mestizaje, y su papel en la formación de la sociedad colonial. Con pocas excepciones, como Catelli (2011) o Guitart (1998b), estos resultados no se han integrado a la valoración histórica de la mujer indígena.

Este artículo recupera una imagen de las mujeres indígenas en el ambiente de la conquista y la colonización de La Española, intentando abordar diversas facetas de su existencia, y procesos en los que se vieron involucradas. Ayuda a percibir el enorme peso de la acción de dominio sobre la mujer, y su impacto en la desarticulación de las sociedades indígenas. Utiliza para ello informaciones etnohistóricas, fuentes primarias publicadas, fuentes secundarias y resultados de la investigación arqueológica. No cubre adecuadamente las carencias investigativas sobre el tema pero aporta una visión diversa, que integra datos dispersos y en ocasiones poco conocidos, reflejando la complejidad de la experiencia femenina y también sus capacidades para enfrentar este universo y transmitir el legado cultural indígena.

Se concibe igualmente como un recurso para aquellos interesados en el seguimiento de la historia de las mujeres, particularmente las de los grupos subalternos, como vía para comprender su condición actual en el Caribe y de forma especial en la isla de Santo Domingo. En la República Dominicana, donde el legado indígena tiene un peso importante en la construcción del imaginario nacional y en diversos ámbitos de la cultura y las tradiciones, se reconoce que la grave situación de discriminación y violencia contra la mujer vigente en el país, se articula en una trayectoria histórica y en actitudes machistas y patriarcales que se remontan al mundo colonial (CEG-INTEC, 2019).

Las sociedades indígenas

A la llegada europea en 1492 la isla llamada “Haití” o “Bohío” por los indígenas, y a partir de ese momento denominada “Española” por Cristóbal Colón, estaba ocupada por sociedades tribales aldeanas, de carácter sedentario, provenientes de Suramérica y relacionadas con la familia lingüística arawak. Se trataba de un ambiente de marcada diversidad étnica y sociopolítica, con comunidades poco estratificadas, y otras con claros niveles de jerarquización

y cierto control o liderazgo regional, organizadas en los llamados cacicazgos (Curet, 2003).

La presencia europea se formaliza definitivamente en 1493, cuando Colón funda un asentamiento permanente, La Isabela. Con el establecimiento, entre 1493 y 1496, de una cadena de fuertes y poblados que cruzaba la isla de norte a sur, se organiza el control sobre las comunidades indígenas y las zonas auríferas. En 1495 tras varios enfrentamientos importantes, se logró el sojuzgamiento militar de la parte central del territorio, acción completada por Nicolás de Ovando a partir de 1502, con ataques a grupos aún autónomos de la parte este y oeste. Ovando también impondrá de modo oficial el sistema de encomiendas, entre 1503 y 1505. Aquí se reconoce el carácter de vasallos y personas libres de los “Indios”,² denominación que recibirán tempranamente los indígenas. Al mismo tiempo serán asignados a un español para el que trabajarán de modo obligatorio a cambio de formación cristiana y civilizatoria (Mira Caballos, 1997). La población que se resiste es esclavizada, condición impuesta por diversas razones a indígenas de otras islas y áreas continentales, muchos de los cuales son traídos a laborar en La Española, al igual que los africanos esclavizados (Deive, 1995). Hacia 1547 se ha consumado un desastre demográfico causado por la explotación laboral intensiva y la ruptura de los ciclos reproductivos indígenas, las epidemias y la guerra. En esa fecha se reportan solo unos 150 indios de origen local (los llamados naturales) y una cantidad desconocida de no locales. Para 1550 se habla de alrededor de 500, principalmente antiguos esclavos (Mira Caballos, 1997, p. 359).

En términos arqueológicos sabemos poco sobre la mujer en estas comunidades, cuyos ancestros se habían asentado en la isla desde al menos el 240 d.C., iniciando la llamada Edad Cerámica (Rouse, 1992; Veloz, 1993). Los datos más conocidos provienen de la iconografía asociada a la cerámica y de las representaciones en el arte rupestre (García Arévalo, 2019). En este último se distinguen imágenes con genitales acentuados, o con apariencia de embarazo, y se reitera una figura en trabajo de parto, considerada una deidad o ente mítico (López Belando, 2019, pp. 331-340). Diseños o formas estimadas representaciones de los senos o la vulva, así como las figuras femeninas en general, tienden a ser conectadas con lo mágico religioso y con aspectos reproductivos o referidos a la fertilidad.

² En el contexto del llamado Nuevo Mundo, Cristóbal Colón es el primero en registrar documentalmente el término “Indio”. Lo usa en el diario de navegación de su primer viaje, para referirse a las poblaciones de Las Bahamas y las Antillas Mayores, respondiendo a la creencia de que estos territorios se hallaban próximos a Asia y a la India. Aunque en las referencias del siglo XV y en las primeras décadas del siglo XVI, se reconocerán posibles etnónimos para La Española, como Ciguayo y Macorige, estos prácticamente no se usaron para nombrar poblaciones en aquel momento.

Desde el primer viaje Colón menciona la buena apariencia de las mujeres y sobre todo el hábito de andar desnudas. Gonzalo Fernández de Oviedo (1851, p. 68), refiere esto como una práctica de las vírgenes pues las casadas se cubrían los genitales. Para Bartolomé de Las Casas “eran muy trabajadoras, nunca estaban ociosas si bien sus labores no eran muy intensas”. Por el dato etnohistórico y etnográfico se puede asumir su desempeño en actividades agrícolas, de recolección de productos vegetales y marinos; labores artesanales (fabricación de cestería, textiles), además de la elaboración de comidas, aprovisionamiento de agua, limpieza del hogar y cuidado de los niños.

El tema de la maternidad indígena es tratado por Las Casas. Comenta la facilidad con la que parían: “estando trabajando, sin gemido alguno, paren los hijos, y después que los raspan y friegan los llevan al río a lavar, y no por eso dejan de proseguir las obras y trabajos que hacían...después de lavarlos les dan el pecho”. Se casaban y eran madres a edad temprana; tenían entre cuatro y cinco hijos, sanos y fuertes (Las Casas, 1875c, pp. 362, 428, 499). Se trata de un dato que tiende a generalizarse, si bien hay evidencia arqueológica para grupos precolombinos muy similares a los reconocidos para el siglo XV, que ayuda a matizar el asunto.

En El Soco,³ en el sur de República Dominicana, en contextos con cerámica de estilo chicoide, se localizaron restos de 23 adultos femeninos y 22 masculinos. Hay además 19 individuos de entre un mes de nacidos y 20 años. Según Luna Calderón (1985) de este último grupo 15 individuos mueren entre 12 y 20 años y nueve de ellos son de sexo femenino. Seis de estas nueve jóvenes o adolescentes están relacionadas con niños que aparentemente nacen muertos o mueren al nacer. Uno de ellos no llegó a nacer; su cabeza quedó dentro de la pelvis y los pies fuera. Para Luna Calderón estos seis casos, más del sesenta por ciento de las muertes en el grupo de individuos femeninos de 12 a 20 años, ocurrieron durante el parto, indicio de que al menos en esta comunidad, fue un proceso riesgoso. El asunto pudo ser aún más complejo si consideramos que quizás esto también implicó a mujeres de más de 20 años, pues no hay datos claros sobre las causas de muerte en esa parte de la población.

³ Desconocemos las causas de lo visto en el sitio El Soco y cuan común fue dicha problemática. Del estudio derivan otros datos sobre la mujer, resultando uno de los pocos casos donde tenemos información al respecto. Hay indicios de problemas nutricionales y diversas patologías en la población mortuoria. En los restos hallados se registró una mayor incidencia de artritis en las mujeres que en los hombres, sobre todo entre los 35 y 40 años. Su estatura oscila entre 1.30 y 1.54 metros, mientras los hombres reportan 151.5 hasta 1.61 metros. Tanto la baja estatura, como la prevalencia femenina de artritis, se repiten en otros sitios con materiales cerámicos chicoideos, reconociéndose como una tendencia general entre las féminas los signos de artritis degenerativa a nivel de las rodillas y la región lumbar (Luna Calderón, 1985, 1988).

Las Casas (1875c, p. 406) habla de moderación sexual entre los indígenas y conecta esto con el clima y los hábitos de vida. Citando a los médicos de la época estima que los frecuentes baños en agua fría, el ambiente templado, la frugalidad en el comer, la laboriosidad, así como andar desnudos y descalzos, atenuarían el deseo. Para otros la sexualidad femenina se ve como libidinosa y condenable. Gonzalo Fernández de Oviedo (1851, pp. 133, 135) las trata de “malas” e interesadas en el placer: “las mayores bellacas e mas deshonestas y libidinosas mugeres que se han visto en estas Indias”. Supuestamente más atraídas por los europeos que por sus propios hombres. Involucradas como estos últimos, en algunos casos, en actos de sodomía, si bien menciona su rechazo a esta actitud en los hombres.

Entre las mujeres de la elite indígena Anacaona, conectada por familia y matrimonio con jefes (caciques) del más alto rango, es el mejor ejemplo para Oviedo de esta naturaleza reprochable. Está marcada por una historia donde se alude a numerosos amantes y a un particular gusto por los españoles: “muy deshonesta en el acto venereo con los chripstianos, e por esto e otras cosas semejantes quedo reputada y tenida por la mas disoluta muger que de su manera ni otra ovo en esta isla.” (Fernández de Oviedo 1851, pp. 133, 135). Se le achaca incluso un romance con Bartolomé Colón, tema poco claro (Gil y Varela 1984, p. 93, nota 144).

Para Fernández de Oviedo algo a elogiar, entendido como una expresión amorosa profunda, es el entierro de mujeres con sus esposos⁴. Lo critica cuando es sin el consentimiento de la mujer; sí parece algo aceptado lo trata como ejemplo de sacrificio y consagración al hombre (Fernández de Oviedo 1851, p. 134). Desde su visión machista, deja a un lado cómo ello contradice los dogmas religiosos cristianos, con los que en otras partes de su obra fustiga al mundo indígena. Es interesante la coincidencia en este enfoque patriarcal con Bartolomé de Las Casas (1875c, p. 497), quien incorpora como atenuante el conocimiento de dicha costumbre en otras sociedades y termina aseverando: “si ellas lo hacen por su voluntad pueden ser alabadas de fieles a sus maridos, y atribuirles corona de castidad”.

El matrimonio entre personas comunes era mayormente monogámico, prohibiéndose con madres, hermanas o hijas. Los caciques se podían casar con varias mujeres. No había conflictos entre ellas aunque siempre una se reconocía como principal. Behechio, uno de los más importantes caciques de La Española, tuvo 30 esposas. Con ellas sostenía, según Oviedo (1851, p. 500), una sexualidad pecaminosa y nefanda. Otro cacique, Guacanagarí, también es acusado de ello. Los matrimonios de caciques eran un mecanismo donde la

⁴ En el cementerio indígena de La Cucama, en el este de la República Dominicana, se localizaron restos de dos individuos adultos, femenino y masculino, que por su proximidad y detalles de la disposición de las osamentas, se ha propuesto pudieran reflejar este tipo de inhumación (Veloz Maggiolo, 1973), algo aún no corroborado.

mujer se usaba para la creación de alianzas y la construcción del prestigio, y romper un pacto de entrega de novia podía suponer un conflicto entre caciques y comunidades. La concertación de estos tratos de élite implicaba un pago o dote por la mujer, en forma de valiosas cibas (cuentas de collar hechas en piedra), u orejeras conocidas como taguaguas y elaboradas en guanín (metal formado por una aleación de cobre y oro) (Las Casas 1875c, p. 494). Entre las personas comunes el pago consistía en el trabajo del novio durante un tiempo, junto al grupo o familia de la novia, o en la entrega de regalos (Cassá 1974, p. 143).

El uso de la mujer como elemento de negociación, la adquisición de la novia mediante una compensación, el predominio del hombre en las posiciones de mando, y la ausencia femenina en la ceremonia de la cohoba, clave en el mundo religioso y en la participación política, sugieren para el historiador Roberto Cassá (1974, p. 143) una marcada subordinación de esta, en el contexto de una sociedad con estructuras patriarcales en pleno reforzamiento. No obstante, en la crónica europea también aparecen situaciones que podemos entender como expresión de autonomía y capacidad femenina. Hay indicios sobre sexo prematrimonial y posibilidad de disolución del matrimonio, así como acciones ceremoniales y espacios de actuación, como areítos y juegos de batos, sólo femeninos. Para 1517 aún se habla de mujeres curanderas con el término de buhites⁵ (Rodríguez Demorizi, 1971, p. 353), aunque es imposible precisar su verdadero estatus.

En el ámbito mitológico lo femenino tenía gran relevancia. Seres con esta condición ayudan a ciertos hombres a recuperarse de enfermedades sagradas, o les otorgan símbolos de mando, legitimándolos como líderes. Son deidades o entes míticos, madres de dioses y de héroes transformadores, involucrados en la construcción de nuevas tradiciones culturales (Arrom, 1975; Sued Badillo, 1986). El nexo simbólico de las mujeres con los hombres y su participación en actos importantes pudiera tener relación con la construcción del sistema de descendencia y sucesión. La naturaleza de estos procesos aún no está clara, y parece haber sido muy diversa y flexible (Curet, 2002). Incluía un componente matrilineal; el liderazgo podía pasar al hijo de la hermana del cacique. Esta era una posibilidad importante y aunque quizás propia solo de ciertos grupos o áreas de la isla, constituía un indicio del estatus y ascendencia social de esas madres (Sued Badillo, 1985).

Son numerosas las cacicas registradas para el siglo XVI, tanto en La Española como en Puerto Rico. Para algunos autores la promoción de la mujer a dicho puesto es un proceso colonial, alentado por los españoles a fin de controlar, a través del matrimonio, las poblaciones bajo el mando de estas.

⁵ Pudiera ser una variante del término "behique", que designaba a los curanderos y shamanes indígenas, ocupación muy importante y generalmente considerada como de carácter masculino.

Aunque en La Española ciertamente son pocas las cacicas identificadas en espacios y momentos donde todavía se mantenía la autonomía indígena, para Jalil Sued Badillo (1985) esto evidencia una práctica anterior al vínculo con los españoles, y responsabilidades políticas reales.

La más conocida, pero no la única, fue Anacaona. Heredó el mando sobre la región controlada por su hermano Behechio, y mantuvo la fidelidad de hombres, caciques subordinados a este o al menos aliados. Negoció con los españoles junto a su hermano, y después de su muerte lo hizo de modo independiente, durante varios años, y con cierto éxito, pues su territorio fue de los últimos en ser controlados. Curet (2002, p. 274), tras considerar la ausencia de referencias etnohistóricas sobre reglas de sucesión que dieran la jefatura a las hermanas o esposas, valora a Anacaona como un ejemplo de mando basado en capacidades; en medio de la crisis generada por la conquista sus experiencias en el trato con los españoles la hacían la mejor opción para negociar y guiar a su gente.

Aunque no hay una respuesta definitiva para la discusión sobre la existencia precolonial de las mujeres caciques, en lo referido a Anacaona su ascenso no parecen determinarlo los españoles sino su pueblo, y probablemente el grupo de caciques aliados, indicio de que quizás el mando femenino no era ni extraño ni nuevo. Que esto ocurra en medio de una crisis, da más relieve al asunto. Oviedo la critica como mujer, pero reconoce su inteligencia y autoridad. La cantidad de objetos suntuarios que controla y presenta como regalos a Bartolomé Colón son, sin duda, referentes sobre su alto rango. La diversidad de bienes y su tipo, totalmente alineado con los códigos de valor indígenas⁶ y en parte, de enfoque femenino, sugieren una práctica anterior a la relación con los europeos:

Tenia un lugarejo en medio del camino, Anacaona, donde quisieron dormir aquella noche; allí tenía esta señora una casa llena de mil cosas de algodón, de sillas y muchas vasijas y cosas de servicio de casa, hecha de madera, maravillosamente labradas, y era este lugar y casa, como su recámara. Presento esta señora a D. Bartolome muchas sillas, las mas hermosas, que eran todas negras y bruñidas como si fueran de azabache de todas las otras cosas para servicio de mesa, y naguas de algodón (que eran unas como faldillas que traian las mujeres desde la cinta hasta media pierna, tejidas y con labores del mismo algodón) blanco a maravilla, cuantas quiso llevar y que mas le agradaban. Dióle cuatro ovillos de algodón hilado que apenas un hombre podía uno levantar; cierto, si oro tuviera y perlas, bien se creia entonces que lo diera con tanta liberalidad (Las Casas 1875a, p. 148).

⁶ Para la discusión sobre las percepciones de valor entre los indígenas y su diferencia respecto a los conceptos europeos véase Mol (2002) y Oliver (2000).

Anacaona es ejecutada en 1503, por órdenes de Nicolás de Ovando, en el marco de una acción dirigida a destruir el liderazgo indígena en el suroeste de la isla, del cual ella era aglutinante. Es capturada en Jaragua, cuando junto a decenas de caciques recibe y agasaja al gobernador. Entre 40 y 80 caciques son asesinados en el lugar pero ella es llevada a la ciudad de Santo Domingo, donde es ahorcada. Según Las Casas (1875b, p. 54) meses después de la ejecución, y ante el peligro de que se cuestionaran sus actos y pudiese ser castigado por ellos, Ovando inventa un proceso judicial contra ella y los demás caciques.

El botín de la conquista

El arribo europeo en 1492 inició un nuevo y trágico tiempo para las mujeres indígenas. Desde el primer momento fueron víctimas de una violencia presente en todos los ámbitos. Rapto y violaciones de mujeres, según relata Oviedo, influyeron en el ataque y destrucción, por el cacique Caonabo, del fortín dejado por Colón al final de su primer viaje, en un punto aún no precisado del norte de Haití. Esto sería por años un comportamiento común, traumático para una sociedad donde, según Las Casas (1875c, p. 488), no había violaciones.

Se han justificado los ataques sexuales con la ausencia de mujeres blancas, el apremio de hombres solos, el gusto de las locales por los recién llegados y su provocadora desnudez. La primera violación documentada la protagoniza Miguel de Cuneo, quien narra el hecho y cómo golpea a la mujer, que se resistía. Lo cuenta en tono divertido y como una aventura sexual: finalmente se “entienden” y ella se desenvuelve con las habilidades de una prostituta, según él. Esto ocurre en 1493, durante el segundo viaje organizado por Colón, quien le había regalado la víctima. La mujer es tratada por ambos como un botín. Un recurso para pagar compromisos y lealtades, un premio que el conquistador, por su esfuerzo, se siente en derecho a tomar. Es parte del “Otro”, libre de ser violentado por su carácter inferior: femenino, indígena, incivilizado, no cristiano (Solodokov, 2005).

La captura de mujeres servía para aterrorizar a la población y presionar a los hombres, y a la sociedad indígena en general. Colón ya había usado esta estrategia durante su primer viaje a Las Antillas, cuando las toma como rehenes para controlar a los hombres, a quienes obliga a subir a los barcos y guiarlos. Los raptos y violaciones parecen haber sido algo común y sistemático, entronizado como una potestad de los conquistadores; una práctica seguida regularmente en las guerras contra los moros en la península Ibérica (Konetzke, 1946). La esposa de Guarionex, uno de los caciques más importantes de la isla, fue violada por el alcalde ordinario de La Isabela, Francisco Roldán. Este atrajo hombres para su bando, al sublevarse contra los

hermanos Colón en 1497, ofreciéndoles el derecho a tomar las mujeres que quisieran de los pueblos indígenas (Las Casas, 1875a, p. 150). Si eso ocurría con los estratos de elite, muy poca consideración se podía esperar para las mujeres comunes.

Como señala Ares (2006) resulta interesante el hecho, expresado en los criterios de diversos actores del momento, como Colón, Alvares Chanca, o el mismo Bartolomé de las Casas, de que la violencia sexual contra las mujeres se entiende principalmente como una forma de violencia contra los hombres indígenas. Se normaliza la idea de que la mujer podía ser objeto de estos ataques, y el problema no es tanto el ejercicio de tal violencia, algo visto generalmente de modo superficial, sino cuanto afecta a la sociedad local y particularmente a su sector masculino.

Podemos asumir, considerando las características de la población indígena, que muchas de estas mujeres eran extremadamente jóvenes e incluso niñas, por lo que el abuso incorporaba factores como la aceptación o al menos el silencio, ante formas de pederastia. Aunque es difícil hallar datos sobre las edades, hay una denuncia de religiosos sobre una mujer, “muchacha de poca edad” que al cabo de dos años ya era considerada “vieja”, por el abuso sexual continuado. El perpetrador es un “negro” esclavizado, enviado a supervisar el trabajo en las minas, quien hacía lo mismo con todas las mujeres bajo su control (Medina, 2017, p. 193).

Estos actos generaban conflictos, minaban los vínculos con los indígenas y el proceso de evangelización, afectando incluso la estructuración del mismo sistema colonial. La magnitud del problema llevó a los reyes a pronunciarse, como se ve en las instrucciones dadas a Nicolás de Ovando, en 1501. Se le ordena exigir la devolución de mujeres tomadas contra su voluntad, y se aprueba el matrimonio cuando fuera consentido por la mujer (Catelli, 2011, p. 222).

La generalización de la violencia física, económica y psicológica contra la mujer, y la impunidad con que se ejercía, quedó bien documentada. En una carta fechada entre 1516 y 1519, dirigida al Señor de Xevres, asesor del rey Carlos I, y muy anterior a los textos de Las Casas, a quien siempre se acusa de exagerar, dominicos y franciscanos denuncian lo usual de los raptos y violaciones (Medina, 2017, pp. 176-198). Como hemos visto, también lo hacían los africanos. Retener a las mujeres obligándolas a mantener relaciones sexuales frente a los esposos servía para humillarlos. Era un acto donde se remarcaba la incapacidad para proteger a sus familias, y la inutilidad de luchar contra individuos que se sentían y proclamaban como de superior hombría y virilidad, algo aun sostenido por cierta narrativa machista y colonial. Así ocurrió en 1561 con la esposa del cacique conocido como García Duran (Mira Caballos, 2000a, p. 287).

Para las esclavas, consideradas una propiedad y sin la protección dada por las leyes a las encomendadas, la situación fue peor. Muchas fueron enviadas

a España entre las más de mil personas de la isla que sufrieron esta suerte entre 1492 y 1550 (Mira Caballos, 2000b). Mujeres de otras partes del Caribe insular o de espacios continentales (actual Venezuela, México, Centroamérica), fueron llevadas a La Española en condición de esclavas o naborías (Deive, 1995; Valcárcel-Rojas et al., 2020). Así ocurrió con Catalinica, originaria de las islas de los lucayos (actuales Bahamas) y radicada en la ciudad de Concepción de la Vega (Kulstad, 2019, p. 89).

El desarraigo, la soledad y la pérdida de todo apoyo comunitario hizo más terribles sus vidas. En España con frecuencia las mujeres se compraban a mejor precio que los hombres, valorándose mucho su trabajo como sirvientas, y considerándose la belleza y apariencia un componente importante para la tasación, aspecto indudablemente conectado con la explotación sexual (Mira Caballos, 2000b, p. 111). Colón, el primero en promover la idea de la esclavitud, recomendaba el uso de las mujeres para realizar labores artesanales y en especial para tejer el algodón (Varela y Aguirre, 2006, p. 113).

Las mujeres vivían la violencia sexual de españoles y africanos. Quizás la actitud de los amos daba cierta legitimidad a este comportamiento a los ojos de los dominados, portadores de sus propios conceptos patriarcales, y no podemos excluir cierta tolerancia, cuando era conveniente, de parte de los españoles. Es probable que en entornos de crisis y marginalidad, algunos hombres indígenas se vieran involucrados en actos de este tipo. La confluencia de indígenas de diverso origen étnico o de diversas comunidades, en minas y estancias, pudo contribuir a tal situación. Un caso de conflictos y muertes entre indígenas sublevados por el control de las mujeres, en la primera mitad del siglo XVI en Cuba (Jiménez, 1985, p. 36), probablemente haya incorporado violencia de este tipo.

Esclavas y encomendadas eran asesinadas con la misma o mayor facilidad que los hombres, y se les obligaba a realizar trabajos similares. Debieron enfrentar el ataque a su condición de madres, viendo morir sus hijos o siendo obligadas a abortarlos, como narran los sacerdotes en su carta al señor de Xevres:

Un mal aventurado christiano llevaba una vez tres indias cargadas, e cansó una dallas, e él de despecho de que había cansado dióla de cuchilladas e matóla, e repartió la carga a las otras dos. Cansó la segunda, hizo lo mismo, e por consiguiente la tercera; finalmente, a todas tres las mató... Acaesció por muchas veces, que viniendo la madre a dar a mamar a las minas o de las haciendas, e tomábale a la india el niño de los brazos, como quien se huelga con él, e arrojábalo por detrás a algunas peñas donde se despedazase... No tenían en mucho si alguna preñada traían al trabajo, antes que se pregonase que no viniesen a darle puntillazos y coces para hacerle mover las criaturas.” (Medina, 2017, pp. 181, 189).

Este universo de crueldad y abuso generó una respuesta femenina: suicidios, abortos y el asesinato de niños, algo denunciado por los conquistadores como expresión de la naturaleza salvaje y bestial de las mujeres indígenas. Se trataba en gran medida de una acción de resistencia vinculada al absoluto estrés vivencial, la cual tuvo otras formas, entre ellas la participación en enfrentamientos contra los españoles y la integración a los grupos rebeldes, como el del cacique Enriquillo (Rodríguez Morel, 2007, p. 147). La violación de la esposa de Enriquillo es considerada uno de los detonantes del levantamiento que encabeza en 1519 (Balcácer, 2022). El modo en que fue ignorado su reclamo ante las autoridades, pese a su rango y el de su esposa, descendientes ambos de caciques, demuestra la persistencia del desprecio hacia los indios y la violencia contra las mujeres, más de veinte años después de la llegada de los españoles a la isla. En 1547 se reportan indios colaborando con africanos cimarrones en la sierra de Bahoruco, en el sur de la isla. Les informan de la proximidad de los españoles y cuando estos atacan, capturan dos mujeres indígenas que los acompañan (Rodríguez Morel, 2011, p. 30).

Mancebas, sirvientas y madres

Los indígenas entregaron mujeres a los españoles; las referencias vienen sobre todo del ambiente de caciques y familias de élite, pero pudo ser algo más general. Buscaban crear lazos de amistad, alianza, protección, e incluso mejorar el estatus de la familia o del grupo, al conectarse con el nuevo poder. Para los locales se trataba de un nexo como los establecidos en su cultura; un matrimonio o vínculo de pareja con derechos reconocidos para la mujer. Los conquistadores lo entendían más como la adquisición de una propiedad, si bien no necesariamente fue la postura de todos. Esta situación ha dado pie a una narrativa donde la relación de las mujeres con los españoles se presenta como algo voluntario, siendo la violencia una excepción. En ocasiones el argumento se amplía desde distintas posiciones para enfatizar en la atracción sexual que se dice sentían por estos hombres o en el apoyo ofrecido por ellas, articulándose un discurso sobre conquista erótica, dóciles colaboradoras, e incluso traidoras a su pueblo.

La relación con las indias se expresaba con frecuencia en el amancebamiento. Este suponía convivencia, en ocasiones paralela al matrimonio oficial con otra mujer; se trataba de una práctica común en el período, principalmente entre las clases bajas de la península Ibérica (Ares, 2006). Mujeres indígenas entregadas por sus familias, viviendo de modo voluntario con españoles o tomadas a la fuerza, quedaron en esta condición. La élite indígena sería solo una mínima parte del enorme número de mujeres que vivieron tal experiencia.

Los españoles se amancebaban con varias indígenas, mientras mantenían esposas en España (Mira Caballos, 2000a, p. 258). Desde la perspectiva legal era algo criticable y la mujer indígena se consideraba de baja moralidad, afectando tal estatus a los hijos. Los europeos evitaban casarse legalmente con una india, incluso cacica, pues esto dañaba su reputación y prestigio social. Generalmente solo los de baja condición lo hacían (Esteban Deive, 2002; Julián, 1997, p. 76).

El amancebamiento comienza a popularizarse en tiempos de Colón, cuando muchos españoles fueron a vivir con los indígenas debido a la difícil situación alimentaria y de salubridad en la villa de La Isabela. El proceso se acentúa durante la rebelión de Roldán. Los sublevados se amanceban mayormente con cacicas o mujeres de alto estatus, pero mantienen otras concubinas indígenas. Buscaban garantizar el sustento y comodidad ofrecida por las comunidades locales, y legitimar el derecho al mando sobre estos poblados a partir del nexo con las mujeres de la élite y sus familias. Colón refrenda este control sobre grupos indígenas por los roldanistas, para lograr la paz con ellos. Esta situación persiste durante el gobierno de Bobadilla (1500-1502). Con la encomienda establecida por Ovando, el acceso a las mujeres, que trabajan ahora directamente para los españoles, se facilita y generaliza. Mujeres esclavizadas, tanto indígenas como africanas, o en condición de naborías (libres pero obligadas a residir de modo permanente con los españoles), también eran tomadas como mancebas. De hecho, en 1548, en pleno proceso de prohibición de la encomienda y la esclavitud, aún se denuncia la venta de mujeres indígenas (esclavas no locales) para tenerlas como mancebas (Marte, 1981, pp. 409, 421).

Al parecer la mayoría de los españoles tenía concubinas, independientemente de su condición y posición (Altman, 2021a). Por ejemplo, en 1532 el Deán de la Catedral de la ciudad de Concepción de la Vega, Álvaro de Castro, fue acusado de relaciones con varias mujeres y de tener como manceba a su sirvienta, la lucaya Catalinica (Kulstad, 2019, p. 89). El Gobernador de la Isla, Nicolás de Ovando, tuvo un hijo con una india, y al Tesorero, Miguel de Pasamontes, se le acusaba de convivir con varias en la misma casa (Julián, 1997, p. 76). Peleaban por las mujeres, como ocurrió entre Roldán y Hernando de Guevara, por quedarse con la hija de Anacaona, Higueymota; o vivían con varias y se jactaban de las muchas que eran y de los hijos tenidos (Las Casas, 1875a, p. 431). Fue un ambiente donde poco pudo hacer la mujer, debiendo sufrir la imposición masculina, el maltrato, y una promiscuidad que no debemos confundir con la libertad sexual del mundo precolombino.

Los matrimonios inicialmente no fueron permitidos, pero durante las primeras décadas del siglo XVI distintas disposiciones reales los aprueban e incluso los estimulan. A partir de 1502 el gobernador Ovando los reguló,

o manejó de manera que aquellos realizados con cacicas no pudieran servir para justificar derechos sobre tierras y poblaciones indígenas (Ares, 2006). Bartolomé de Las Casas menciona la villa de Santa María de la Vera Paz, donde numerosos españoles estaban casados, aparentemente de modo oficial, con mujeres indias, y varios matrimonios se registraban para 1514 (citado por Mira Caballos, 2000a, p. 258). En el entorno del concubinato o el matrimonio, los hijos tenían posibilidades de ser reconocidos y apoyados por sus padres, algo no muy frecuente (Julián, 1997; Mira Caballos, 2000a). Los mestizos que quedaron al cuidado de sus madres debieron adquirir en mayor medida la identidad de estas y su legado cultural, siendo en general un grupo de gran movilidad, capaz de conectar las distintas categorías sociales y étnicas, y de transitar entre ellas (Guitar, 2003, p. 120). Aun cuando el mestizaje se reconoce como una oportunidad de transmitir el legado genético y cultural indígena, también reproduce la condición de subordinación y expresa los prejuicios racistas de los dominadores. Estos en muy pocas ocasiones ven a la mujer indígena (esposa o concubina) y a sus hijos, en un plano de igualdad.

Las Leyes de Burgos (1512-1513), dirigidas a ordenar la existencia indígena y el funcionamiento del sistema de encomiendas, marcan el manejo de la mujer. Las solteras estarían bajo el control de sus padres y si no fuera así se debía evitar su caída en la "mala vida"; serían adoctrinadas y trabajarían en los cultivos de sus pueblos o de los españoles. Las mujeres con más de cuatro meses de embarazo, o con hijos menores de tres años, trabajarían en sus campos, o en las casas de los estancieros; los niños menores de 14 años llevarían labores agrícolas ligeras. Como los hombres, las mujeres debían ir vestidas; no podían ser obligadas a ir a las minas con sus maridos, excepto por su propia voluntad y la de este, pero en caso de evitar dicha labor quedarían trabajando en sus campos o en las haciendas de los españoles. Se prohíbe la poligamia y el casamiento entre parientes cercanos, y se alienta el matrimonio entre parejas indígenas. Por último, se reconoce un tratamiento especial para los caciques. Son eximidos del trabajo pesado, pueden tener sirvientes, y derecho a un pago especial para su vestimenta y la de su esposa; es decir, se consagra también la diferencia social entre las mujeres indígenas (Muro Orejón, 1956).

La aprobación del matrimonio y las disposiciones de Burgos, se presentan como un acto cristiano y de protección por parte de la Corona. Sin embargo, modelan una estructura de relaciones de género que niega las costumbres indígenas y controla la sexualidad, el cuerpo, la reproducción y la familia. Esta sirve para dominar a la población indígena y cristianizarla, civilizarla (aculturarla), consagrando la dependencia e inferioridad femenina desde una perspectiva occidental: sexo débil, a ser protegido y tutelado; sus funciones eran la procreación y cohesión del grupo familiar; sus labores las domésticas; su espacio la casa; su deber ser buenas madres y esposas, sumisas a sus

padres o maridos (Condés, 2002). Al mismo tiempo, como plantea Catelli (2011), se dismantelaba el sistema de parentesco, parte clave de su mundo, contribuyendo a romper cualquier posibilidad de continuidad de la sociedad local.

El establecimiento del sistema de encomiendas (vigente hasta mediados del siglo XVI) sacó a los hombres de las aldeas y también a muchas mujeres, determinando su envío a los espacios de trabajo: minas, construcciones, estancias agrícolas, corrales, hatos ganaderos. Estos indios e indias encomendados o de repartimiento, a diferencia de las naborías de casa, se mantenían bajo el control de sus caciques y podían regresar a sus aldeas una vez terminaba el periodo de trabajo, que se extendía durante varios meses. Durante el periodo de trabajo solo permanecían en las aldeas las mujeres embarazadas o recién paridas, ancianos, y niños. La separación de hombres y mujeres, y la fragmentación de los conjuntos aldeanos, interrumpe los ciclos de reproducción biológica y los procesos familiares, sociales y rituales que sostienen y perpetúan la vida comunitaria. Los poblados se hacen más vulnerables a la presión externa, sea de europeos, africanos u otros indios. Cassá (1974, p. 224) refiere el robo de mujeres indígenas por cimarrones africanos y para Cuba se registra, en 1533, un ataque por africanos a una aldea, donde raptan mujeres (Mira Caballos, 1997, p. 190).

En los pueblos indígenas la población remanente debió enfrentar la lucha por la supervivencia y las mujeres tuvieron un papel central en ello, como confirma el dato arqueológico. El sitio En Bas Saline, ubicado en el norte de Haití, se considera una aldea vinculada a la llegada de Colón a la isla, vigente aún durante el siglo XVI. Su estudio arqueológico, dirigido por Kathleen Deagan (2004), identifica el protagonismo de mujeres no-élite en la vida económica de la comunidad, tras el contacto con los europeos. Esto se explica como respuesta a la disminución de la presencia masculina debido a su salida para trabajar para los españoles, como parte de la encomienda. En nuestra opinión, este desbalance pudo darse aun antes de la implantación de dicho sistema. De hecho, diversas situaciones afectaron rápidamente a la población masculina; por ejemplo, uso de los hombres como porteadores y trabajadores, pérdida de población masculina por muertes o captura en enfrentamientos.

En Bas Saline se nota como muchas actividades consideradas propias de los hombres se restringen, entre ellas la elaboración de útiles líticos y ornamentos, así como la caza de animales terrestres y la pesca. Las labores de las mujeres (procesamiento de la yuca, producción de alimentos y cerámica, captura de ciertos animales de baja movilidad) se mantienen, sugiriendo que estas asumen tareas claves relacionadas con la subsistencia. En los espacios de la élite los cambios son menos notables que en las áreas de la población común, indicio de una menor afectación al liderazgo indígena en términos de alimentación y vida cotidiana. La limitada presencia de artefactos o restos

vegetales y animales asociados a los conquistadores y colonos, se entiende como un rechazo a la materialidad hispana y a sus valores.

Aun cuando la propuesta sobre el protagonismo femenino en el sitio parece consistente, es importante recordar la salida de muchas mujeres de las aldeas como parte de la labor en encomienda, o en razón de su captación/captura por los españoles. Por ello es posible que en la sustitución del trabajo masculino discutida por Deagan, también participen ancianos y niños de ambos sexos.

Las mujeres llevadas a las ciudades y predios rurales, como esposas, concubinas y trabajadoras de casa (libres, encomendadas, naborías y esclavas), se hicieron cargo del universo doméstico: cocina, lavado, limpieza, cuidado de los niños, así como de las necesidades de los miembros de la familia del encomendero, y de los estancieros (aquellos que controlaban el funcionamiento de estos sitios de trabajo). Otras mujeres debieron trabajar en actividades de servicio para diversos grupos de población, y en labores productivas. Según algunos investigadores el hallazgo de restos de vasijas de cerámica y burenes indígenas (usados en tareas de cocina y elaboración de casabe) en las ciudades de Puerto Real y Concepción de la Vega, parece estar conectado con la presencia y labor de mujeres indígenas, tanto en espacios domésticos como en establecimientos religiosos o militares de estos asentamientos (Deagan, 1996; Ewen, 2000; Kulstad, 2019). La cerámica conocida como colono ware, cerámica criolla (o loza común), caracterizada por reportar formas y elementos tecnológicos indígenas, también parece ser expresión de esta situación. Tales artefactos igualmente pudieron ser usados por mujeres de diverso origen étnico (africanas, mestizas, blancas pobres) involucradas en estas labores, pues en los momentos tempranos de la colonización y en ciertos espacios alejados de los centros poblacionales y comerciales, eran mucho más accesibles que los europeos.

Las mujeres indígenas no solo vivieron y trabajaron en La Vega; también murieron y fueron enterradas allí, muchas ya cristianizadas. Este fue el caso de Catalinica, sirvienta y manceba de Álvaro de Castro, quien parece ser el responsable de su muerte tras sospechar la relación de esta con otro español y darle una golpiza que le provoca un aborto (Altman, 2021a, pp. 339; Kulstad, 2008, pp. 137, 170). Hay constancia arqueológica de inhumaciones de mujeres indígenas pues, cerca de la fortaleza de la ciudad se localizaron restos de una de ellas (Jiménez Lambertus, 1979). Aunque el cuerpo no sigue un patrón de entierro claramente cristiano, su disposición semiextendida tampoco es típica de las prácticas indígenas. Por otro lado, no hay artefactos indígenas pero reporta un alfiler metálico cerca del cuello, y restos de cerámica y metal europeo, indicadores de una inhumación en el ambiente de la presencia española. Para Lambertus el alfiler sugiere uso de vestuario. Este detalle y

lo peculiar de la posición, apuntan a un individuo insertado en el mundo colonial y adaptado a sus normas.

En 1514, según datos del repartimiento de indígenas realizado en ese año en la Isla, se reconocen 121 españoles casados con mujeres de Castilla y 65 con indias (Arranz, 1991, pp. 239). La cifra de amancebados tuvo que ser muy alta. Todos los amancebamientos y matrimonios no debieron ser iguales, y el estatus de la mujer indígena, ser cacica o venir de una familia de élite, pudo tener ciertas ventajas. No siempre predominó la violencia, pero el matrimonio o la cohabitación tampoco significaron su fin. La estabilización del mundo colonial no supuso, como seguiría ocurriendo en toda América, el abandono de los comportamientos de la conquista; sólo creó nuevos espacios para ejercerlos (Van Deusen, 2012).

Hubo mujeres que aceptaron sinceramente, o por conveniencia, a estos hombres. Muchas se integraron hasta donde les fue posible en la sociedad colonial, contribuyendo a modelar una nueva identidad y cultura. También hubo relaciones donde los españoles levantaron una familia, se casaron de forma oficial, reconocieron y apoyaron a sus hijos mestizos y ayudaron a otros indígenas bajo su control⁷. Guitart (1998a) cita la historia de Pérez de Mastanau, quien en 1526 deja como heredera principal de sus bienes a su esposa india; o a Esteban Pardo Cadena que al morir hacia 1531, testa a favor de su sobrina pero indica usar parte de su herencia para garantizar que su concubina india (Cobimere) pueda viajar a España y vivir al cuidado de la primera.

La parte de la población registrada en 1514 es la repartida; no incluye indígenas ocultados por los españoles o fuera del control de estos, ni indígenas esclavizados. Se estima que en 1492 podía haber unas 100 000 personas; para 1514 la caída poblacional es dramática y se reparten entre los encomenderos 26189 personas (Mira Caballos, 2017). Se distribuyen los habitantes de una comunidad junto con su cacique, entre uno o varios encomenderos. De los más de 300 caciques mencionados, 34 eran mujeres. Estas manejaban grupos más grandes que los liderados por hombres, estando las cacicas María del Higüey e Isabel de Iguanamá al mando de los de mayor tamaño de la Isla, con un total de 784 personas de servicio (trabajadores encomendados), sin contar niños y viejos (Arranz, 1991, p. 240).

La gran mayoría de los pueblos con cacicas se ubicaban en zonas donde ocurrieron fuertes enfrentamientos con los españoles. Por ello Arranz (1991, p. 240) considera posible que heredaran la posición al morir los hombres. Si

⁷ Esto ocurrió en La Española pero también en Puerto Rico y Cuba. Un caso interesante para esta última isla es el de Joan Millán. Encomendero radicado en Cuba, se preparaba en 1535 para dejar la isla con su esposa indígena y sus hijos mestizos. Antes del viaje solicita al Rey la liberación de familiares de su esposa, que vivían ilegalmente en condición de esclavos. Pide, además, la libertad de sus naborías, cristianizados y casados por él, así como permiso para casar a otro de ellos, al cual da tierras (Pichardo, 1966).

así fue y si los españoles estimularon esto, algo muy probable, lo significativo es el hecho de aprovechar una visión y postura indígena sobre el poder femenino de desempeñar o sostener el liderazgo. Como apunta Altman (2021b), pudo ser una situación fomentada por los europeos pues facilitaba, a través del control sobre dichas mujeres, el manejo de tierras y poblaciones; probablemente se les hacía más fácil negociar con mujeres, y quizás estas aceptaron mejor procesos como la cristianización. El cambio religioso como expresión de aculturación, pero también de emergencia de una nueva identidad, forma parte de la latinización o familiarización con prácticas de vida hispanas. Esto incluía, entre sus muchos aspectos, el uso de nombres cristianos, aspecto predominante entre las cacicas del reparto de 1514. Obviamente, las oportunidades dadas a las cacicas llegaban hasta donde lo permitía la visión machista occidental. En este sentido es interesante que no se hable de mujeres cuando se trata la intención de educar a e instruir a los hijos de caciques.

Son escasas las evidencias arqueológicas de entierros de personas de alto estatus en contextos de la Edad Cerámica en las Antillas Mayores. En Cuba hay un ejemplo para comunidades de este tipo (con cerámica de estilo Meillac). La inhumación se realizó en un cementerio localizado en un poblado indígena habitado desde el siglo XIII, y sujeto al régimen de encomiendas durante la primera mitad del XVI (Valcárcel-Rojas, 2016). Es muy significativo, pues se trata de una mujer. Su edad oscila entre 26 y 35 años; muestra modificación craneana y nació en la isla. Portaba el conjunto de objetos de mayor valor hallado en este espacio, donde se identificaron 133 individuos.

Reporta uno o varios collares con pequeñas cuentas de cuarcita y coral rojo (*Corallium rubrum*), así como dos cuentas de oro y dos de perla. Destacan además cuatro pendientes laminares, un cascabel y un pendiente de guanín, este último en forma de cabeza de pájaro, propio de la cultura indígena Tairona de Colombia. En total 109 objetos. Se sabe del gran valor de los guanines para los indígenas, y de cómo fueron traídos por los europeos desde Suramérica para usarlos en sus intercambios y tratos con los indígenas, si bien ya llegaban a las islas en tiempos precolombinos. El cuerpo está extendido y muestra, además, un fragmento de tela de lino (*Linum usitatissimum L.*), con hilos de plata. Este textil llegó con los europeos, como las cuentas de coral rojo (especie no existente en el Caribe), y debió pasar de estos a la mujer. La posición extendida también refleja este vínculo, pues es muy poco frecuente en contextos indígenas de este tipo en Cuba. Al ser propia del ritual de entierro español, probablemente se asocia a la acción de cristianización (Valcárcel-Rojas, 2016).

Si bien hay claros indicios de la relación de este individuo con los españoles, es muy interesante cómo acumula objetos propios de las élites e incluso de los caciques, particularmente los guanines. Su estatus pudo

ser adquirido a partir de sus nexos con los conquistadores y colonizadores, algo que tampoco se puede asegurar, pero muchos de los símbolos que probablemente señalizan su posición (los ornamentos de piedra y metal) tienen raíces culturales muy anteriores a estos y son claramente indígenas. Por tanto, su relevancia, cualquiera que sea su origen, se legitima a través de tradiciones de poder y liderazgo nativas, previas a la conquista.

Además de la relevancia de las cacicas reportadas en el reparto de 1514, para 1535 tenemos indicios del valor de esta distinción y de que aún tenía algún sentido social, tanto entre indios como españoles. En una comunicación de 1535, sobre la muerte del cacique Enriquillo, en un pueblo del sur de la isla, las autoridades informan: "Hizo testamento y mandó que su mujer Doña Mencía y un primo suyo que se decía el Capitán Martín de Alfaro, fuesen caciques en su lugar" (Balcácer, 2022, p. 72). Es un acto de reconocimiento del liderazgo y la capacidad femenina, en momentos donde prácticamente ya no existía la sociedad indígena.

Hay datos sobre la existencia y protagonismo de otras mujeres de la elite indígena, no referidas como cacicas. En el testamento de Pedro de Vadillo, un encomendero del poblado de San Juan de la Maguana fallecido en 1530, se menciona a la india Teresa (Altman, 2013). Esta es hija del cacique Gómez, uno de los dos caciques recibidos en encomienda por Vadillo junto a otras 111 personas, incluyendo viejos y niños, en 1514 (Arranz, 1991, p. 572). Al morir Teresa deja a Vadillo 130 pesos de oro. Vadillo, a su vez lega dinero para pagar misas por el alma de Teresa y por las de la madre y el padre de esta. Su capacidad de testar a favor de Vadillo y de poseer estos recursos demuestran independencia y determinado poder económico. Al analizar este asunto, Guitart (1998a) considera la posibilidad de que Teresa fuera la madre de los dos hijos mestizos de Vadillo, los cuales reclaman exitosamente un tercio del valor del ingenio de su padre. Vadillo vela por estos dos jóvenes y por un tercero, directamente reconocido como hijo de Teresa, pero con el cual no parece tener vínculos.

Independientemente de la trayectoria precolonial o no, del liderazgo femenino, su existencia en tiempos coloniales daba una oportunidad a las mujeres de reforzar o construir una posición socialmente relevante. Si bien esto era un asunto puntual, pudo tener un impacto en ambientes y familias diversas, modelando para el futuro la capacidad femenina de representar o dirigir ciertas unidades sociales, o al menos, de ser tenida en cuenta. Tal proceso conllevaría el reforzamiento de roles y conocimientos vinculados con lo femenino, en un escenario de progresivo desplazamiento del hombre indígena.

En el reparto de 1514 solo en las villas de Concepción de la Vega y Puerto Plata, se precisa el sexo de los indios de servicio. Resulta en un predominio de hombres de alrededor de un 55 por ciento. Para Moya Pons (1992) esto se

debe a una mayor mortalidad femenina. Para Arranz (1991, p. 246) refleja el movimiento de las mujeres hacia la convivencia con españoles. La mortalidad debió ser más intensa entre aquellas que quedaban en los pueblos indígenas, o servían en minas y estancias de los españoles. Las casadas, amancebadas y naborías, quienes trabajaban y vivían en las casas de los españoles, debieron tener más oportunidades de sobrevivir en medio de un ambiente que intentaba borrar sus raíces y neutralizaba sus posibilidades de contribuir al sostén de sus comunidades. En este entorno no solo los europeos, sino también los africanos debieron tener un mayor acceso a ellas. De estas relaciones emergió un grupo de mestizos, los zambos⁸. Dos de ellos se mencionan en 1520, en los hatos del rey en El Soco, en el sureste de la isla, si bien es difícil saber si sus madres eran libres o esclavas (Del Río Moreno, 2012, p. 209).

La salida de mujeres de los pueblos indígenas contribuía a debilitar más las comunidades y obviamente, cortaba la posibilidad de recuperación demográfica a través de la reproducción con hombres indígenas. El traslado de los españoles hacia otras islas o a Castilla, determinó el desplazamiento de sus esposas y sirvientas fragmentando aún más el entramado femenino de una sociedad en desaparición. Como comenta Catelli (2006), el movimiento de la mujer a los espacios españoles y su control por estos en diversos ámbitos del mundo colonial, supone la contracción en términos de género de la sociedad local, y un esfuerzo de sometimiento enfocado en este sector. Por otro lado, con la absorción de la mujer no solo se afectaba la reproducción biológica sino también cultural, en tanto se la eliminaba como portadora de roles y tradiciones específicas, imprescindibles para la existencia de la sociedad indígena.

A largo plazo la reducción de la población masculina indígena y de su posibilidad reproductiva, así como el control de la mujer indígena por hombres españoles y también africanos, contribuirá a modelar las bases genéticas de la actual población de la República Dominicana⁹. En los datos disponibles sobre los linajes maternos de esta, predominan los haplogrupos africanos seguidos por los europeos, y aunque la ascendencia nativo americano es reducida, es mayor que en los linajes paternos, donde se repite el predominio africano

⁸ La presencia de mestizos como remanentes de la antigua población indígena en su conexión con africanos, se reconoce aun en el siglo XVII. En esa época son parte del panorama demográfico del poblado de San Juan de Goave, al centro de la isla. Según Exquemelin (1681, p. 23) sus habitantes, dedicados a la caza del ganado, eran mulatos (hijos de blancos y negras), mestizos (de indias y blancos) y los llamados alcatraces (hijos de negros e indias).

⁹ Un estudio de ADN mitocondrial (linajes femeninos) en base a una muestra de 1,000 individuos determinó que la población dominicana posee un 49 % africano, un 39 % de ancestros europeos, y un 4 % nativo americano (Paulino-Ramírez *et al.*, 2019). Una investigación del haplogrupo Y (linajes masculinos) reporta un 59% de ascendencia norteafricana/europea, alrededor del 38 % de ascendencia subsahariana y menos del 3 % de ascendencia nativa americana (D'Atanasio *et al.*, 2020).

y europeo (D'Atanasio et al., 2020; Paulino-Ramírez et al., 2019). En Cuba y Puerto Rico el aporte indígena en los linajes paternos es aún más limitado o ausente, y prueba, como en la República Dominicana, que la contribución nativo americana viene principalmente de las mujeres¹⁰ (Vilar et al., 2014).

Como parte de las diversas formas de convivencia entre indígenas y españoles, se compartieron hábitos, modos de vida y conocimientos. Indudablemente las indígenas compensaban la escasa presencia de mujeres españolas y pese a su subordinación, conseguían espacios en el ambiente colonial. Este las usaba laboral y sexualmente mientras aprovechaba sus saberes culturales (culinarios, agrícolas, sobre el ambiente y técnicas de sanación, entre otros muchos), que por otro lado entendía como secundarios e incivilizados y, en ocasiones, como formas de herejía.

Los conocimientos femeninos fueron efectivos y dieron incluso, rápidas oportunidades de ganancia económica. Se registra como una india le proporcionó hierbas curativas a su marido, afectado del mal de bubas (sífilis), para evitar el contagio de sus hijos. Le confiesa su temor a ser descubierta y asesinada por sus parientes, pues no querían enseñar la cura a los españoles (Peguero, 1762 citado por Mira Caballos, 2000a, p. 205). Antonio de Villasante, llegado a la isla en 1493, junto a Colón, recibió de la Corona la confirmación del monopolio sobre la explotación del bálsamo de Guaconax (probablemente el arbusto *Amyrisbalsamifera* L). Éste se usaba para cicatrizar heridas, aliviar los dolores del estómago, tratar la vesícula biliar, el dolor de muelas, y la gota. Según Villasante, había aprendido las cualidades de la planta y su uso, de su esposa (cacica y cristiana, que le estaba encomendada), y de los familiares de esta (González Bueno et al., 2022).

Peligrosas mujeres

Las mujeres fueron testigos del discurrir de la vida colonial, incluyendo la violencia ejercida por los poderosos. Uno de los pocos casos donde podemos tener su voz, proviene de los testimonios asociados al juicio en 1509, contra Francisco de Solís, un encomendero acusado de asesinar a dos de sus indios (Mira Caballos, 1993).

Es interesante como pese a las presiones de su amo, dos mujeres indígenas testifican en su contra, en una evidente acción de resistencia cuyas consecuencias desconocemos. Una india esclavizada y una naboría de casa describen en detalle la crueldad de Solís, quien intenta descalificarlas. Según

¹⁰ Estudios en comunidades cubanas que se consideran descendientes directos de indígenas identifican como promedio, en ADN mitocondrial, un 45,7 % de su información genética procedente de ancestros europeos, 25,4 % de ancestros africanos, 20,2 % de origen amerindio y 8,6 % de origen asiático, estimándose este último también relacionado con los amerindios. En lo referido a cromosoma Y no hay ancestros indígenas (Marcheco, 2022).

él, todos los indios odiaban a los españoles y las mujeres inventaban mentiras. Pone como ejemplo una historia, circulando entre los españoles, sobre dos hermanas confabuladas contra el marido de una de ellas. Lo acusaron de practicar la poligamia con la otra; para Solís, buscaban que el Gobernador Ovando lo quemara por tal delito. Sea cierto o no, deja ver la existencia de una oposición femenina que se podía expresar de muchos modos, así como espacios de la mentalidad cotidiana donde el hombre europeo podía sentir miedo de la mujer indígena.

Avanzada la primera mitad del siglo XVI las mujeres indígenas y sus conocimientos de las plantas seguían siendo un tema importante. En la villa de Puerto Plata se acusa a una india de haber utilizado hierbas en un veneno empleado para matar a una mujer española de la localidad, y de reunirse con otra india para hacer maleficios. Trasciende el comentario sobre el general conocimiento, entre las mujeres indias, de las hierbas para “hacer el mal y el bien”, y se cita una, radicada en Santiago, especializada en “mejunjes y bebedizos” (Deive, 2002, p. 75). Las dos indias involucradas en el aparente envenenamiento, que se dice seguían órdenes del marido de la muerta, estaban casadas con españoles. Una de ellas era reputada como cacica.

Conclusiones

La situación colonial afectó profundamente a las mujeres indígenas. Aunque se movieron de un universo patriarcal a otro, en el nuevo entorno su papel fue mucho más subordinado. Pasaron de ejercer capacidades propias, de la relevancia y el protagonismo social, religioso y cultural, a ser objetos, sirvientas, mayormente concubinas y cuando más, esposas. Sin embargo, aunque sufrieron el colapso de su mundo siguieron existiendo como individuos y supieron enfrentar la realidad colonial tanto desde posiciones de adaptación como desde la resistencia frontal.

La acción sobre y contra la mujer, fue un recurso de dominación que expresaba la naturaleza machista y patriarcal del orden colonial y de sus representantes. Se las victimizaba por su propia naturaleza femenina y por su condición de inferioridad en términos sociales y raciales. Al mismo tiempo se ordenaba de modo consciente su control para facilitar la aculturación, manipular los mecanismos de organización comunitaria y atacar las raíces de la sociedad indígena. Esto influyó de forma fundamental en el debilitamiento de sus estructuras e instituciones, afectando la capacidad de recuperación demográfica y la sobrevivencia cultural.

En el ámbito colonial se naturalizó su explotación y manejo como mujeres secundarias respecto a las blancas. En muchos sentidos, junto a las africanas, se percibían como seres inferiores y de humanidad cuestionable o definitivamente negada. Soportaron una cultura machista, cargada de actos

de discriminación y violencia, así como la condena y transformación de sus cuerpos, sexualidad, roles y tradiciones, según los parámetros patriarcales.

A través de sus relaciones con europeos y africanos, como madres de mestizos, fueron las verdaderas responsables de la transmisión del legado genético indígena y sin dudas, impulsaron la persistencia de este componente cultural en todos los sentidos. Vivieron las estructuras españolas, al tiempo que creaban soluciones de ajuste y sobrevivencia física y cultural, que llegarían a ser claves de nuevas identidades. Con seguridad muchas de ellas fueron, reconocidas o no, la raíz de familias de todos los estratos sociales, de ayer y ahora, como se discute para Puerto Rico y Cuba (Del Pino, 2010; Watlington 2013). Gran parte de lo que hoy es entendido como de base indígena, como también quizás otras prácticas y rasgos cuyo origen ignoramos, proviene de ellas y de su capacidad de insertarse en el mundo colonial. Este las cambió, pero ellas también le dieron forma.

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Ethnoarchaeology of Mortuary Practices: Relationship Bodies in the Carib-speaking Neo-Tropics

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Abstract

Death is not the end, but rather a beginning. Drawing on historical sources and ethnographic fieldwork with the Wayana Indigenous People of French Guiana, this essay explores the interrelationships embodied during mortuary practices and personal treatment of the dead. This research emerged from questions raised during the archaeological excavations at Anse à la Gourde, Guadeloupe, and, in turn, contributes to the study of burial practices in Caribbean archaeology. More broadly, an understanding of Wayana mortuary practices, illustrated with exceptional photographs and indigenous narratives, is to further the conceptualization of the complexity, wide variety and individualization of personal treatment of the dead, and the interrelationships with ancestors and other social others in Guiana, Amazonia, and beyond.

Key words: Amazonian Indigenous Peoples, Caribbean, Guianas, mortuary practices, interrelationship bodies, ethnoarchaeology.

Etnoarqueología de las prácticas mortuorias: relación de cuerpos en el Neo-Trópico de Habla Caribe

Resumen

La muerte no es el final, sino más bien un comienzo. Basándose en fuentes históricas y trabajo de campo etnográfico con el pueblo indígena wayana de

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la Guayana Francesa, este ensayo explora las interrelaciones incorporadas durante las prácticas funerarias, mortuorias y el trato personal de los muertos. Esta investigación surgió de preguntas planteadas durante las excavaciones arqueológicas en Anse à la Gourde, Guadalupe, y, a su vez, contribuye al arqueo-thanología caribeña. Una comprensión de las prácticas mortuorias de los Wayana –ilustradas con fotografías excepcionales y narrativas indígenas– tiene como objetivo promover la conceptualización de la complejidad, la amplia variedad y la individualización del tratamiento personal de los muertos y las interrelaciones con antepasados y otras personas de relevancia sociales en la Guayana. Amazonia y más allá.

Palabras clave: *Pueblos Indígenas Amazónicos, Caribe, Guayanas, prácticas mortuorias, cuerpos de interrelación, etnoarqueología.*

Ethnoarchéologie des pratiques mortuaires: les corps relationnels dans les néo-tropiques caraïbes

Résumé

La mort n'est pas la fin, mais plutôt un début. S'appuyant sur des sources historiques et un travail ethnographique de terrain, auprès du peuple Wayana en Guyane française, cet article tente d'explorer les relations entretenues par les représentants de cette ethnie avec leurs morts. Née de questions soulevées lors de fouilles archéologiques sur l'Anse à la Gourde, en Guadeloupe, ces problématiques nourrissent encore les réflexions sur l'archéo-thanatologie caribéenne. Au travers plusieurs photographies inédites et de récits amérindiens, un éclairage tente d'être posé sur l'éventail des pratiques associées au défunt et à ses restes. À l'influence des traditions sur les pratiques funéraires et mortuaires, ainsi que leur impact sur le quotidien des Wayanas, les relations mutuelles avec les ancêtres et les autres l'Autrui, dans les territoires de Guyane, Amazonie et au-delà.

Mots clés: *Peuples indigènes d'Amazonie, Caraïbes, Guyanes, pratiques mortuaires, corps d'interrelation, ethnoarchéologie.*

Few ethnoarchaeological studies probe this aspect of culture [i.e., mortuary practices] and its expression in material things... [and, then again, these studies often] seek patterning in mortuary practices that relates to social structure and status.

David Nicholas and Carol Kramer,
Ethnoarchaeology in Action (2001, p. 378).

Introduction

Hundred years ago, Justus Gonggrijp (1920-1921, p. 16) concluded his summary on the traces of the original inhabitants of Suriname with a statement that he had attended the excavation of two human remains, an adult and an infant of about 4 years old, behind the plantation Jagtlust facing Paramaribo. The adult was lying on its back with the arms crossed in front of the chest, and with the legs raised high and crossed. The child leaned forward, with forced over its back a ceramic vessel, which, according to Gonggrijp (*ibid.*) resembled contemporary indigenous pottery. The child's skull protruded from under this vessel. Gonggrijp mentioned further that near Paramaribo's main square, three feet under the ground, had been excavated a human skull and collarbone below a ceramic vessel. Nonetheless, these exceptional findings and mortuary practices mentioned by Gonggrijp were not further studied.

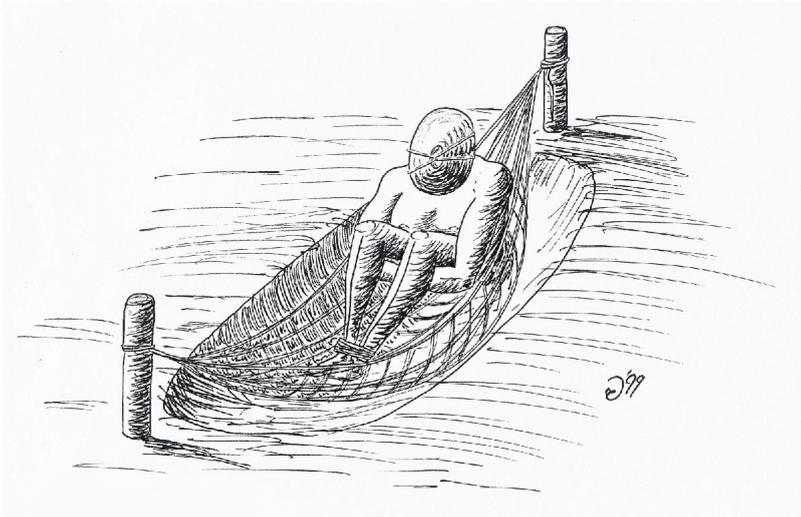


Figure 1. Sketch of a deceased person in a hammock with a ceramic vessel tied in front of its face (Drawing by Renzo S. Duin, 1999, inspired by burial F219, Anse à la Gourde, Guadeloupe, excavated in 1997).

Drawing on historical and ethnographic studies from the Guianas in conjunction with archaeological data from the Caribbean, this chapter explores mortuary practices and personal treatment of the dead in the neo-tropics. Mortuary practices (principally burial location) have been studied in Caribbean archaeology, for instance on Puerto Rico where a shift was observed from burying the dead in the central plaza to the disposition of the dead in domestic contexts (Curet and Oliver, 1998; Siegel, 1999). Multi- and interdisciplinary studies further the conceptualization of the complexity, wide variety and individualization of personal treatment of the dead in order to gain insight into the complex of taphonomic processes, grave inventory, indigenous belief systems, and ancestor worship in the Caribbean (Duin, 2002; Hoogland and Duin, 2010; Hofman, Hoogland, and Duin, 2010). In-depth ethnographic studies among Amazonian Indigenous Peoples are constructive to model an understanding of relationship bodies, interrelationships with social others (human and non-human, including the dead), and indigenous mortuary practices. In this study I focus on the complex mortuary practices among the Wayana, an indigenous Cariban-speaking people living in the frontier zone of Brazil, Suriname and French-Guiana. I am fully aware that between the archaeological and the ethnographical case-studies there is a spatial distance of about 1000 miles, and a temporal distance of about 1000 years. Then again, deep historical links between the Lesser Antilles and the Guianas exist as exemplified in the indigenous cariban terms as “burial place” (*onamótobou* [Breton, 1666, p. 360] = *ëtonamtop* in present-day Wayana) and “village” (*aóthe* [Breton, 1666, p. 401] = *ëütë* in present-day Wayana). Moreover, burial in a seated position, with the arms crossed, and the body covered by a ceramic vessel, was reported by André Thevet in 16th century in the area of Rio de Janeiro, Brazil (Figure 2), thus potentially indicating a pan-Amazonian Indigenous practice and ideology. Rather than searching for sheer analogies, this article aims to reflect upon the interrelationships with ancestors and other social others, and the complex and varied mortuary practices performed by Indigenous Peoples in Amazonia, the Guianas, the Caribbean, and beyond.

This article is a case-study based implementation of the “anthropology of death” (Robben, 2004) and the “archaeology of the body” (Joyce, 2005; Fowler, 2004). Physical manipulation of skeletal remains is intrinsically related to social relations and society’s eschatological beliefs in the afterlife, the soul’s journey towards the spirit world, as well as the behavior of the living, reacting to phenomena like illness, sickness, death and the transformation of the corpse into a skeleton. Bodies are constructed, de-constructed, maintained, and altered in social practices through life and after death. As demonstrated in the ground-breaking study by Anthony Seeger, Roberto da Matta, and Eduardo Viveiros de Castro (1979), the production of the person (*pessoa*) is rooted in an embodiment (*corporalidade*) of social relations. I have to emphasize that

a “body” refers to the corporeality of an individual human body as well as it denotes larger social bodies as society, community, and various other cultural groupings. The former is a carnal body, a “substance body,” objectively studied by physical anthropology. The latter is a social body, a “relationship body,” situated in subjectivity.

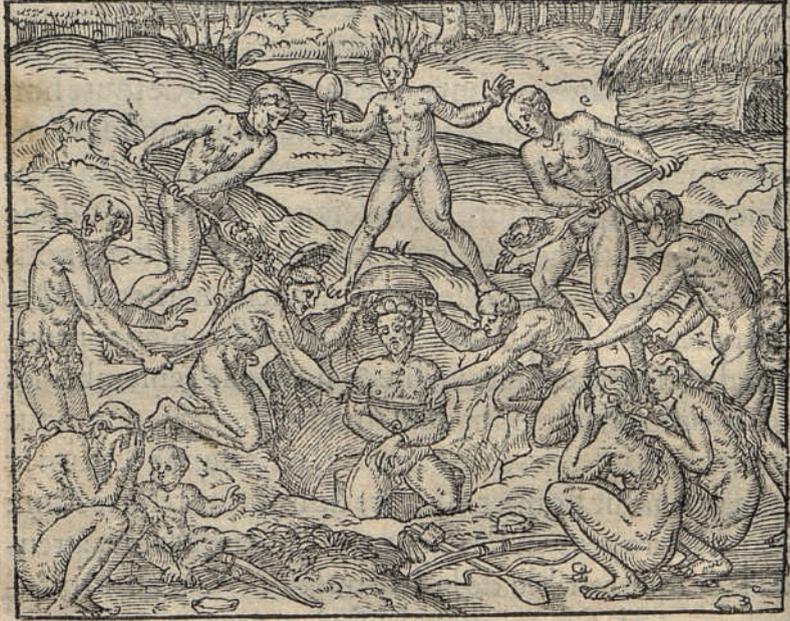


Figure 2. Burial practice in 16th century Brazil (André Thevet, 1558, p. 82).

Anse à la Gourde, Guadeloupe, French West Indies, Lesser Antilles

First, I will briefly outline how this study emerged from archaeological excavations in the Caribbean. As all ethno-archaeological studies, this study is grounded in archaeological questions. In the summers of 1995 till 2000, I participated in the excavations of Anse à la Gourde, Guadeloupe, first as a Master student (Duin 1998), subsequently as a Sector Manager. We excavated and recorded a total of 2401 features, including postholes, pits, hearths and burials – among which a total of 79 burials, comprising some 83 individuals (Duin, 1998; Hofman *et al.*, 2001; Hoogland and Panhuysen, 2001; Kraan, 1998; Roetman and Timmermans, 2003). It is not the intention of this article to present a detailed physical anthropological description of the burials, pathology, missing bones, and additional eco- and artefacts in grave contexts. I anticipate that this ethnoarchaeological study on mortuary

practices bringing together archaeological questions, historical sources and ethnographic observations will continue to inspire archaeologists working in the Caribbean, as have my earlier contributions (Hofman, Hoogland and Duin, 2010; Hoogland and Duin, 2010).

The excavations at Anse à la Gourde raised archaeological questions which I attempted to answer in my ethnoarchaeological studies with the Carib-speaking Indigenous Peoples (Kalinya-Terewuyu and Wayana) in French Guiana. My research was focussed on architecture and settlement patterning, yet where possible I attempted to gain further insight into the burial practices. Not expected, yet very exciting was when Wayana reacted with a resounding “we do that too!” upon seeing one of my sketches based on archaeological mortuary practices at Anse à la Gourde, some 1000 years ago and some 1000 miles away (Figure 1). My multi- and interdisciplinary on architecture and settlement patterning bringing together archaeological questions, historical sources and ethnographic observations (Duin, 1998, 2009), is still inspiring archaeologists in the Caribbean and Guianas today (Hofman, Rostain, Mans, Hoogland, 2021).

The special character of the archaeological site of Anse à la Gourde emerges from the abundant and delicately worked ceramics, lithics, shell and coral artifacts, and from the many complex burials that have been excavated. The very long occupation history of the site, ranging from the end of the Early Ceramic late phase (Cedrosan Saladoid: AD 400-600) until the end of the Late Ceramic early phase (Troumassoid: AD 600-1250) and the beginning of the Late Ceramic late phase (median date AD 1350) demonstrates the great local and regional importance of this archaeological site (Hofman *et al.*, 2001, 2010) for which I have posited an archeo-astronomical explanation related to hurricane prediction (Duin, 2018).



Figure 3. A bundle of bones amidst two burials with ceramic vessels in front of the face (Photos by Renzo S. Duin, 1995).

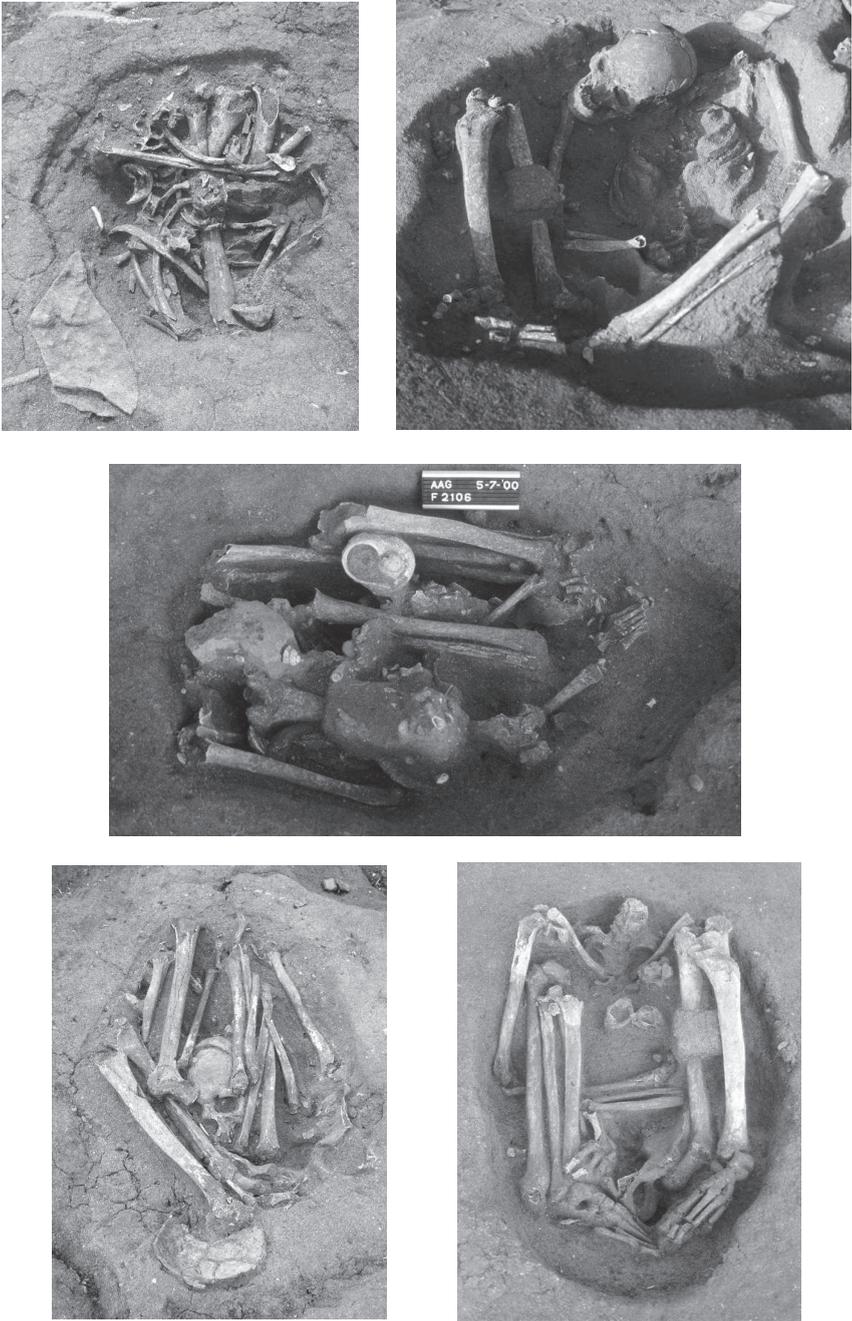


Figure 4. Example of the variation in mortuary practices at Anse à la Gourde, Guadeloupe (Photos by Renzo S. Duin, 1995-2000).

In 1995, a trench was opened to gain insight into the stratigraphy of the site. In this trench, less than two meters apart, two burials surfaced with a ceramic vessel in front of the face (F50 and F108 [originally: F51]) with a bundle of bones (F95) located between them (Figure 3). Later that year, and during following years, four other burials with ceramic vessels were excavated: two with a vessel in front of the face, and two with a vessel over (part of) the body. Not only had the first burial (F50) a ceramic vessel over its cranium and part of the body, this burial also contained a second cranium (F50B). What did this all mean? Why were ceramic vessels covering the face or body, and why was there an additional cranium in the burial pit? The ceramic vessels did not seem consistent with male, female, or child burials (Kraan, 1998). There was just too much variation for a too small sample to apply statistical analysis in order to deduct an explanation for these non-conventional mortuary practices. There was nevertheless consistency in some burial practices, such as bended arms and legs, and a seated, semi-seated, or dorsal position. Burial F50 was not the only burial at Anse à la Gourde with additional human remains (F50B). Burial F349C, for example, is an individual buried with two additional crania (F349A and F349 B). The opening of the trench in 1995 was intended to gain insight in the stratigraphy of the site, yet this trench raised numerous questions pertaining ancient burial practices in the Caribbean.

Once again, this is not an exhaustive report on ancient burial practices at Anse à la Gourde, but rather to argue for the potential of a relationship body perspective in Caribbean archaeology based on the burials encountered (Figure 4). Where physical anthropology allowed understanding of the taphonomy of individual graves (Hoogland and Panhuysen, 2001), which may be understood in the light of the rites of passage (Kraan, 1998), we have to further an understanding of the interrelationships materialized within these burials.

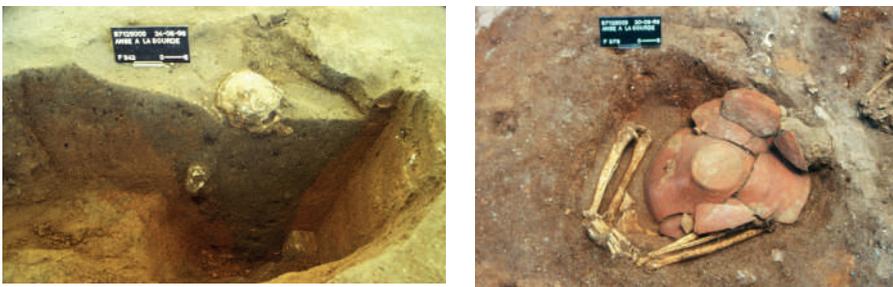


Figure 5. Further examples of the variation in mortuary practices at Anse à la Gourde, Guadeloupe: left: secondary burial of a cranium in a filled-in post hole below a primary burial (F342); right: primary burial, half sitting, covered by large ceramic vessel which broke when the ceiling of the burial pit collapsed (F378) (Photos by Renzo S. Duin, 1996).

While some burials contained additional crania, as mentioned earlier (F50, F349), one burial contained but a single skull (F197). Some burials (secondary and primary/secondary) contained parts, such as femurs and/or tibia, of other individuals, and one individual missed its own left and right humerus and right radius and ulna). One individual lacked only a right fibula. Several burials lack the skull entirely. In other cases, the cranium was removed and the mandible remained in the grave. Some other burials lack post-cranial body parts. Some burials were placed on top of a single cranium in a (partially) refilled post holes whilst other primary burials were covered by large ceramic vessels (Figure 5). Whatever the reason of removing heads/skulls and/or other bones/body parts, it is without a doubt that the people of Anse à la Gourde were actively involved in manipulating bones and potentially body parts. Removal and repositioning of bones/body parts in various burials at the archaeological site of Anse à la Gourde, Guadeloupe, embodies the conceptualization of relationship bodies.

On relationship bodies

Whether or not additional crania in graves belong to individual burials at the same site where the skull is lacking, there was at Anse à la Gourde an intention of moving skulls from one grave to another. Whatever the individual relationships, it is without a doubt that individual bodies, on occasion, and not as a standardized customary practice, were taken apart (deconstructed) and bones/body parts were re-deposited in a separate pit or added to other graves. These practices materialize the notions of “fractal persons” in the sense of Roy Wagner (1991) and “dividual bodies” in the sense of Marilyn Strathern (1988, 1992), as will be discussed next.

Anthropological studies on the relation between individual and society in Amazonia resulted in three emerging paradigms. In his classic *Individual and Society in Guiana: A Comparative Study of Amerindian Social Organization* Peter Rivière (1984) identified the essential elements and relationships in Guiana social organization as a “political economy of control” (Rivière, 1983/1984). Joanna Overing Kaplan (1983/1984) and her former students Peter Gow (1991, 2001) and Fernando Santos-Granero (2000) described a “moral economy of intimacy.” This paradigm of conviviality focused on the politically laden liminal encounters with social others during rituals whereby the moral intimacy creates a moment of *communitas* in the sense of Victor Turner (1969), i.e., self-identity focusing inward.

As in a structural opposition, “the symbolic economy of alterity” (“*economia da predação*”) by Eduardo Viveiros de Castro (1986, 1992, 1996), focused on (cannibalistic) rituals that bring social others into the heart of society, i.e., self-identity focusing outward. Rituals are the place of decomposition and

composition (consumption and production) of an individual body (Henley, 2001; Taylor, 1998, 2001). These three paradigms on social reproduction are rooted in the *Elementary structures of Kinship* (Lévi-Strauss, 1949) and the principle of reciprocity wherein kinship terminology is the political means to produce reciprocal relations with other social groups (Lévi-Strauss, 1943, 1968, 1969). In other words: the construction of social order and persons is situated in alterity.

Defining identity though alterity is at the heart of social reproduction in Amazonia, as no community is “[capable] of self-reproduction in isolation” (Fausto, 2000: 948; Henley, 2001; Lévi-Strauss, 1949; Overing, 1983-1984, p. 333; Viveiros de Castro, 1986, 1992). Amazonian social formations are thus grounded in a difference between consanguinity (“insiders”) and affinity (“outsiders”), as discussed in detail in the edited volume titled *Beyond the Visible and the Material: the amerindianization of society in the work of Peter Rivière* (Rival and Whitehead, 2001). Michael Heckenberger (2005) situated the *Ecology of Power*, or the “symbolic economy of power,” in the kaleidoscopic interrelations involving techno-economic, symbolic, social, and political forces concurrently. Being aware that twenty-five years have passed since the classic publications on Guiana social organization (Butt Colson and Heinen, 1983-1984; Rivière, 1984), the mere dichotomy between individual and society (self and group) is situated in Western discourse. The “problem” of the *relation* between individual and society ought to become our focus of investigation as the process of determination of the ‘self’ is inherent to its ongoing relations with the social others, including its ongoing relations with the dead (i.e., with the ancestors).

What Western scholars distinguish as a “substance-body” is perceived by indigenous people as a “relationship-body” (Seeger, da Matta, and Viveiros de Castro, 1979; Turner, 1980, 1995). More fluid, multifaceted, and contesting models of identity were explored in general anthropological theory since the mid-1980s (e.g., Butler, 1990, 1993) aiming to overcome essentialist definitions as sex, tribe, lineage, and the like. What had been perceived hitherto as an autonomous individual, is, from a different perspective, a person who does not simply represent a single unity. Instead, s/he is a social person encompassing elements of other social beings: “fractal persons” in the sense of Roy Wagner (1991) depending on scale and magnification.

Marilyn Strathern (1988, 1992), engaged with this dilemma of the relation between individual and society from a socio-anthropological perspective of “plural personhood” whereby the intersubjectivity emerging in social interaction is twofold: (1) it is a particular partible body in interaction with other bodies; (2) it is a collective plural body encompassing multiple bodies. These two analytical modes of the ‘plural body’ and the ‘singular (dividual) body’ are components of a whole in continuous process rather than disconnect means.

Conceptualization of individual and society is grounded in this emerging body of anthropological theory of the non-innate socially constructed

person situated in a maze of interrelationships. This is thus a complex matter containing multiple layers and situated in a range of interlocking scales. This “relationship body” is not static but rather situated in an open matrix of implied integral relationships, or what Eduardo Viveiros de Castro (2001) coined the “Grand Unified Theory” or GUT feeling. Concepts of individual and society (personhood or identity) are continuously in the process of reassessment. The concepts of individual and society are situated in internal relationships without preexistence; continuously in the process of reassessment, rather than that they can be objectively defined and identified.

Wayana – not being aware of the theoretical anthropological discourse outlined above – described to me this accumulating process of bodies situated in interrelationships as follows (Duin, 2009: 226, 239; on the Wayana body and corporeal practices see also Chapuis, 1998): a new-born receives part of its visible spirit (*omole*) from the Creator twin residing in the land of the ancestors. Another part of its *omole* is received from an ancestor. Traditionally, at about 4 months of age, a baby (hitherto addressed as *pjūkuku*) receives its ancestral name. Over time, and in interaction with others, the visible and invisible spirit develop (Table 1). Gender differentiation becomes significant at about 12 years of age, when it is time for the child’s initiation (to become *tëpijem*) and are assigned to become a boy (*mule*) or a girl (*jëmsi*). Until then, they are gender neutrally addressed to as *kami* (child. Term of reference for child is *peitopiit*). Wayana marry at about 15 years of age, and have a child the year after. The first-born child is customarily raised by its grand-parents. After about 15 years of age, individuals are referred to in consanguine kinship terminology (such as father or mother of X [name of child]; respectively X *jum* or X *je*), and addressed to according to consanguine kinship relationships, such as *mamak* (1. classificatory mother; 2. mother’s sister), or *papak* (classificatory father), or according to affine kinship relationships, such as *kono* (brother-in-law from a male perspective), *jelut* (sister-in-law from a female perspective), *konko* (1. father-in-law; 2. mother’s brother), or *ëwotpë* (1. mother-in-law; 2. father’s sister).¹ Whereas consanguine kinship terminology is similar from both male and female perspectives, kinship terminology differs in the affine relationships. At thirty years of age, one is considered “knowledgeable” (*tëwantak ikatpë*) and a few years later one is addressed to as grandmother (*kuni*) or grandfather (*tamo*). True elders (*tamusi* and *kunumus*) are over sixty years of age. Most Wayana do not live longer than sixty years of age.

The body is a continuous process. Dying is a continuous process. Every time a person is sick, one dies a little. When discussing the body and sickness,

¹ To complete Wayana kinship terminology at 0 and +1 levels: *akon* (1. similar other; 2. brother; 3. sister); *tasi* (older sister); *ipit* (1. wife; 2. sister-in-law from a male perspective); *imnerum* (1. husband; 2. brother-in-law from a female perspective); *japo* (father’s brother), *ëwotpë* (1. mother-in-law; 2. father’s sister) (Duin, 2009, p. 227).

the concept of *omole* has to be elaborated upon first. *Omole* is a shadow, a reflection, an image (including but not restricted to a photograph). Wayana say that when one loses *omole*, or if it is taken away, the body will grow cold. Wayana describe *omole* as being like a sweater; without it you will grow cold. At night, as we dream, *omole* departs from the body via the mouth. That is why, according to Wayana, the body feels cold at dawn, because while dreaming the *omole* interacts with other shadows and travels to far-away places. At dawn Wayana warm up slowly near the fire place, so as to let their *omole* return to their body.

Table 1. Wayana terms of address as related to age and gender

<i>Years of age</i>	<i>Male (erawa)</i>	<i>Female (wëlii)</i>
60 +	<i>tamusí</i> (vocative: <i>tamo</i>)	<i>kunumusí</i> (vocative: <i>kuní</i>)
35 +	<i>tamusímanme</i> (vocative: <i>tamo</i>)	<i>kunumusímanme</i> (vocative: <i>kuní</i>)
30 +	<i>tëwantak ikatpë</i> (individual [m/f] who knows, who is respectful)	
ca. 15-35	(an individual is addressed and referred to according to kinship terminology, nicknames, or simply with the generic <i>wëlii</i> [woman] or <i>erawa</i> [man])	
ca. 12-15	<i>imjata</i>	<i>waluhmame</i>
ca. 1-12	<i>mule</i> (vocative: <i>kami</i>)	<i>jemsi</i> (vocative: <i>kami</i>)
Baby	<i>píjukuku</i>	<i>píjukuku</i>

Jean Chapuis (1998: 610) drew a processual scheme of the course of *omole* based upon information provided by the late powerful shaman (*píjai*)² Pileike. What Pileike described seemed to be a fractal body, as the parts of a “new” visible spirit is more than one, but less than two: a “new” *omole* is provided at conception by *Kujuli* (one of the Creator twins) while another part of *omole* is originating from an ancestor bearing the same name as the newborn. After death, the good part of *omole* will rise up to *Kujuli pata* (the land of the ancestors, literally: the place of *Kujuli*) where it can be recycled into a “new” *omole* provided at conception. The person is dead when there is no more

² Due to its ladenness I prefer not to use the term “shaman” but rather the local term *píjai*. It goes beyond the present article to discuss the concept of *píjai* in detail. It has to be mentioned that the Amazonian term “*pajé* or *piaíi*” (Whitehead and Wright, 2004, p. 2), “*pagé*” (Thévet, 1557; Narby and Huxley, 2001, p. 13), “*piayé*” (Biet, 1664; Narby and Huxley, 2001: 16), and *píjai* in Wayana, was introduced to the European audience before the term “*shaman*” (Petrovich, 1672; Narby and Huxley, 2001, p. 18).

omole left in the body (*unu* = 1. living body, 2. trunk; *ëkep* = corpse), and this is why the corpse is cold, Wayana expressed to me.

When someone feels that the last part of his *omole* is leaving him, he might choose to reside in his hammock. The so-called fetus-position of the dead (flexed extremities), I argue, is a result of the body growing cold, and the person dying is naturally taking this position trying to keep warm, rather than a symbolic reference to reincarnation or rebirth. The invisible spirit (*akuwali*; after death called *akuwalinpë*, literally: former *akuwali*), remains in the grave with the skeleton (*ëkejetpë*). (Part of) the visible spirit of an ancestor, along with its name, return to earth to be incarnated into a new-born baby... and this is a continuous fractal process.

On Wayana mortuary practices

Mortuary practices are a profound and sensitive topic that cannot simply be dealt with during an initial fieldtrip. During my ethno-archaeological study on Wayana architecture and settlement patterning I participated, amongst others, in building houses (Duin, 1998, 2009). In 1999, while we marked the location for the posts of a new to build house, a pijai stopped by and reminded us that someone was buried at this place we were preparing for construction. This was my moment to ask: “what if we touch the bones of the dead?” This question sparked a vivid discussion on mortuary practices and eschatology of which the highlights are presented in this section. In sum, Wayana have a wide range of mortuary practices including cremation, burial, or left undisturbed in a hammock in one’s house. This wide range of mortuary practices is largely dependent on individual preferences, the last wishes of the deceased, and the assumed causes of death (Figure 6). This broad range will have significant implications for the archaeological record, which is what I focus on in this presentation.

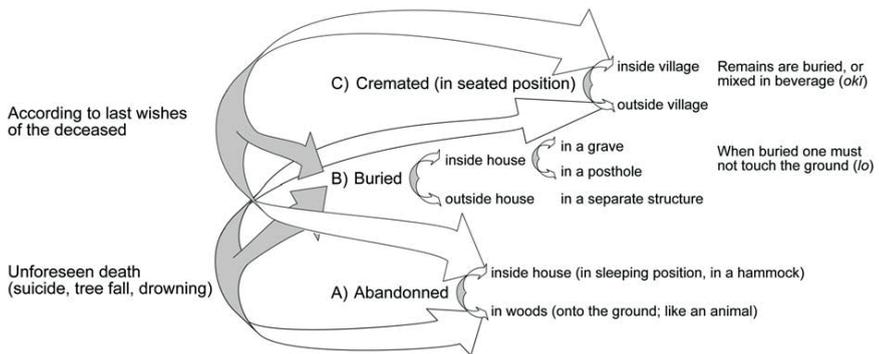


Figure 6. Schema of the broad range of mortuary practices among the Wayana (Duin, 2002).

Causes of death

According to information provided by Jean Hurault (1968, p. 62), only 10% of cases of death among the Wayana of the upper Maroni basin between 1952 and 1964 were claimed to be of “natural causes” (Table 2). The other 90% of cases were attributed to actions by dark shamans (*pijai*), poisoning or spontaneous actions by evil spirits (*jolok*). In most cases (10 cases or 34%) it was said that a shaman (*pijai*) had sent an “evil spirit arrow” (*jolok pile*) causing a stinging pain described as if a knife is stabbed into the body. As this stinging pain specifically occurs in the chest or leg, I have posited that this can be the result of a heart attack, apoplexy, or nerve problem [hernia] (Duin, 2009, p. 243). Next, in eight cases (28%), it was claimed that a *pijai* had sent his invisible spirit (*akuwali* or *akuwalinpë*; the latter sent from the grave). In three cases (10%) it was claimed that a person had died from poisoning, and in two cases (8%) it concerned a shaman killed by an adversary.

Table 2. Causes of death among Wayana between 1952 and 1964
(source: Hurault, 1968, p. 62)

<i>Cause of death</i>	<i>number</i>	<i>percentage</i>
Actions by a shaman: sending his <i>akuwali</i> (<i>npë</i>)	8	28%
Actions by a shaman: sending a <i>jolok</i> (<i>jolok pile</i>)	10	34%
Spontaneous action by a <i>jolok</i> or <i>akuwalinpë</i>	3	10%
Poisoning by means of <i>hemit</i> or <i>tamojetpë</i>	3	10%
Shaman killed by an adversary	2	8%
“Natural” death (including suicide and madness)	3	10%
Total	29	100%

Kanaima and toimai

Albeit 90% of the causes of death described by Hurault (Table 2) are related to actions by dark shamans, poisoning, or spontaneous actions by an evil spirit (*jolok*), this is not the place to discuss shamanism in depth, other than to address these elements that may result into archaeological signatures. Furthermore, in all reported cases there is no evidence of *kanaima*-style assassinations by dark shamans as reported in Guyana (Butt Colson, 2001; Whitehead, 2001, 2002). Ahlbrinck (1956, p. 62) did mention how Wayana said that a *pijai* from the Jari had sent his *jolok* into the woods with a small bow (*tawioma*) and tiny arrows (*wamaimë*) in order to shoot Wayana out of trees. Even if this evil spirit is invisible, Wayana claimed to hear it sometimes. Even if there is no evidence of *kanaima*-style assassinations by dark shamans as reported in Guyana, Wayana do believe a dark shaman (*pijai*) may be behind

certain deaths and consequently Wayana do have a ritual named *toimai* to establish, after the fact, which *pijai* is responsible for the recent death. Hurault (1968, p. 63) mentioned *toimai*, yet his essentialist task of classification appears rather inadequate as *toimai* is multifaceted, complex, variable, and deictic in that it requires referential context and meaning emerging from conjunctural interrelationships. As there are material signatures to this ritual of *toimai* which may be encountered archaeologically, I will herewith address material aspects of this ritual.

Toimai, which I have loosely translated with “death-swap” (Duin, 2009, pp. 256-261), refers to the highly corporeal ritual of intermingling, exchange, or the swap of the spirit of the deceased with the person responsible for the killing. First, hands and legs are tied and a papaya is stuffed into the throat to prevent the spirits from leaving the body in due process. A bow, broken in two, is jammed through the torso crosswise, whereby the cross represents the sign of the malicious spirit (*jolok*). Next a wide variety of attributes can be placed inside or onto the body, such as animal bones, shell, or even a ceramic vessel, and this is where this ritual becomes of interest for archaeologists.

1. A ceramic bowl can be tied to the head to cover the face of the deceased (compare with Figure 1). According to Wayana logic, following this rite of exchange (*toimai*) the person “responsible” for the recent death will now have his vision blocked. Next, a person who no longer returns from the forest and dies in the forest, is presumed to be the killer;
2. A *konoto* shell (*Asolena sinamarica*, *Ampullariidae*) may be placed at the genitals of the deceased (with the testicles placed *inside* the shell). When the genitals of a person will hurt and swell (similar to a growing prostate) this person is considered the presumed killer;
3. Monkey bones may be implanted into the corpse. After *toimai*, the person who will scratch and pull out his pubic-hair like monkeys do, is the presumed killer;
4. All kinds of animal bones can be implanted into the corpse, in order to make the presumed killer mimic the behavior of animals whose bones were implanted in the corpse.
5. The tongue of the deceased may be pulled by means of a fishhook and cut out the mouth, and a person who loses his or her speech is consequently presumed the killer;
6. For more options and illustrations see Duin (2009, pp. 259-260).

To close the *toimai* ritual, burning hot stones are placed onto the stomach of the corpse of the deceased to release the evil spirit (*jolok*) presumed responsible for the recent death. If in the weeks following a *toimai* ritual a dark shaman (*pijai*) bites his tongue, gets lost in the forest, or behaves according to the animal(s) whose bone(s) are inserted into the body of the deceased, Wayana say this is because of the actions of cutting out the tongue, blinding

the vision with a ceramic vessel, or placing animal bones into the corpse. This person acting accordingly is consequently accused of being the killer and responsible for the recent death. Of particular interest to the archaeologist are the material elements (a particular shell or particular animal bones in the burial pit, or a ceramic vessel in front of the face) of this ritual initiated in a search for the killer or dark shaman responsible for the death.

The burial pit

Dimensions of a burial pit, as encountered in 1938 inside a house, were reported as “[long] the size of a human being [...] over a meter deep [...] with steep walls” (Ahlbrinck, 1956, p. 48; my translation). The grave, as are other holes in the ground (pits and postholes), were, and are today, cut into the ground by means of an ax and shovel if present. Loose sand is removed using a calabash bowl. The walls of the burial chamber are enclosed with mats (opoto) woven from kumu-palm fronds (*Oenocarpus bacaba*). Burial chambers are covered with sand over planks of tree bark (parts of old canoes as specified by Hurault, 1968, p. 64) supported by several sticks horizontally placed one decimeter below the surface (Ahlbrinck, 1956: 48). Wayana say that it is not good for the body to touch earth and sand. Therefore, the burial pit is lined with mats (opoto) and covered with a wooden framework onto which planks are placed, and the whole is covered with sand. Grave pits are not filled-in



Figure 7. Engraving by Edouard Riou of an open burial pit with a hammock burial encountered in 1878 by Jules Crevaux (1883, p. 238).

with sand. The bottom of the burial chamber may be covered with a floor of split stems onto which the deceased squats (Grébert, 2001, p. 59) or sits on a little bench (*ahmit, kololo*) or traditional stool (*mijele*). With the body half seated, half laying, a wooden rest is placed behind the back (Ahlbrinck, 1956, p. 62). Even when buried in a hammock, a supporting plank is placed behind the head to hold the head in place (Hurault, 1968, p. 63). An open burial pit with a hammock into which the deceased was placed was witnessed in 1878 by Jules Crevaux (Figure 7). As recently as 2021, André “Antecume” Cognat was buried in this traditional manner, seated on a chair, with his “*touque*” (a plastic white waterproof storage barrel) and other personal belongings.

My question evoked by the archaeological discovery at Anse à la Gourde of a burial in a partially filled posthole (F342; Figure 5: top) resulted in the statement that before the arrival of metal tools (axes, adzes, machetes, and shovels) it was hard to dig a proper size pit to bury a person, so the corpse could be wrapped in a hammock and the enveloped body was placed in a posthole that had been enlarged for this purpose. I was indicated that Kulijaman knew a story of a person buried in a posthole, so we went to his village and he recited the following story:

Narrated by Kulijaman (2000) and transcribed in the indigenous Wayana language by Tasikale Aloupki. Translated from Wayana to French by Takwali Kulisa.
Translated from French to English, and edited where needed, by Renzo Duin

0	<i>Pakolo etatpë jaklëken tonamhe</i>	0	They buried where used to be a posthole
1	<i>Ma uhpakële, Wajjana tilëmëphe aptau, tëwëta wohanëmai</i>	1	A long time ago, when a Wayana had died, they did not know how to burry
2	<i>Ëkep tilëmëphe aptau, pakolo etatpë jaklëken tonamhe</i>	2	Once a person died, they buried him in a hole where used to be the post of a house
3	<i>Malalë tonohanëmai tëkepikom tipitipimihe ejahe tiwilimai ejahe pakolo etatpë enek tihe</i>	3	First they tied up the corps for it would fit into the posthole
4	<i>Malonme mëlë pakolo etatpë tilëmëi ejahe peptamepsik ëkep</i>	4	Next they enlarged the posthole in order to contain the corpse that is a little big
5	<i>Enek tilëmëi ejahe anumna hapon lo awatop eitohme. Tohme wanma ëtikomomna lo awatopomna monkala. Malijamna, hapamna, wiwi, tomomna ëhmelëmne</i>	5	They did this for this was less effort. For they did not have tools to dig into the earth. No knives, no machetes, no axes, nothing [no metal tools] at all
6	<i>Masike malëhkulëken ëkep tëkepikom tonamhe ejahe</i>	6	Thus they buried the corpse like this although this is not ideal

7	<i>Tahkuken tonamhe holope tomomna esike?</i>	7	But what to do to bury when one does not have shovels?
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Buried in the house

The following narrative was written down for me by Tasikale Aloupki in 2000, in the indigenous Wayana language, after long conversations with Wayana elders on settlement patterning. Translation from Wayana to French by Takwali Kulisa. Translation from French to English, editing, and additions between square brackets by Renzo Duin.

1	<i>Uhpak kunehak Wajana tipata kom ënikëpïla. Tihñëlä tipata kom tupijemëi ejahe</i>	1	Long ago Wayana did build their villages. They build their village not just anywhere
~	[lines 2-11 are omitted from this publication as they do not specifically relate to mortuary practices.]		
12	<i>Malalë ëkep tonamhe molo pakolotau ëkep tëmamhe ëutë aptau. Wanma ipokela ëutë tëwëtihe tijoloktai aptau</i>	12	When there is a deceased buried in the house, or several dead in the village. The village becomes uninhabitable due to malevolent spirits [jolok]
13	<i>Malalë ëutëtpë tëkëtëmëi aptau ipok lome ëkepimna tëweihem. Lome ëkepïhpe tëweihem aptau wanma ipokelanma. Akuwalinpëhpe ëleleptënma akuwalinpë tom</i>	13	One can built a village on the same place of a former village, but without dead people [buried there]. When there are dead people [buried in the village] it is impossible. There are invisible spirits [akuwalinpë] that frighten us
14	<i>Malalë talanme pakolo epu awalihtau ëkepjetpë timelekai aptau wanma ipokelanma tëtamolekai, malalë tülëmephe ipunak, lome pijasihpe aptau ipok tumaimëi mëklë</i>	14	Also when we dig a hole to place a post, one can touch the bones of the dead. This is bad, one can get ill and even die, but when there is a pijai [healer] it is good, because he [the healer] can make him [who touched the skeleton] better
15	<i>Malalë talanme inëlä ëutëme tülëmëhem talimaimëi "ipokela man helë talon man akuwalinpë ipokela" tikai pijai aptau. Tinomtaimëi mëlä ëutë</i>	15	One leaves the village during construction if the pijai says "it isn't good over here, because there is a bad akuwalinpë [invisible spirit]." One leaves the village
16	<i>Lome pijasimna molo aptau tülëmephe lëken mëklë ëkepjetpë melekatpon</i>	16	But when there is no pijai, he who touches the skeleton will certainly die
17	<i>Uhpak Wajana tomoja ëkep tonamhe pakolotau</i>	17	Long ago the Wayana buried the dead in the hous

18	<i>Malalë tukusipantau ehmelëken ëkepï tapek tonamhe ejahe. Tipatakem lêken emaminumtoponpi</i>	18	One also buried in the tukusipan [community roundhouse], but not anybody. Only the village chief [was buried here], because he constructed it
19	<i>Malalë empataka nutpi tilëmëphe aptau mëlëlä tak tonamhe. Emami nunpïkom taklë lêken</i>	19	Also those who helped him building [the community roundhouse], when they are dead, can be buried in the same place [in the tukusipan]. They only have this right
20	<i>Malonme tatakamo lomom matïhwë aptau ipëitotpi tom mënëh palake talankom tipatakamo pona titëi “ëwekatak mïhen wai wëtïlëmëjai” tïkai tipakolon kom pata upoimëi</i>	20	Then, when all the chiefs are dead, all the others can move elsewhere, some will see the chief of another village to ask “can I settle here with you?” to ask him a place [in his village] to build houses
21	<i>Talankom tipatakam aketëmëja</i>	21	Some built a [new] village for themselves
22	<i>Ëkep tilëmëphe aptau lêken lomona ënonamila tïteimai talïhnau</i>	22	When the deceased is dead, he will not be buried in the ground, but placed outside
23	<i>Lome ëkep pun matatïhwë aptau timëkenma tëtïhe ëutë. Ëutë talimaimëi ëkep-pokin helanma esike</i>	23	But when the body decomposes, the village will smell bad. People leave the village because they do not like this carcass-smell
24	<i>Malalë, pijai tilëmëphem aptau awomi timoi henma lêken Wajjanaja</i>	24	Then, when a pijai dies, the Wayana obey his word
25	<i>Helë katip mënke mëklë tilëmëphem “ïlemëp tïhwë nai eitëk jonamila, talïhnau henai wai. Kujai wilip tanih potëi. Talïhnau aptau wai ipok”</i>	25	The one dying will state: “when I am dead you will not burry me, I will remain outside. When you treason with me then I will not agree with that. When I am outside [above ground] than it is good”
26	<i>Masike mëlä ailëläken tonamhe ejahe ëkep awomitpi, elam hakënma tëwesi komke</i>	26	So they respect him and “burry” his body according to his word, because they are affright of him [affright of the pijai, affright of the “dark shaman”]
27	<i>Enïk palë tom umakapojai kanëkë kaikui istaino umakapojai katop tom. Ailëläken tonamhe mëkja uno.</i>	27	Because he [the pijai] will otherwise make arrive evil spirits, he will make arrive the jaguar, and many others. Because people are very affright [for the evil spirit] of he who has been buried.

When burial takes place outside the house, a structure is constructed to prevent vultures and other scavengers to attack the corpse. According to Daniel Schoepf (1973, p. 13) this mortuary home is called “*mougla-waléman*”, i.e., a wasp nest analogous its shape (*muklawale* is a species of wasp). On the foreground of the photo of this mortuary home are visible the burned remains of the house of the recently deceased (Schoepf, 1973, p. 14). Archaeologically it will be quite the challenge to distinguish this specifically erected mortuary home from a dwelling in which a person is buried.

Grave goods

As the land of the ancestors is said to be plentiful, Wayana do not take food with them to the afterlife, nonetheless, a dying person may ask for a gulp of cassava beer to complete the long journey to the land of the ancestors. Several arrows and a good bow may be placed next to the recently deceased (or jammed into the roof above his grave) with the intention that the visible soul (*omole*) can hunt and fish in the land of the ancestors. Items that are expected to be encountered in the land of the ancestors, such as gourds used as water containers, potteries, basketries, and the like, are intentionally broken, destroyed, and/or thrown in the river. Modern items that are anticipated not to be encountered in the land of the ancestors, may be requested to be placed in



Figure 8. The burial site of grandfather Tasikale (a collapsed tomb onto which was placed a metal chest with metal pots and strings of red glass seed-beads which remained on site) (Photo by Renzo S. Duin, 2003).

the tomb. A dying person may ask for personal ornaments (such as his pumali feather crown), utensils and tools. “Then he died. He awakened: ‘No, I forgot my knife, get me my knife!’ Then he died. He awakened again: ‘No I still want to drink a little, get me some cassava beer!’ Then he died” (Tasikale, pers. comm. 2000). In this case the person awoke from his deathbed to request his knife, as he was uncertain if this metal trade ware, introduced in historical times, would be available in the land of the ancestors. As Tasikali senior, the grandfather of Tasikale, was not sure if metal objects and glass beads would be available in the land of the ancestors, he requested a metal chest filled with metal pots and strings of red glass seed-beads to be placed on top of his grave, as can still be seen today (Figure 8). Moreover, that the depression into which the metal chest is found is a result of the collapsing of the ceiling of the open burial pit. Archaeological signatures of such personal requests may be the presence of items from, for instance, non-local stones in the grave (if the deceased originated from another place) and in post-contact times even European items such as metal ware and glass beads.

Not facing the rising sun

Wayana eschatology has ramifications for mortuary practice. Regarding the positioning of the body, Ahlbrinck (1956, p. 62; see also de Goeje 1941, p. 117) gave a direction of the head facing the setting sun (West), yet Chapuis (1998, p. 620) specified that a bad person is always facing the setting sun, so his *omole* will not get lost in the labyrinth, yet a good person does not have a prescribed direction of burial.³ Wayana told me that the deceased may face a direction of choice, except facing the rising sun. They further explained that the rising sun with its shimmering light will blind a person, which will prevent him to properly see his way to the land of the ancestors. The *omole* will be blinded and the dazzling soul will lose its way up to the afterlife. When the eyes of the deceased are blinded by rising sun glare, the visible soul (*omole*) will get lost and never find its way to the land of the ancestors (*Kujuli pata*). The corpse is well decorated for the voyage to the land of the ancestors, the same as if this person was to travel to another village on earth.

Cremation

Although there is a variety of burial practices, burying is not the only means to treat the deceased. Cremation provides a direct ascend for *omole* (shadow, visible soul, carnal body) to the land of the ancestors by means of a column

³ “S’il s’agit d’une personne bonne, on l’enterra soit sans orientation précise soit le visage tourné vers le soleil levant....S’il s’agit d’une mauvaise personne on l’enterra toujours le visage tourné vers le couchant, afin que son amole (*sic*) se perde à jamais dans le labyrinthe” (Chapuis, 1998, p. 620).

of smoke rising up. The previous Wayana paramount chief Amaipotĩ, son of Twenke, has requested to be cremated. He told me that he wanted to be cremated in order to quickly arrive in the land of the ancestors in order to gather some of his ancestors and return with them to earth, in reference to the narrative of an Uplui who returned to earth after being cremated (Duin, 2009, pp. 487-490). It would be too long to include this narrative here.

There are few historical descriptions of a cremation. In 1876, Crevaux (1883, pp. 153-155) witnessed a cremation among the Wayana whereby personal objects were placed on the pyre to be burned with the deceased, and the house of the deceased was burned as well (Figure 9). Sixty years later, in 1937, personal objects were burned on the pyre as well (Ahlbrinck, 1956: nrs. 13 and 14 facing page 80; de Goeje, 1941: between pp. 118-119). In this case the recently deceased was seated inside the pyre with her back supported with a plank, similar to a person sitting inside his burial chamber. Due to the rich descriptions, photographs and film, the 1937 cremation will be discussed in detail in a moment.

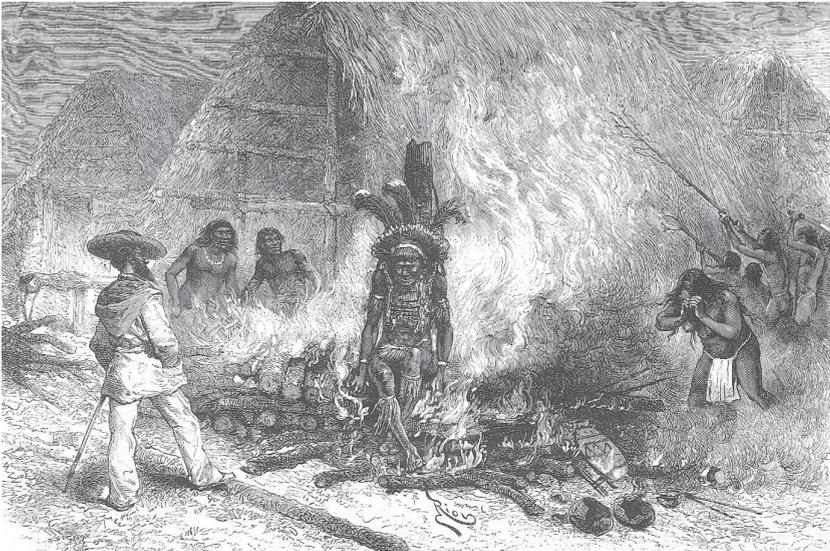


Figure 9. Engraving by Edouard Riou of a cremation with the Wayana witnessed by Jules Crevaux (1883, p. 154).

After cremation, the remaining ashes are collected in a ceramic vessel or a basketry container (Hurault, 1968, p. 63). Schoepf (1973, p. 12) named this urn: *îetpeiné* or in modern Wayana orthography: *jetpě eni*, which literally means: “bone container”. It appears that the preferred type of pottery to be used as urn (secondary use) is the *kalimata*, a vessel with a restricted neck

which is used to redistribute cassava beer. This ceramic vessel or basketry container is subsequently buried under the house of the deceased (Ahlbrinck, 1956, p. 63; Cognat, 1989, p. 225; Grébert, 2001, pp. 58-59; Schoepf 1973, p. 12), under the community roundhouse (Duin, 2009, p. 236), or guarded at the crossbeams of the house of the deceased (Crevaux, 1883, p. 155). Burial of the ashes remaining after cremation literally ground the ancestors in the Wayana landscape.

Endocannibalism

Reincorporation for the deceased may consist of a return to the land of the ancestors, whereas re-incorporation for the next-of-kin may consist of a communal meal. What better than combining the re-incorporation of the living with the re-incorporation of the dead: communal meals wherein the deceased is incorporated by the next-of-kin; also referred to as endocannibalism. According to a testimony dating back to 1769, Wayana are said to have “burn[ed the cremation remains] to ashes on a ceramic griddle. These ashes are crushed in a wooden mortar. They are passed through a basketry sifter, and thrown into a large vessel full of common beverage. They drink this beverage with the ashes during the same day, while they perform the ceremonies that are substantiation of their lament” (Tony, 1843, pp. 230-231; my translation).⁴ By means of such ritual communal meals, ancestors are literally embodied within the next generation.

In the 1930's, Wayana told Claudius de Goeje (1941, p. 119) that *tamojetpë* (the bones of the ancestors; *tamo* = grandfather, *jetpë* = bone) were mixed in a drink as ‘medicine’ (*hemit*). Perhaps Wayana abandoned this practice when people got sick or even died after drinking cremated bones crushed into powder and dissolved in beverage. That the bones of the ancestors could be used to poison other people was brought to my attention by Tënepo, another renowned *pijjai* when I discussed Hurault’s statement that in three occasions (10%) death was due to poisoning by means of *hemit* or *tamojetpë* (Table 2; Hurault, 1968, p. 93):

A long time ago, Wayana did not speak of *hemit* (charm). They only spoke of *tamojetpë*. They cremated the bones of their ancestors, and crushed them into powder, to poison other people. The *tamojetpë* is also named *taphem*. They removed the bones of the ancestors and placed them as a handle for the *olok* feather headdress. The handle of the *taphem tamo*. This was all made very

⁴ “On retire tous les os, on les fait calciner sur un platine de terre cuite, on les pile dans un mortier de bois, on passe ces cendres dans un mortier de bois, on passe ces cendres dans un tamis fait d’arrouma et on les jette dans un grande vase plein de leur boisson ordinaire. Ils boivent cette boisson avec les cendres dans le courant de la même journée, en faisant des cérémonies pour témoigner leur regret” (Tony, 1843, pp. 230-231).

beautifully. Therefore they (*taphem*) are imitated during the traditional dances, for people to see them. A calabash (*tutpë*; *Lagenaria siceraria*) is placed as head. Then the feathers are placed on the basketry body of the *olok*. Then they dance with this. There are thus two kinds of *tamojetpë*; (1) for empoisoning other people, and (2) as the handle of the *taphem* (Edited excerpt from Duin, 2009, pp. 493-495, lines 39-60).

In this context I have to mention that the *taphem* or *tamojetpë* adorned with an elaborate feather headdress (*olok*) is displayed during ritual gatherings commonly known as ‘*maraké*’ (Duin, 2009, 2012). Actually, two *taphem* are exchanged during a ritual battle during the course of a dance named *tapsem tiwetkai* (presentation of the *taphem*) at the eve of the *maraké* (Hurault, 1968, p. 93). During this dance, one Wayana stands in the middle of an arch of dancing men, each with the hand on the shoulder of the preceding dancer and in the other hand a green twig. The central man holds a *taphem* with an old *olok* feather headdress (de Goeje, 1908, p. 144). When dancers dance with *taphem*, they literally dance with the ancestors. In case no genuine human bones are attached to the handle of the *taphem* (*tamojetpë*), Wayana metonymically dance with ancestors. This basketry cylinder holding the bones of the ancestors, once deposited in a small pit, may elucidate archaeologists on the bundles of bones encountered in archaeological context.

Abandonment

Next to burial and cremation, Wayana may abandon the recently deceased. The body may be left behind in a hammock inside the house, as if sleeping. The latter occurred on the Upper Maroni as recently as 1999, upon the last request of the afore mentioned *pijai* Pileike. When I returned to the Wayana in 2000, Tasikale told me that this *pijai* – as Wayana do not name the recent dead, Tasikale referred to Pileike as “*he from across the river*” – had requested to be left alone; laying in his hammock in his house. Intrigued, I asked if I could see “him from across the river”. Tasikale then told me it was better not to visit that place because Wayana are very frightened of *akuwalinpë* (the spirit of the deceased dwelling in the grave), especially because Pileike had said that all Wayana who would land here (and visit his place) would certainly die. Before he passed away (at the age of 73), Pileike requested all residents from his village to move across the river to the neighboring village of Twenke (compare with de Goeje, 1941, p. 118). So I was not allowed to visit this place, and I was not able to see what Henri Coudreau (1893, pp. 119-120) witnessed over a century ago just south of Pililipu: a skeleton hanging in, and enveloped

by, a hammock rocking in the wind.⁵ Tasikale's father Aloupki however stated that it is not good to be seated in a grave: it is better to be buried while lying in a new hammock. There are Wayana testimonies that another *píjai* was left behind seated with his head above the ground while facing the river, as he was fond of the vista over the river. Thus are the last wishes of Wayana.

Abandonment in the forest or mortuary practices taking place outside of the village occur when Wayana suspect foul play from evil spirits in case of unexpected death, such as falling from a tree or drowning. A warm body expresses the presence of *omole*, therefore Wayana conclude that these sudden causes of death are a result of an intervention by an evil spirit (independently or sent by a *píjai*) removing the person's invisible spirit (*akuwali*) while leaving behind a lifeless body. This lifeless body without *akuwali* is left behind in the forest, buried outside, or cremated outside the village. The latter are precautionary actions to prevent evil spirits from entering the village. The place where occurred the "killing" (i.e., the removal of the person's invisible spirit) is subsequently avoided, for Wayana are fearful of malevolent spirits (*jolok*).

This is not to say that all Wayana at all times are fearful of the dead. While discussing these mortuary practices with Tasikale he stated that he is eager to exhume the skull of his maternal grandfather, because he had never seen his grandfather who carried the same name. Grandfather Tasikali had passed away before his grandson was born almost 50 years ago, and his name Tasikale was given to his grandson. Until present, we have not succeeded in identifying grandfather Tasikale on ancient photographs. During our conversations, Aloupki, Tasikale's father, stated that it is not good to play with the bones of the dead, and even with Aloupki passed, Tasikale still has not exhumed the skull of his maternal grandfather Tasikale. Tasikale told me that he has the intention to place the skull of his grandfather in a basket and hang this basket in his house with the purpose of seeing the face of his name-giver. Even though the skull of his grandfather has not yet been exhumed, this intent may be of interest for archaeologists who have encountered exhumated skulls (removed from the body or skeleton) and/or isolated skulls. Once again, albeit somewhat different, an example of deictic relationships requiring referential context and meaning emerging from conjunctural interrelationships.

A case study of two cremations in the Wayana village of Taponte, Aletani (1937)

Two cases of cremation have been well documented by Claudius H. de Goeje. These cremations occurred in the Wayana village of Taponte along the Aletani

⁵ Jean Hurault (1968, p. 64) wrote that in 1964 Toulissima [= Tulisime], another powerful *píjai*, had been left in his hammock under the *tukusipan* of a recently abandoned village at the mouth of the Tampok River.

where de Goeje conducted his linguistic studies of the Wayana language and culture. This rich historical ethnographical material has remained largely unknown and unexploited as the sources are written in Dutch and mostly unpublished. The following is based on accounts, de Goeje's personal diary and photo albums housed in the Museum Volkenkunde in Leiden, film footage by de Goeje housed in the Eye Film Museum in Amsterdam, the publication of the 1935-1938 Border Expedition and de Goeje's 1941 publication. Elsewhere I have described the role of de Goeje and the Border Expedition (Duin, 2009, pp. 89-94). What follows next is a reconstruction of the two cremations that took place in a Wayana village based on the aforementioned sources.

The cremation on July 25, 1937

On July 25, 1937, when the Border Expedition arrived in the Wayana village of Taponte, the cremation was already in progress (van Lynden 1939, p. 849). Claudius de Goeje had joined a provision convoy for the Border Expedition and had arrived three weeks prior, on July 7, in this village which is located on the right or French bank of the river Aletani, border between French Guyana and Suriname – a border which is until present (2023) still in dispute. Some of what de Goeje reported to van Lynden, the expedition leader, has been included in the published report of the Border Expedition (van Lynden 1939), yet the full extent of the event can only be appreciated by including de Goeje's personal diary, photos and film footage, all unpublished.

Van Lynden wrote that de Goeje had reported to him that the woman had passed away at 4 am the night before and that the cremation began at 9 am, yet that the weeping had already started before death of the woman and continued all night (van Lynden, 1939, p. 849). In his personal diary, de Goeje specified that the lamenting by Taponaike, seated next to the hammock with his sick aunt, took place from 2:30 pm to 3:30 pm and started again at sunset (entry on July 24). In his photo album, de Goeje wrote that the name of the deceased woman was Mayawan, widow of a *pijai* or "medicine man", and aunt of Taponaike (a series of ten photographs in RV inventory number A-117-2; Figure 10; see also de Goeje, 1941: four photographs between pages 118 and 119). Village leader Taponte was absent as he visited another village to be treated for a *jolok pile*, yet upon hearing the weeping from his village he decided to return to his village. In his personal diary, de Goeje specified that after the woman had passed, she remained lying in her hammock surrounded by her family members who were weeping and lamenting. That morning, the people in the village were discussing to bury the woman in an abandoned village across the river, yet Juhpali did not feel well and therefore it was not possible to bring the deceased across the river to bury her. He further added

that a Wayana woman stated to him that “it is always when the white man come that there is *kwamai* (cold, etc.) and the Indians die” which topic has been discussed in detail elsewhere (Duin 2021).

De Goeje further reported to van Lynden that, and I quote with additions in square brackets based on de Goeje’s publication (1941, pp. 116-117; see also the 1937 film by de Goeje): “early in the morning, all possessions of the deceased, such as calabashes and cooking pots [as well as other pottery, containers, and spinning utensils] were broken into pieces [with a machete] and thrown into the river [by her husband] under ongoing lamentation [this property is destroyed to prevent the evil spirit *jolok* to return]; the corpse was cremated with all her jewelry, beads and buttons, strings (of beads) and wearing her (beaded) apron and with a cloth covering her head” (van Lynden, 1939, p. 849). The cremation of the corps with all her jewelry will leave little to nothing to archaeologists, yet the intentional breaking of material objects, including pottery, may be recovered in an archaeological context.

A little later that day – de Goeje did not specify at what time – wood was brought into the plaza, and a woodpile or pyre erected in front of the house of the woman who had just passed away (Figure 10). In his 1941 publication, de Goeje (1941, p. 118) described how a floor was made from the special wood (*tepimo* and *etuwe* according to Ahlbrinck, 1956, p. 62) and two pieces were set at an angle so as to support the back of the woman. Her feet were directed towards the west. Then firewood was placed around the body as a cage; or as Ahlbrinck (1956, p. 62) poetically described: “like a bird in his nest.” This construction differs significantly from the setting depicted in the engraving by Edouard Riou (Figure 9). The pyre was lit at the feet’s end, only a few hours after death. While the cremation went on, a hammock and several other personal belongings were thrown on the pyre to be burned as well. In his personal diary, de Goeje specified that the deceased was placed in the woodpile facing west. At 9:40 am, Juhpali pours some petroleum on the woodpile and ignites the pyre. The lamenting continues from all houses in the village.

De Goeje took several photographs (Figure 10) and aided in keeping the roof of the nearby house wet to prevent it from burning. At around 11 am, de Goeje withdraws to his hut near the waterside where he observed the arrival of the Border Expedition fleet. Around 4 pm, the pyre is reduced to ashes with pieces of burned bone (Figure 10). The lamenting stops around 6 pm. In his diary entry of July 26, de Goeje mentioned that the lamenting awoke him around 4:30-5 am. That morning the ashes were buried in the house of Taponaike. Taponaike and the grandson of the deceased cut their hair. The cutting of the hair of close relatives of the deceased is still a practice with Wayana today. As a result, on the subsequently taken photographs, we see Taponaike with his head shaven (Figure 10: bottom center). De Goeje (1941, p. 117) later noted that a man who had contributed to the cremation, got a chest

pain which he attributed to a *jolok pile* sent by the *pijai* husband who disliked his widow being cremated.

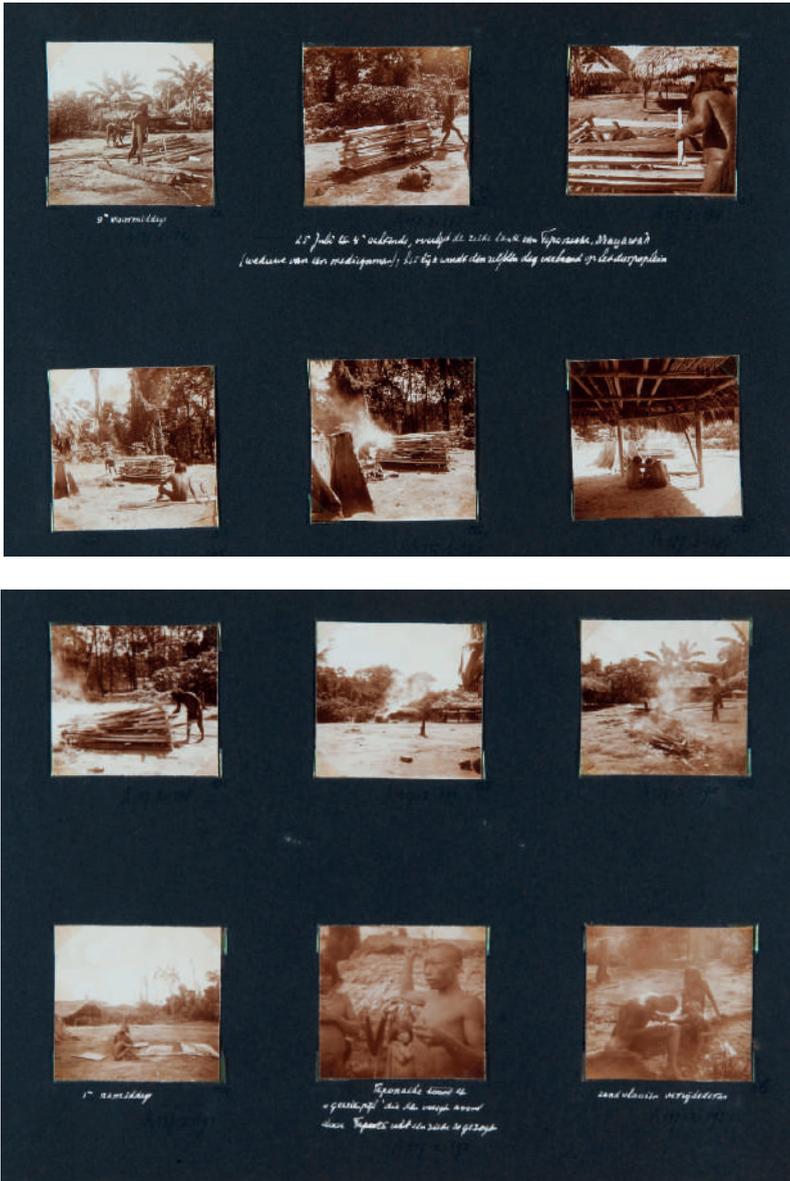


Figure 10. Cremation at the village plaza on July 25, 1937 (2 pages from the photo album from Claudius H. de Goeje. Collectie Nationaal Museum van Wereldculturen. RV-A117-2).

The cremation on August 8, 1937

Two weeks after the above-described cremation, another cremation took place in the same Wayana village. The health situation of a Wayana woman, who on July 28 had been diagnosed by the doctor of the Border Expedition with pneumonia, had severely deteriorated. On August 5, de Goeje mentioned in his diary that a canoe arrived in the village of Taponte: it is Nameyai with his family, including his wife Telelupta who had been diagnosed with pneumonia. The family would stay in the village for the next few days.

In his diary entry on August 8, de Goeje wrote that the lamenting began at dawn, yet the woman still moved and is not dead yet. Around 7 am, Nameyai, the husband of the deceased woman, together with his stepson Yakuman, arrived at the waterside with various personal items such as enameled bowls, a cooking pot and a calabash which are all slashed in pieces with a machete. De Goeje, who has his hut at the waterside, then joined Nameyai and Yakuman back to the village where the woman lay in her hammock... she had passed away. Nameyai threw himself in the hammock with his deceased wife, embraced her, lamenting and weeping. The deceased is wearing her glass beads (*kahulu*), a nice *kamisa* (apron), a mirror tied around her neck, and a knife on her lap. Around the house are many intentionally broken calabashes and pots.

Just as two weeks ago, Taponaike, Twenke and Wenalu bring wood for the pyre. Once the woodpile is ready, they carry the corps to the pyre where she is set on a low bench, feet towards the west, and with her back leaning against two slant pieces of wood (Figure 11). Personal items, as the mosquito net, basketry items and a calabash were placed in the wood pile. An opoto-mat, a cassava press (*tinkii*), and a calabash were placed on top of the pyre and a newly painted wooden ladle (*anekatop*) was stuck trough these objects in order to secure them. At 8:30 am the woodpile is lit (Figure 12). Nameyai, the husband of the deceased, is often lying on the ground lamenting.



Figure 11. The preparation of the pyre for the cremation van Telelupta on Augustus 8, 1937 (from the photo album of Claudius H. de Goeje. Collectie National Museum van Wereldculturen. RV-A117-2).



Figure 12. The cremation of Telelupta on August 8, 1937 (from the photo album of Claudius H. de Goeje. Collectie National Museum van Wereldculturen. RV-A117-2).

Taponte, the village leader, had withdrawn to the upper floor of his house. Today we would say he implemented a self-imposed social distancing as he was sick again. On July 28, Taponte was diagnosed with a *sinusoides frontales* and de Goeje had given him some aspirins. Or perhaps this was out of respect, as Ahlbrink (1965, p. 47) had stated that Namijei [Nameyai] was the leader of an earlier village of Taponte.

The photo album from de Goeje (Collectie Nationaal Museum van Wereldculturen. RV-A117-2; and loose photographs under inventory number: TM-10019492 - 10019504) contains thirteen photographs of this cremation that took place on August 8, 1937. De Goeje specified in his diary that none of the Wayana present commented on him making photographs and filming the event. However, they asked de Goeje to fire three salvos with his gun, “*just as for the white men*”.

During this second cremation, Wayana performed a ritual to chase away the evil spirit *jolok*. If this evil spirit would stay, more people were certainly going to die (de Goeje, 1941, p. 118). Twenke manufactured two arrows tipped with sharp bird bones and shot these into the partly-burned corpse. A square basketry pepper drying mat was thrown several times through the smoke



Figure 13. The cremation on August 8, 1937 (Photographs by Claudius de Goeje: Collectie National Museum van Wereldculturen. TM-10019492 t/m 100119504).

rising from the pyre. Then they asked de Goeje to fire two additional shots, one in the chest, and one in the lower body of the smoldering torso. One of the onlookers declared to “see” the *jolok* depart from the scene, and Taponte, who due to his sickness had remained inside his house, declared he had seen the *jolok* leave the body with a shattered jawbone and a destroyed lower body. Later that afternoon, de Goeje was asked once more to use his gun, this time to shoot at the green zone next to the village as Taponte had heard the evil spirit moaning: “ëuh, ëh, ëh” (de Goeje, 1941, p. 118). A few months later, Wayana declared to de Goeje that a *jolok* from the widow’s abandoned house had visited a neighboring house at night, jaguars roamed around the village, and dogs barked. On February 14, 1938, after de Goeje had already left the village, village leader Taponte passed away and soon after the village where the two cremations had taken place was abandoned.

In 2000, after I had shown the 1937 footage filmed by Claudius de Goeje to the Wayana, they said that it is not good to cremate the body, as in the old days people were cremated while still being alive. This may also have been influenced by the editing by de Goeje, as we see the sick woman arriving and being supported to get out of the canoe. In the next shot, we see the woman being placed in the wood pile, with the two-day interval being excluded from the edited film.

Wayana skulls collected (1939) and donated to the Tropical Institute, Amsterdam

The aforementioned 1935-1938 Border Expedition encountered a band of nomadic hunter/gatherers (Meuldijk, 1939, p. 872-876), and, back in the Netherlands, a proposal for a survey of the rivers Oelemari and Loë was developed to discover and describe these “*wild Indians, terror of these rivers*” (Ahlbrinck, 1956, p. 136). Father Willem M. Ahlbrinck was appointed leader of the expedition. It is during this expedition that they encountered an abandoned village with several open graves from which two skulls were removed during a subsequent expedition. The published expedition reports provide some insight into the collection ethics and practices in Suriname during the colonial era. The expedition reports were published in Dutch and therefore largely understudied and therefore quoted in length (translations from Dutch by the author, Renzo S. Duin).

The 1938 Ahlbrinck expedition

Mid-October, 1938, while struggling upstream against a rapid in the Loë creek, members of the expedition detected behind the trees on the bank a clearing which appeared to be of an abandoned farm field belonging to a nearby

abandoned Wayana village in which were located several burial pits, and I quote in length (Ahlbrinck, 1956, p. 11, 48):

What a surprise, when we, first following the clear creek, then crawling under cotton trees and roucou shrubs [*Bixa orellana*], along cashew trees, slowly going uphill, suddenly at the top, high above the woody weeds, see arise the striking dome of a large Wayana building [monta or tukusipan]. The house is stunning and perfect, of the kind of roundhouses as we know well from many photos. It is empty. We continue walking for now. Is it definite that there are no people here? A second, large building, square. Several smaller huts [are present as well].

The small huts have decayed. In one of these a pit has been dug: four steep walls as with a grave; proportions of a human being. It is definitely a grave, but why is it open? Or was it left open? Why was it dug? About halve a yard next to the grave is a depression in the ground. We enlarge this a little. First, we remove sand, then pieces of tree bark. We see at the bottom: a skeleton, the pelvis, the spinal column of a human being! Now it is clear to us. The Wayana dig for the deceased—as they have done here at least—a pit of about a meter deep. Across this pit they place three sticks. But these sticks do not lie on the rim of the pit, but about ten centimeters below. Over these sticks is a layer of tree bark. Over the tree bark a layer of sand. The dead in the grave thus has an open space and at about a meter above him is the seal of a decimeter thick, of tree bark and sand. This cover had fallen into the pit with the first grave, the walls remain intact. [...]

We return and visit the beautiful, large domed building. Here too we are surprised. We stand in front of three graves: two of adults, one of a small child. Everything is as with the first two graves. Although the ceiling shows holes, it has not yet collapsed. Obviously, we leave the graves untouched” (Ahlbrinck, 1956, p. 48; my translation).

The 1939 Geijskes expedition

Whereas the Ahlbrinck left the graves untouched, perhaps resulting from his ethics as a Roman catholic clergyman, a following scientific expedition was requested to collect skulls from these graves. During the 1938 expedition, Ahlbrinck was able to record and photograph the preparation of arrow-poison (*urali*) and Prof. Dr. Gérold Stahel of the Agricultural Experiment Station (Landbouw-proefstation) in Paramaribo commissioned Dr. Dirk C. Geijskes to return to the Wayana and collect the living plants needed to prepare this arrow-poison. Mid-August, 1939, almost a year after Ahlbrinck, Geijskes returned to this abandoned village on the Loë creek. Next to collect plant material, Geijskes was apparently also commissioned to recover one or several skulls from the graves described by Ahlbrinck (Geijskes, 1957, p. 276).

As evidenced in his own publication, Geijskes was very much aware that the Wayana Indigenous People may not have appreciated the removal of skulls of their ancestors. In his own words: “*When it is time, we will concoct something to get rid of them for a while*” (Geijskes, 1957, p. 277; my translation). Although Geijskes preferred to undertake a three-day trip to the Loë creek with expedition members only, they were joined by several Wayana. Not to arouse suspicion, the expedition members could not deny the Wayana to participate in this excursion.

The creek is still without rocks, hills appear in the surrounding land. It is about noon when we perceive stone plates at the left bank. Next to them is a branch of the river. We enter this [creek] and have arrived at the landing place of the former village where Ahlbrinck had discovered the graves. After strengthening the internal human being, we set out to prospect. In the first round, domed building, that is entirely empty, apart from a round painted plate [maluwana (Duin, 2006); this painted wooden disk was also mentioned by Ahlbrinck, 1956, pp. 48-49], are two graves, both open [no mention of the child's grave]. Nothing can be seen in them, are they empty? Behind another hut are two other overgrown graves. While [the Wayana] Atoe and Medie are searching for all kinds of edibles at the abandoned farm field, Smitje [the Saramakan Maroon Lodewijk Schmidt van Gansee (Duin, 2020)] and I [Geijskes] inspect the first two graves another time. By means of a stick we find in one some bones; chances are that a skull is present as well.

The Indians return from the garden plot and we join them to the boat [canoe]. We shall first make camp for the night. I [Geijskes] commission Atoe and Medie to cut some stems and leaves [for our shelter], many and nice okay, because rains are coming! [A long search for leaves would provide Geijskes for the needed time to exhume some skulls]. Meanwhile, I commission Smitje and Wijngaarden [two Saramakan Maroons] to the graves, armed with an empty tin of rice and a shovel. I stay at the campsite with Adiamë, wife of Medie, not to arouse suspicion. In the meantime, a dark sky emerges from behind the forest. [...]

When the rain lessens, Smitje and Wijngaarden return. They have 2 heads! One complete with lower jaw, the other damaged on the sides and without mandible. Successful, our expedition has found its rewards once more. The tin of rice in which the skulls are located, is covered with grass and weeds so the Indians will not question it” (Geijskes 1957, pp. 278-279; my translation).

The skulls remained hidden during the return trip. The next day, the expedition returns to the village of Wapodimiet (Wapot umit), where the round domed building (monta or tukusipan), the has just been entirely covered with new palm fronds. Based on his recent excursion on the Loë creek, Geijskes stated that “Wapodimiet [Wapot umit] is already housed in his future mausoleum and cradles in his hammock” (Geijskes 1957, p. 280). Without

consulting with the local Wayana Indigenous People, Geijskes concluded his summary of results by mentioning the two “Oajana” [Wayana] skulls for the collection of the Tropical Institute in Amsterdam. A few days later, on August 25, the radio announced that the Germans are at the gates of Dantzic and the war is about to begin (ibid., p. 285). Because of World War II, there was a delay of delivering the skulls to the Tropical Institute in Amsterdam.

Donation of the skulls (1948) and anthropometric studies

According to the original ledger of the Tropenmuseum, Amsterdam, Geijskes in 1948 donated these two Wayana skulls (TM series 1809, number 1 and 2) together with a collection of bones from a shell-ridge in Paramaribo (TM series 1809, number 3). Jouke Tacoma in his PhD thesis titled “American Indians from Suriname: a physical-anthropological study” refers to this collection as the “Geijskes-collection” nevertheless only accounts for the skulls excavated at the Hertenrits and from Kwatta (Tacoma, 1963 p. 63). Tacoma compared the archaeological material with data collected by Drooglever Fortuyn and Lichtveld on living populations of respectively Wayana (Drooglever Fortuyn, 1946) and Arawak and Caribs (Lichtveld, 1954). No mention however of the Wayana skulls collected in 1939 and in 1948 donated by Geijskes to the Tropical Institute in Amsterdam.

Earlier physical anthropological studies on Indigenous populations from Suriname were already conducted in the late 19th century. Inspired by the *Société d'Anthropologie*, founded in 1859 by Paul Broca, Roland Bonaparte in his “*Les habitants de Suriname: notes receuillis à l'exposition colonial d'Amsterdam en 1883*” (Bonaparte 1884) published tables with physical anthropological data collected from Indigenous, Maroon and Creole peoples from Suriname on display at the 1883 International Colonial and Export Exhibition in Amsterdam. Dr. Henri Ten Kate complemented this table with additional physical anthropological data from coastal Indigenous populations collected in Suriname in 1885 (Ten Kate, 1886, 1887). This physical anthropological data included total height, horizontal index of the head, diameter of the head (transversal and antero-posterior), and various shapes and colors of nose, hair, eyes and skin following the classification developed by Broca.

Regarding the archaeological Kwatta Tingiholo material from Suriname, the context is described as: “some large and complete pottery vessels, filled with black soil, and others filled with human bones... Skeletons in a stretched position, and others in a crouching position were recovered from this [excavation unit]. One of the skeletons in a stretched position had the skull at some distance from the vertebral column, probably so that the head could be covered by an upturned pottery bowl” and in the original plan of the excavation unite drawn by Piet Bolwerk of the Surinaams Museum,

Bolwerk has written “*bowl covering skull*” next to skeleton S-15 (Tacoma *et al.*, 1991, pp. 16, 49), yet when Tacoma studied these skeletal remains, S-15 was absent (*ibid.*, p. 55). In the plan view of excavation unit 6, Bolwerk has further specified the finding of a “*lizard or cayman made from shell*” which is not further mentioned. Little to nothing is said about taphonomy processes or mortuary practices among present-day Indigenous communities in Suriname. The various radiocarbon dating samples center around 1050 +/- 100 BP (GrN-8249: Tacoma *et al.*, 1991 p. 77) which corresponds with about 950-1050 cal. AD. These radiocarbon dates indicate that the broad range of mortuary practices in Suriname, including crouching and stretched positions, burial in urns and covering skulls with pottery bowls, goes back at least about 1000 years.

The main focus of the physical anthropological study of the archaeological material from Suriname was if there had been artificial modification of the cranium: tabular “flat-head” deformation or conical shape *deformation circularis* (Tacoma, 1963; Tacoma *et al.*, 1991). In his 1963 dissertation, Tacoma defended a statement of caution to the use of cranial indices (such as transversal and antero-posterior diameter of the head) as a reference material, since it can be assumed that artificial deformation of the head had been in vogue among the Indigenous Peoples of Suriname (Tacoma, 1963: Thesis statements).⁶ On this occasion, I would like to take the opportunity to briefly address skull modification among the Wayana. During my research visits among the Wayana of the Upper Maroni River (from 1996 to present), I have on several occasions witnessed childbirth and subsequent ritual practices. One of these post-partum rituals included skull modification. In the weeks following birth, the Wayana mother sat the new-born every morning on her knee, with one hand placed on the frontal bone and her other hand placed on the occipital bone with the fingers up onto the parietal bones to massage the head. The Wayana explained to me that this was to make the head beautiful and round (pers. comm. 1999). As this is an intentional act, I advocate to include this as a method of skull modification, most likely this act to shape the head round is to distinguish from ancient practices resulting in flat-heads or conical heads. However, this Wayana skull modification to make beautiful round heads is of an order not easily observed in the archaeological record, nevertheless it is an intentional practice of skull modification.

Matatop Luwekwao (the village of the dead at Loë creek)

Wayana oral history accounts of a village located on the Loë creek where several Wayana died in a single event and buried hastily in the village (pers.

⁶ Stelling 1: “Er moet worden aangenomen dat kunstmatige deformatie van het hoofd ook bij de Indianen in Suriname in zwang is geweest; dit betekent dat voorzichtigheid is geboden bij het hanteren van de schedel-indices als vergelijkingsmateriaal” (Tacoma, 1963).

comm. Elina 04/10/2022). The location and the genealogical data correspond with the aforementioned village from where skulls were recovered. It concerns the village named Olosiwalahpan, though better known as *matatop* referring to the many bodies that were left in the village to decompose.

Many Wayana had been invited to participate in the festivities of an *eputop*, a ritual more commonly known under the term *maraké* (Duin, 2009, 2012). Wayana were dancing, singing and drinking. Amongst the visitors were Maipo with his wife Tailu and their two daughters Ekinau and Kumakau. The village of Maipo was located at the mouth of the Loë creek, near the Aletani. They had to paddle upriver, spent the night halfway, and arrived the second day in the village where the festivities took place. The village was located on the righthand side when going upriver. The festivities, dancing and drinking lasted the entire day.

The next morning, however, people began to vomit. Maipo was the first to die, and he was buried in the communal roundhouse (*tukusipan*). Other people were vomiting as well, and began to pass away. The cause of this great dying remains unknown, yet may be related to food poisoning, potentially due to ill-prepared cassava beer. Some people were buried in the *tukusipan* as well, others were buried in their houses. Many Wayana die that day, yet not everybody is buried, at the end, some are just left behind on the ground to rot. Maybe up to a dozen people died that day. There is mention of a white man (*palasisi*), a friend of Maipo, who was present that day, yet his name is not remembered. People return to their homes. Tailu returns with her two daughters to the village of Maipo at the mouth of the Loë creek, near the Aletani, yet Maipo remains behind in *matatop* (the place of the decayed people), buried in the *tukusipan*.

Many decades later, Kumakau with her daughter, her son-in-law, and with her grand-children, made yearly visits to the Loë creek, the beautiful creek where she grew up, and where it was good to have pick-nicks and a holiday. Her children and grand-children remember how Kumakau always began to cry when they passed by Olosiwalahpan, the now abandoned village where her father and many other Wayana had died. They spoke in low voice when passing by the village, and did not go ashore, as many *akuwalinpë* (the spirit of the dead) roam around in *matatop* (the village of the decayed people).

Maipo and Tailu were the parents of Ekinau and Kumakau. Ekinau was the wife of grandfather Tasikale, mentioned earlier in this article. Kumakau was the wife of Janamale who in the 1950's was the *granman* or chief of the Wayana. Janamale, together with Atoe, Medie, Makalé, and Santé, joined the 1939 expedition when they returned to Paramaribo (Geijskes, 1957, p. 281, 284). In the 1940 census, Lodewijk Schmidt included Tailu as a resident in the village of Janamale (Duin, 2020, p. 156), yet Maipo is not included in this census, confirming he had passed before 1940. It has been the descendants

of Maipo and Tailu and their families who have hosted me during my visits of the Upper Maroni Basin from 1996 to present. Most likely they never told me about *matatop* before as they knew that I as an archaeologist was eager to visit ancient villages, yet they did not want me to visit this ancient village where many people had died. It is most certain that one of the skulls recovered in 1939 during the Geijskes expedition from the grave in the *tukusipan* in the abandoned village was the skull of Maipo who had passed a few years prior and was buried hastily on the day that many Wayana died.

Concluding reflection

This ethnographical and historical outline of mortuary practices among the Wayana provides a framework of complex and varied indigenous Amazonian mortuary practices that allows us to further a conceptualization of exhumed heads, flexed position, tied extremities, ceramics placed in front of the face, animal bones in the grave, among others, as encountered in archaeological contexts. A multitude of disciplines is needed to further our understanding of the complexity of indigenous mortuary practices; similarity, variety, and individualization of personal treatment of the dead in past societies on mainland South America, in the Caribbean, and beyond. Archaeologists excavate and catalogue the grave inventory. Physical anthropologists describe the human remains and may provide an understanding of taphonomic processes. Ethnohistory and ethnography may provide insight into indigenous belief systems. A ritual such as the *toimai* performed by the Wayana Indigenous People will leave archaeological signatures which we may not recognize from an exclusively western perspective.

The question whether the Late Ceramic age people from Anse à la Gourde, Guadeloupe, conducted similar mortuary practices as contemporary Wayana in French Guiana is actually an inversion of how this study unfolded. In 1999, based on my archaeological experience at Anse à la Gourde and my ethno-historical research on the Guianas, I had sketched a body half seated in a hammock with tied arms and legs and a ceramic vessel tied in front of its face (Figure 1). As discussed earlier, during my ethno-archaeological research on architecture and settlement patterning, I participated in building houses. After we had been warned for a grave at the site prepared for construction, I placed this sketch amidst a series of historical drawings and engravings which I discussed with Wayana. When the sketch of the body in his hammock came along, Wayana asked: "Where did you find this drawing, *because we do this too!*" I explained the archaeology at Anse à la Gourde, and what had been found. This sparked a dialogue on Wayana mortuary practices as outlined in the present article. When discussing mortuary practices, we should not forget that, even after death, the corpse remains (part of) a relationship body from

which bones can be taken with the intent to be reburied, possibly with other human remains. We must not forget that the carnal body (a substance body), objectively studied, is a social body ([part of] a relationship body), situated in subjectivity. The body is an ongoing process emerging from interrelationships... and this continues after death.

To give the final word to the Wayana who have passed, I here present the story of a Wayana elder who requested to be buried in the central plaza as narrated in 2000 by Kulienpë (recording time: 11 minutes; narrated in the Wayana language, transcribed by Ronnie Tikaime; translated to French by Takwali Kulisa; translated to English by Renzo Duin. Notes and additions between brackets are by the author). Not only does this narrative conceptualize Wayana mortuary practices, it also provides insight in the interrelationships between people during mortuary practices, and the subjectivity of being buried in the plaza.

0	<i>Alili eitoponpë</i>	0	The story of [the man named] Alili
1	<i>Alili pijai kunehak, Alili. Masike kunilëmëp tipëken mai pijai iwesike. Talanme tilëmëpkaneke. Mëlëkatip</i>	1	Alili was a pijai [due to its ladenness and discrepancy with the definition of 'shaman' I prefer the local Guiana term pijai]. Then he is dead, the other one killed him for he was a pijai. Maybe he had killed somebody. It is like this
2	<i>Ëtikatohm? Tanme jolokpïlehpe, tanme kuwamai. Ëtikom, tanme jemnë, tanme tuwalëla</i>	2	Why [had he died]? Maybe it was because of the evil spirit arrow, maybe it was kuwamai [influenza (Duin, 2021)]. Unimportant what, maybe by fever, one does not know [how Alili died]
3	<i>Masike kunilëmëp tamo, ehëtinpi Alili. Masike mëlëpëk wekalëjai. Ma kunilëmëp tamo</i>	3	Then the grandfather is dead, his name was Alili. Therefore I'm going to tell this. Well, grandfather is dead
4	<i>Ëh, tiwuhlepsik, tapsik tinikhe? Tanme tinikhe, tanme tinikhe tinikhe, tanme 4 awaina, tanme 5 awaina</i>	4	Eh, sometime later, how many nights? Maybe one time sleeping, maybe two times sleeping, maybe four days, maybe five days
5	<i>Ma, tamo kunilëmëp. "Ma ilëmëpjai," tikai tokon noja, Aluwakalija</i>	5	Well, grandfather is dead. "Well I'm going to die," he said to his brother, [Alili said] to Aluwakali

6 <i>“Īlēmēpja; masike konampok. Konamkē epeitoja. Konampok mihen molo, lamnapo hewai, pakolotao. Helawai mon he lamnapohe,” tīkai Alili tokon noja, Aluwakalija</i>	6 “I’m going to die; therefore I want to be buried. You are going to bury me with your helpers. I want to be buried over there, in the middle of the village, inside the house. I want to be there in the middle,” said Alili to his brother, to Aluwakali
7 <i>Masike “Mētawohanēmeilep pehe,” tīkai akon. “Mētawohanēmeilep pehe pakolotao, lepeikē tipakolok lepe manahe, sin lepe kupakolon nu, tukusipan nu. Helē tao lepe eikē?”</i>	7 Next “You are going to be unhappy,” said his brother. “You are going to be unhappy inside the house, or when you have your own house, but that is our house, the tukusipan [community roundhouse]. So you will stay in there?”
8 <i>“Uwa, helē tao helawai, peitopit mēnmēkja. Onohtompēk peitopit mēnmēkja, ētikompalēpēk,” tīkai Alili</i>	8 “No, I do not want to be in there, for there will be children who will arrive. Children who will search for red dye, searching something” said Alili
9 <i>“Pīlolop hewai. Kapuleīnai kapulēpoi,” tīkai mēklē tokonoja, Alili</i>	9 “I want to be in the plaza. Do as I say,” he, Alili, says to his brother
10 <i>Malonme “Īlēmēpjai. Masike hemalē jenī imelekapok, jenī imelekapok hemalē. Molo lamnapo,” tīkai inēlē</i>	10 Next “I’m going to die. Thus start digging today, start digging today. Over there in the plaza,” he said
11 <i>“Āhpelanai, eikē tījaipētukepētuku nai. Eikē mahekohek manai,” tīkai Aluwakali tokon noja Alilija, tilēmēphem mīja</i>	11 “Be without yarns, and be aware of the spirits. For you want to be buried like this,” said Aluwakali to his brother Alili, [he said] to him who is going to die
12 <i>Malonme tawai ipeitokom moja. Waken, tawakephe. Ma makakaneha? Uwah, nēsik anumalēpona man</i>	12 Following the helpers start digging a hole. Finished, ended the dig. Well, is it finished? No, not yet, it will be finished tomorrow
13 <i>Ēh. Mēlēhnē tīkohmamēmēi, tawainai. Maka. Atpēkaneha ēhmelē pētuku</i>	13 Eh. Night falls, and it dawns. Done. All is ready and well prepared
14 <i>“Jenī mītēu japuluka mipetukwatēu kanawatpē. Kanawatpē helēken wai. Tīhahka tom helawai wīkanepēhe,” tīkai inēlē. Masike upak kanawatpē tīpetukwai pētuku enī eneka tīhe</i>	14 “In order to cover the pit, prepare planks of an old canoe. I want the [planks of] old canoes. I want the planks like this,” he said. Then the old canoes were prepared to cover the burial pit properly

15	<i>Malonme, "Ma, këlëkpa, këlëk. Masike këlëpok mëlëme. Titëi inëlë, tipantëkë tihutih tikai inëlë. Ènetsehnëpsik kunehak tamo Alili. Masike titëi inëlë tënija. Mëlëkatip</i>	15	Next, "Well, take me, take me. Therefore take me like this." He goes, he walks step by step. He still sees a little his grandfather Alili. Then he goes near the grave. It is like this
16	<i>Masike, "jakonopsiken nilëmëpjaha, jakonopsiken wenimanmei, mihen lëken na"</i>	16	Then, "My brother is going to die, I am going to burry my brother in the grave, with respect"
17	<i>Aluwakali tëhamai alëlihtao</i>	17	Aluwakali weeps when he takes his brother
18	<i>Ulë titëi ulëhnë; ulëhnëpsik</i>	18	He goes, still alive; [Alili is] still a little bit alive
19	<i>Malonme, "ënikjapëhja? Këpëikë! Ènik ne japeinemehle mëje jenijao," tikai inëlë, tamo Alili</i>	19	Next, "who holds me? Hold me! Who is going to hold me down in the hole," he said, grandpa Alili
20	<i>"Itëkëh," mëlëkëjja tikai, akon matikai. Aluwakali matikai: "Itëk apëita ëtamu!" tikai</i>	20	"I'm leaving," he says, the brother to the other one [his friend]. Aluwakali said to his friend: "Go and hold your grandfather [in the grave]!" he said
21	<i>Malonme titëi ohwelo mijanhak sike. Som, ejaptailë tëpëihe. Kilik kai, opsatuk. Apëinehnë taptunuke sike helë katip, taptunuk. Mëlëkatip</i>	21	Then the other goes into the deep pit. Standing-up, they take him by his arms. One is jumping into it. In this manner he supports him, they arrange with a stick behind his head. It is like this
22	<i>Masike tipetukwai ejahe ëheja tihe ipuputom</i>	22	Thus they arrange well his legs and his feet
23	<i>"Tahenai man, huwa hewai, huwa pëtuku," tikai inëlë. Pëtuku ipupu tipetukwai. Mëlëkatip. Ah maka aptao, makaka meha</i>	23	"Place them there, and that is what I want, and like that it is good" he said [He is not dead yet!]. They arrange well his feet. It is like this. Once it is done, it has finished
24	<i>"Mëtapupojaka hemalë?" tikai</i>	24	"Do you want [that] we cover you today?" he said
25	<i>"Kaputëk, kaputëk! uhpak wai titëi," tikai inëlë. "Uhpak wai titëi! Kaputëk, pëtuku kaputëk</i>	25	"Cover me, Cover me! I have already left" he said "I have already left! Cover me, cover it well. [With opoto-mats alongside the wall and the planks of the canoes above]
26	<i>Lo helapitë wai. Jeneimë tihwë ëja aptao, lo hewai," tikai inëlë</i>	26	I do not want the ground yet. When you are going to see me [in three days], I want the ground [to cover the grave]" he said

27	<i>Tin lo, tin lo, eni awatpë. Mëlëkatip</i>	27	He places some sand, he places some sand, there is no longer is a hole [visible]. It is like this
28	<i>Malonme tapuhe tolop pëtuku sin eni. Helëkatip eni, lome tanënapsik, kanawatpë huwa. Kanawatpë huwa, kanawatpë. Masike pëtuhku tihe lomna</i>	28	Then the cover the burial pit well with earth. Like the hole over here [the narrator indicates a nearby depression in the ground], just a little bit [a depression], and with [the planks of] an ancient canoe. And a piece of a former canoe, and another plank of a canoe. Thus they have well done it without ground [without filling the burial chamber]
29	<i>Malonme; "Ma ëhalë tëkële!" tënijak taputihwë. "Ëhalë tëkële. Kupanai katëinaji, awapnaji!"</i>	29	Next; "Well, you will leave," he said in his covered burial pit. "You will leave. Do not break my ears, stop!"
30	<i>Tëhalëimëi tot, onamitpon kom, tulululu, iwekitpitom tëhalëimëi. Maka</i>	30	They, the people who buried him, leave one after the other, all relatives leave. End
31	<i>Malonme tinikhe inëlë. Mëlë tikohmamhe inëlë, petoh. Anumalë petoh, anumalë petoh, anumalë petoh, ëhelowaa tinikhe</i>	31	Then they sleep. The night is very dark, the evening (7 – 8 PM). The next morning, the following night, the following night, after three nights sleeping
32	<i>Moloinë akon noja; "Ma, helë ailë kenekële kunka jakonpoh. Masike hene tatën nule jakon nopsiki, tanme nimata</i>	32	Then he says to his brothers; "Well, this is the day, our brother wanted us to see him. Thus let us see our brother, maybe he has rotten. [Thus the family had been outside this village during these days]
33	<i>Talanme këtakametëhe ipokinke," tïkai mëklë, akon, tamo Aluwakali</i>	33	Maybe we will be intoxicated by the smell," he said, the brother, grandfather Aluwakali
34	<i>Malonme temekhe tot, tulululu, ëhmelë</i>	34	Then they arrive, one after the other, all [arrive]
35	<i>Moloinë tapu waimëi powep; imna, imna huwa</i>	35	Then they lift the cover; nothing, and nothing
36	<i>Akename tonamhe taptunuk, mëlëm nahle aptunutpi tomom. Nahle ahmitpi tomom, nahle itamit enpësik, tanme kuluwakaphap tanme. Mëlëkom momnahle</i>	36	First when they had buried him he had a backrest, but the backrest is no longer there, all has disappeared. The bench is no longer there, nor are the cigarettes, maybe not even his trunk maybe. All his belongings he had taken with him

37	<i>Ma, itëtoponpi tënei mihja: lonailë mèlaimë nawatpi katip mihja, mèlaimë nawatpi katip pëtuḥku</i>	37	Well, they see where he has left: the hole is like the burrow of a giant armadillo. Really like the burrow of a giant armadillo
38	<i>Lomnahlä ailë tëhetpëtse. Opsatun tïkai ënunomna tëwëtïhe. Tawai nai pëtuḥku</i>	38	They descent to the bottom without anxiety. They dig well
39	<i>Ankomhak sike, ankomhakëla</i>	39	It is already midday, not even midday
40	<i>Tanme mon iwehanu kunma tihwë lëken, tëneimei imnahle. Upunak mijälëken. Lome ilomonmela itëtop. Huwa hapon tupjehapon, mëlëkatip itëtoponpi</i>	40	Maybe they continue just above, they no longer see anything. Where he has left is not horizontal. But there no longer is earth where he has left. And it is at an angle downwards, but really straight where he passed
41	<i>“Eh, maheka kunehak jakonopsik, ahpelanma jakonopsik pijai men. Ma, jakonopsik ahpelanma,” tïkai akon, tamo Aluwakali</i>	41	“Eh, my brother wanted to be like that, my brother really was a pijai. Well, my brother really had spoken the truth,” said his brother, grandfather Aluwakali
42	<i>Masike tëtahamai ëhmelë akon, iwekïtpi tom, hemele kuwililik tïkai tëwëhamoi</i>	42	Therefore all his brothers are sad, also the family, all cry and weep
43	<i>“Uhpak jakonopsik nitën, tan nëlanma man jakonopsik. Ahpelanma kunehak jakonopsik pijajime,” tïkai inëlë</i>	43	“A long time ago my brother has left definitively, he no longer is here. It was the truth and my brother was like a shaman” he [Aluwakali] said.
44	<i>Masike tëponomai tëkelehelë lo enpi. Tëponomai mëimëi lëken. Tëponomaimëlëken tëpetunuk tom ënilïla. Sin palankatom ënilïla. Èhmelë tuwuptëimëi lëken</i>	44	Thus he covers the hole with earth. They just cover the hole. They fill it up and they place nothing in the pit. They do not place planks. They just fill [the former grave] completely
45	<i>Uhpak titëi mëlëkatip kunehak tamo Alili, pijai menma</i>	45	It was grandfather Alili who is gone for a long time, he really was a pijai
46	<i>Ma huwalëken tamo patatpë ekalëtpë ija</i>	46	Well, it is like this the story of the former village of my grandfather ends
47	<i>Maka</i>	47	The end

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Diversity and similarity in the Ceramic Age lapidary production in the Caribbean islands

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Abstract

Personal ornaments, and especially those made of lithic materials, are an important part of the archaeological record, as they provide valuable insights into various aspects of past human societies. In the Caribbean islands' Ceramic Age, lapidary artifacts exhibit remarkable abundance and diversity in terms of both raw materials and typology. Robust analysis of extensive datasets enables to address the questions of spatial and temporal distribution and diversity of lithic beads and pendants during this period. I demonstrate that the Early and Middle Ceramic periods exhibit higher raw material and typological diversity compared to later periods. Mineralogical and typological similarities are shown to be greater between sites attributed to the same period than between geographically close sites. The lapidary production during the Saladoid differs significantly between the continent and the archipelago. Some indications pointing to the Isthmo-Colombian area are proposed, which will require further research to enhance our understanding to the same level as that of the Caribbean islands, enabling advanced comparisons.

Key words: *Caribbean; Lapidary artifacts; Ceramic Age; Beads; Pendants; Raw materials.*

Diversidad y similitud en la producción lapidaria de la época Cerámica en las islas del Caribe

Resumen

Los ornamentos personales, y especialmente aquellos hechos de materiales líticos, son una parte importante del registro arqueológico, ya que

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proporcionan valiosas perspectivas sobre varios aspectos de las sociedades humanas pasadas. En el período Cerámico de las islas del Caribe, los artefactos lapidarios exhiben una notable abundancia y diversidad en términos tanto de materiales crudos como de tipología. Un análisis robusto de conjuntos de datos extensos permite abordar las preguntas sobre la distribución espacial y temporal, así como la diversidad de cuentas y pendientes líticos durante este período. Demuestro que los períodos Cerámicos temprano y medio exhiben una mayor diversidad de materias primas y tipologías en comparación con los períodos posteriores. Se muestra que las similitudes mineralógicas y tipológicas son mayores entre los sitios atribuidos al mismo período que entre sitios geográficamente cercanos. La producción lapidaria durante el Saladoide difiere significativamente entre el continente y el archipiélago. Se proponen algunas indicaciones que apuntan al área istmo-colombiana, las cuales requerirán más investigación para mejorar nuestra comprensión al mismo nivel que la de las islas del Caribe, permitiendo comparaciones avanzadas.

Palabras clave: *islas del Caribe; artefactos lapidarios; período Cerámico, cuentas, pendientes, materias primas.*

Introduction

The archipelago formed by the Caribbean islands is a specific region within the America, likely the last region where people settled on the continent (Wilson, 2007), but the first to be (re)discovered by C. Columbus. It has been inhabited first by hunter-gatherers and then horticulturalists and ceramic users few millennia between its first peopling and the European colonization (Keegan, Hofman and Rodríguez Ramos, 2013). The periodization of the Ceramic Age for the Caribbean islands primarily relies on the styles of ceramic production, following the pioneering work of Rouse. However, recent archaeological research now integrates other parts of the archaeological record to better understand the evolution of the lifestyles of the indigenous peoples of this period (see a summary of this in Bérard, 2019). It is worth noting that despite this renewal of archaeological research in the archipelago, the Saladoid/Post-Saladoid segmentation remains strong and persistent, even when considering other analytical criteria.

This major distinction has also been regularly supported by the observation of changes in the production of stone ornaments, with significant and diversified production attributed to the Saladoid period, while the populations occupying the Antilles during more recent periods were less focused on this craft (Bérard, 2013; Hofman *et al.*, 2007, 2014; Knippenberg, 2007; Rodríguez, 1993). Unfortunately, archaeological interpretations based on personal ornaments in the Caribbean rely on qualitative observations rather

than robust data. The specific archaeological record that personal ornaments constitute holds significant informative potential for archaeologists. Beads and pendants are indeed used worldwide to decorate not only the body but also clothing, humans, animals, and beyond their decorative aspect, they serve to display one's social status, wealth, gender, as talismans, good luck charms, currency, or other attributes recognized by society members, such as the biological maturity of the wearer (*e.g.* Nguru and Maina, 2020; Nobayashi, 2020; Munan, 1995; Heizer and Fogelson, 1978; Wiessner, 1982; Gassón, 2000). Vanhaeren and d'Errico (2006) summarize the various topics approached by archaeologists through the study of adornments. This list remains relevant, as shown by more recent publications on these same topics. For earlier periods, the study of the appearance of the first adornments and thus the symbolism behind them opens a window into the cognitive abilities of our ancestors (*e.g.* Bar-Yosef Mayer *et al.*, 2020; Vanhaeren, Wadley and d'Errico, 2019). For later periods, studying the manufacturing techniques shed light on the technical abilities of ancient craftsmen (Georjon *et al.*, 2021; Burley and Freeland, 2019; Raymond *et al.*, 2022), to examine the exchange networks of these populations, and to assess the economic significance that a particular type of material production may hold (*e.g.* Gomes, 2021; So, 2018; Miller and Wang, 2022; Carter and Dussubieux, 2016; Stiner, 2014). Furthermore, the distribution of adornments in burials may help to better understand the social organization of a group (*e.g.* Wang and Marwick, 2021). It is also possible to trace back to a certain segmentation in space and time of a population into ethno-linguistic groups (Vanhaeren and d'Errico, 2006; Rigaud, d'Errico and Vanhaeren, 2015; Newell *et al.*, 1990; Miller and Wang, 2022), an application that would be really interesting for the study of the Caribbean islands. During recent years, new data have been created with respect to lapidary production in the Caribbean islands, especially for archaeological sites located in the French islands (Queffelec *et al.*, 2018, 2020; Queffelec, 2022), in Grenada (Falci, Knaf *et al.*, 2020) and Dominican Republic (Falci, Ngan-Tillard *et al.*, 2020). These studies have shed light on the diversity of production both in terms of types and raw materials, the techniques employed to produce these beads and pendants for different periods. However, the chronological and geographical comparison of productions have not been addressed in these recent works. A compilation of these new results with literature have been published for the entire archipelago (Queffelec, Fouéré and Caverne, 2021), and this article will test, in a quantitative manner using statistical analyses and graphical representations, the empirically observed differences between occupation periods, the homogeneity of production in the region, as well as the links they could indicate with the South American continent.

Materials and methods

Periodization

If, as previously stated, the Caribbean islands have been inhabited for more than 7000 years, the work presented here focuses entirely on the Ceramic Age, since no significant lapidary production¹ is known before in the Caribbean. The Ceramic Age, traditionally subdivided on the basis of changes in ceramic production (decorations and shapes), and lasting about 2000 years, begins with the first Saladoid/Huecoid sites and ends with the arrival of European settlers. The Saladoid designation, like all other series (with the suffix “-oid”) and sub-series (with the suffix “-an”) (Keegan, Hofman and Rodríguez Ramos, 2013), takes its name from the eponymous site where a particular type of ceramic production was identified, here the Saladero site in Venezuela (Cruxent and Rouse, 1958). The diversity of appellations is great in the Caribbean, and as Keegan and Hofman recently reminded us (2017):

Archaeologists have used a bewildering assortment of names: Saladoid, Ostionoid, Troumassoid, la Hueca, Island Carib, Island Arawak, Taíno, Lucayan, Agroalfarera, Ciboney, and so on. The challenge is to make sense of these various names, some of which even we are not sure what they really mean.

Currently, the majority of archaeologists agree that this classification into series and sub-series, supposed to represent particular geographical areas and chronological periods, has significant limitations, but is still necessary for communication among researchers in the Caribbean area (Keegan and Hofman, 2017). The most commonly used scheme, reworked from Rouse's pioneering work (1992) and involving complex local variations among the islands, proposes for the Lesser Antilles a division into Saladoid and a group of different facies often integrated under the term post-Saladoid (Keegan, Hofman and Rodríguez Ramos, 2013; Hofman, 2013). The former includes two main subseries: Huecan Saladoid (named after the La Hueca site in Puerto Rico), whose sites are rather old and mainly concentrated in the northern part of the Lesser Antilles, and Cedrosan Saladoid (named after the Cedros site in Venezuela), which lasted longer and is found in all the Lesser Antilles. The post-Saladoid, on the other hand, encompasses a fairly wide variety of local variations mainly within the Troumassoid (Troumassée site in St. Lucia) and Ostionoid (Ostiones site in Puerto Rico) series, themselves subdivided into subseries such as Troumassan, Suazan, Ostionan, Elenan, Chican, Marmoran (Bérard, 2013; Hofman, 2013). The Ceramic Age can also be called Neo-Indian, as is sometimes the case in South America (Navarrete, 2008;

¹ we will use the term *lapidary* in this manuscript for the personal ornaments made of stone.

Rouse and Cruxent, 1963), to emphasize not only the evolution of ceramic production but also all the changes in the way of life during this transition (Bonnissent, 2013). It is then divided into Early Neo-Indian and Late Neo-Indian (Bonnissent, 2008, 2013; Bonnissent *et al.*, 2013). Another school also proposes to put Huecoid and Saladoid on the same level, respectively under the names of Agroalfarero I and Agroalfarero II, the former having allowed for the local development of Agroalfarero III (Ostionoid) and IV (Taíno phase) (Chanlatte Baik, 2013). To name the periods in a homogeneous way, without relying exclusively on the characteristics of the ceramic assemblages, and for the whole area of the Lesser Antilles, B. Bérard (2019) proposes to divide the Ceramic Age into four periods: Early, Middle, Late, and Final Ceramic (Table 1). In each of these periods, which succeed one another in time within the same space, several cultural components are grouped together, such as the Early Cedrosan Saladoid and Huecan Saladoid/Huecoid in the Early Ceramic period. The Late Ceramic period, on the other hand, groups together the numerous variations of Troumassoid, Ostionoid, and even the late Cedrosan Saladoid, which are geographical variations in ceramic production, but contemporary and grouped together in this way for a better overall view and understanding for the non-specialist. This, in particular, makes it possible to integrate other disciplines into the ongoing discussion about the cultural evolution of the populations of the Lesser Antilles and Puerto Rico during the two millennia of the Ceramic Age. It is on this periodization, since one must be chosen, and because it allows for regional-scale study, that this work will be based.

Table 1. Periodization of the Ceramic Age in the Lesser Antilles and Puerto Rico (mod. after Bérard, 2019)

<i>Dates</i>	<i>Period</i>	<i>Cultural component</i>
1100 A.D. - contact	Final Ceramic	- Suazan Troumassoid - Marmoran Troumassoid (Marmora Bay) - Chican Ostionoid / Chicoid
750 A.D. - 1100 A.D.	Late Ceramic	- Troumassan Troumassoid - Marmoran Troumassoid (Mill Reef) - Ostionan Ostionoid - Elenan Ostionoid - Late Cedrosan Saladoid - Caliviny
400 A.D. - 750 A.D.	Middle Ceramic	- Middle-Late - Cedrosan Saladoid
(400 ?) 200 B.C. - 400 A.D.	Early Ceramic	- Early Cedrosan Saladoid - Huecan Saladoid / Huecoid

Datasets and subsets

The database of 80 archaeological sites and more than 8000 artifacts related to the lapidary production during the Ceramic Age in the Caribbean islands (Queffelec, Fouéré, and Caverne, 2021), whose aim was to be exhaustive, need to be sub-set for the diversity and similarity analysis conducted in this work due to heterogeneous quality of the data. For the diversity analysis, only the 11 best datasets were kept, including only the sites for which the complete lapidary sample has been investigated recently, and where the raw materials and types are described. For the similarity analysis, a larger number of sites have been included, but these sites are not necessarily the same for raw material and typological analyses. For raw material similarity analyses, data was reduced to 22 sites by keeping only the sites with at least 10 artifacts remaining after removing the raw materials identified in a single site or never formally identified by analytical techniques (Table S1). Given the quality of some mineralogical information, especially concerning the so-called *greenstones*, and also because one can argue that people from the Ceramic Age were not gemologists either, this subsample of 22 sites was also used with all green rocks and minerals gathered in a single category, and also with all green rocks and minerals gathered but turquoise, which is often easily recognized by naked-eye. For the site of Pearls, only data from Cody's excavations were considered, since we think it is less biased in terms of raw material distribution than the content of the surface collection published recently who could have clearly overcome chips or fragments of raw materials and therefore being biased towards some raw materials. As for the typological similarity analysis, the selection has been even more difficult since this kind of information is severely missing from the literature. Discrepancies between the datasets for raw materials and typology are then observed, and the different degrees of typological precision used for the different analysis imply the conservation of different archaeological sites in the sample. To explain some of these discrepancies, one can take the example of a site for which only the number of beads and pendants is given in the literature, with no detailed analysis. Such a site is used for very general study based on the number of beads and pendants, but cannot be integrated in a study based on the detailed typology of beads. This is the case for example for Royall's (199 artifacts), Punta Candeleró (592 artifacts), Doig's (43 artifacts) for which the detailed typology is not published. Sometimes iconography in the literature allows to circumvent this issue, but sometimes not, as is the case for the 81 rock crystal beads from Golden Rock for which no standardized picture is published and then it is impossible from the picture in the article to know if the beads are cylindrical or discoid (Versteeg and Schinkel, 1992). Other differences between different levels of details can also come from the incomplete description of

the whole archaeological collection, as for Trants, for which the literature details the type of 123 beads and 7 pendants out of the 523 beads and 12 pendants listed in the article (Crock and Bartone, 1998). By not keeping the raw material fragments in this typological study and relying on the previously established rule of keeping only the sites with more than 10 remaining artifacts, we also removed two archaeological sites from the dataset (Grand Case and Hacienda Grande). Finally, it is noteworthy that data for the site of Pearls in this typological analysis integrates both the results from Cody's excavation (Cody, 1991) and the private collection inventory based on surface collection (Falci, Knaf *et al.*, 2020), since we consider that complete and/or finished objects of any raw material would have been collected even in these uncontrolled circumstances. The different levels of precision allow to create several tables (Tables 2 and S2), which sometimes lead to very small samples given the low level of detail in the literature.

Table 2. Dataset used for regional analysis of the distribution of types of lapidary products during the Ceramic Age in the Caribbean islands

<i>Site</i>	<i>Bead</i>	<i>Pendant</i>	<i>Non perforated plate</i>	<i>Bead pendant</i>	<i>Earplug</i>	<i>Total</i>
Anse à la Gourde	22	1	-	-	-	23
Baie Orientale 2	14	-	-	-	-	14
Doig's	42	1	-	-	-	43
El Cabo	16	-	1	18	2	37
El Carril	2	2	-	6	-	10
El Flaco	68	1	-	22	-	91
Elliot's	32	14	-	-	-	46
Gare maritime	31	4	-	-	-	35
Golden Grove	49	-	-	-	-	49
Golden Rock	81	-	-	-	-	81
Grand Bay	16	1	-	-	-	17
Hope Estate	82	19	-	-	1	102
La Hueca	1210	1633	34	-	-	2877
Main Street	11	1	-	-	-	12
Morel	42	10	-	-	-	52
Pearls	1137	175	-	1	-	1313
Playa Grande	8	3	-	2	4	17

Continuation Tabla 2

Site	Bead	Pendant	Non perforated plate	Bead pendant	Earplug	Total
Prosperity	19	5	-	-	-	24
Punta Candelero	360	232	-	-	-	592
Royall's	73	8	-	-	-	81
Seaview	18	-	-	-	-	18
Sorcé	711	118	225	-	-	1054
Tecla	49	10	13	-	-	72
Trants	523	12	-	-	-	535
Vivé	35	2	-	-	1	38

Diversity

The diversity of lapidary production in the archaeological sites (characterized by different numbers of artifacts, types, raw materials) is evaluated following ecological methods of quantification. Diversity is calculated for different scales, giving more or less weight to rare mineral species (Tóthmérész, 1995; Marcon, 2018). This use of parametric families of diversity, instead of classical diversity indices, avoids the inconsistencies sometimes observed when trying to reduce the complexity of a multidimensional entity to a single number (Tóthmérész, 1995), for example with the richness index which is strongly impacted by the sample size (Kintigh, 1984; Shott, 2010). In this method, diversity of scale q is noted qD . 0D is species richness (the number of species), 1D is directly related to the Shannon index of diversity [${}^1D = \exp(\text{Shannon index})$], while 2D is a value of diversity less sensitive to the rare species and equivalent to the Simpson index (Hill, 1973). While these specific values of q are useful and regularly used in zooarchaeological studies (*e.g.* Beaver and Dean, 2019; Grayson and Delpech, 2002; López-García *et al.*, 2014), the most interesting application of this method is plotting diversity profiles. A diversity profile situated above another one is declared more diverse. If profiles are crossing, there is no ordered relation, while it can still be informative to see at which order the profiles cross, since the lower the order, the higher the impact of rare species. To further assess the robustness of the observations made on diversity, particularly richness, it is possible to apply a test proposed by K.W. Kintigh (1984) and coded as a function in R by M. Peeples (2018). This article proposes to compare the observed richness² of each site with the richness

² Equivalent to 0D .

that could be statistically expected for a sample of that size. To calculate the expected average richness and its confidence interval for each sample size, 10 000 random draws for each sample size, from 1 up to the maximum observed number increased by 5% were made in a model sample composed of the sum of the data from all the studied sites. This model, aggregating all the data from the 11 sites, is therefore supposed to be representative of the frequency distribution of the different raw materials or types in the Caribbean region, during the Ceramic period. The same calculation was performed by only retaining the sites from the Early and Middle Ceramic periods. Since these assumptions are relatively strong, we will use a confidence interval of 80% as in the original publication, but also 95%. Finally, we calculated the Piélou's evenness index³ (Piélou, 1966) that states for the equitability of the distribution of the different categories. All these calculations were realized with the R package *entropart* (Marcon and Herault, 2019; Marcon and Hérault, 2015).

Similarity

In this article, similarity analyses between archaeological sites are performed using several methods including seriation, formal network analysis, and correspondence analysis. These statistical methods for graphically representing the similarity between archaeological sites can be based on incidence matrices (presence/absence) or, as it is the case in this work, abundance matrices (frequencies, contingency tables) (Ihm, 2005). Seriation analysis has been used for a long time to address various issues at the scale of a site or inter-site comparison (Ihm, 2005). Many different applications have been proposed, ranging from the archaeological material found in burials as in the first use of this method (Petrie, 1899), to the types of ceramics (Torvinen and Nelson, 2020 and examples cited inside), the decorations on bronze swords (Goldmann, 1968), as well as the types of jewelry or jewelry manufacturing techniques (Vanhaeren and d'Errico, 2006; d'Errico *et al.*, 2021). Seriation is based on creating an ordered list of archaeological sites, where the order can be calculated in many ways. I have chosen here first to center the data (to avoid comparing sites with 10 beads and sites with 3000 beads without taking into account this huge difference), then base the seriation on the Heatmap method which applies a Hierarchical Clustering (= HC)⁴ on the Euclidean distances calculated between the sites and between the categories (raw material or type), and then optimally orders the 'leaves' of the tree with the Optimal Leaf Ordering (OLO) algorithm. Several other algorithms for

³ Equal to the Shannon index divided by the richness.

⁴ Several classification algorithms were tested (single, average, complete, Ward) without observing any significant changes.

seriation have been tested, without observing significant differences. This was done using the R package *seriation* (Hahsler, Hornik, and Buchta, 2008). In the case of archaeological data in the form of an abundance matrix, the Brainerd-Robinson similarity index, which quantifies the similarity between sites based on the proportions of each raw material in each site (Robinson, 1951), is one of the most commonly used. I therefore also calculate the seriation based on this similarity index, which gives slightly different results from the hierarchical clustering based on Euclidean distances. This matrix is calculated using the R script proposed by M. Peeples (2011) and gives a similarity score for each pair of sites. This index improves the applicability of the method to our data by using a calculation specifically developed for archaeological questions, but the information about which category makes the similarity between sites is lost in the process.

Network analysis is another means to explore data, in particular to highlight the relationships between archaeological sites, which are the nodes of the network connected by different types of links (*e.g.*, Brughmans, 2013; Knappett, 2013; Brughmans and Peeples, 2018, 2023). These analyses, complementary to seriations or correspondence analysis (Östborn and Gerding, 2014), allow the quantification of links between sites, and to characterize the sites themselves, without losing spatial or temporal information. Sites can thus be compared, connected, based on various criteria (interconnections by roads, inter-visibility, geographical proximity, sharing of characteristics or categories of archaeological material, etc.) and can also have a score according to their importance in the network on different criteria (number of links with other sites, number of links between two other sites that necessarily pass through it, etc.). This type of analysis is particularly widespread in archaeological studies of archipelagos (Dawson, 2021), whether it concerns the islands of the Pacific (*e.g.*, O'Connor, White and Hunt, 2017; Cochrane and Lipo, 2010), the Mediterranean (*e.g.*, Freund and Batist, 2014; Knappett, Evans and Rivers, 2008), or, more specifically for this work, the Caribbean islands, which have also been the subject of a surprisingly large number of studies of this type (Amati *et al.*, 2020; Mol, 2013, 2014; Keehnen and Mol, 2020; Mol and Mans, 2013). Specifically, my work enters the category *material networks* defined by Mills (2017), which includes the possibility of representing the links between network nodes (here, the sites) based on the similarity of their archaeological material content. Like many authors, I used the Brainerd-Robinson similarity, already described above, to preserve the quantitative information in our data set, as suggested where possible by Weidele *et al.* (2016). The option of transforming the data into a presence/absence matrix has nevertheless been explored, as well as another measure of similarity, the X^2 distance, but they will not be presented because this distance gives significant weight to rare materials, which, given our already imperfect data (especially regarding the

determination of raw materials) would give too much weight to possibly doubtful mineralogical determinations. As already mentioned before, data on lapidary productions in the Caribbean islands are far from perfect, and it is important to keep in mind that “[n]etworks, in and of themselves, do not represent past phenomena, but rather are merely a formal way of exploring our archaeological data and theories about relationships” (Brughmans and Peeples, 2018) or, as Ostborn *et al.* (2014) specify: “At best, similarity network analysis is a versatile, yet systematic tool to formulate qualitative hypotheses”. Network analysis based on archaeological data must indeed take into account biases that are often nonexistent in sociology or other disciplines that have created these methods, particularly regarding the incompleteness of data, the approximation of contemporaneity of sites, and the numerous possibilities of social relations that may be at the origin of the distribution of a specific type of artifact or raw material (see Gjesfjeld, 2015 for a description of these biases). Firstly, I use the multi-period dataset to explore the data and the diachronic analysis of the lapidary production in the Antilles. Secondly, I subdivide the data by chronological period, as is traditionally done (*e.g.* Freund and Batist, 2014; Mills *et al.*, 2013), and focus on the period with the most sites, namely the Early Ceramic period, to explore the structure of the network. Network analysis not only allows for visualizing the links between nodes, but also for visualizing the importance of nodes in the network, particularly through centrality calculations. Each node is thus characterized by its own centrality in the network, which can be calculated in different ways. For the type of archaeological application that interests me, the most commonly used centrality metrics are degree, betweenness, and eigenvector centrality (Peeples and Roberts, 2013). Degree corresponds to the number of links connecting the node to the network, betweenness corresponds to the number of shortest paths between two nodes passing through the node in question, and eigenvector centrality measures the connection of the node with other highly connected nodes in the network.

The third method, correspondence analysis, is a method of information reduction, historically derived from seriation analyses, thanks to the development of computing (Ihm, 2005). It is of the same type as Principal Component Analysis (PCA), but applicable to a contingency table such as a count of objects per site. It allows the representation of sites and raw materials on the same graph and is interpreted as a PCA.

Geographic distribution

For the geographical distribution of sites, raw materials and types of lapidary artifacts, we used the Free and Open Source QGIS software.

Data and script availability

The complete datasets and code used to produce the results of this article are available online at <https://github.com/AQueff/LapidaryCaribbeanRegionalArticle>.

Results

Diversity analysis

Raw materials diversity

Exhaustive and reliable data for lapidary production for 11 and 18 sites for raw material and typology, respectively, show different patterns based on the periodization. For raw materials, this analysis completes the initial analysis that included Gare Maritime, Vivé, Morel, and Anse à la Gourde (Queffelec *et al.*, 2020) with Hope Estate (Queffelec, 2022) and Baie Orientale 2 (Fouéré in Bonnissent *et al.*, 2013) for Saint Martin, Royall's and Elliot's (Murphy *et al.*, 2000) for Antigua, and El Flaco, El Cabo and Playa Grande in Dominican Republic (Falci, Ngan-Tillard *et al.*, 2020). The obtained diversity profiles highlight a clear pattern linked to the period of occupation of the archaeological sites (Figure 1). The diversity profiles of sites from the Early Ceramic period are located at the top of the graph, particularly for relatively low diversity order values, indicating significant richness and diversity of raw materials, some of which are not well represented. This is particularly the case for Hope Estate, which could be due to the dual Huecan Saladoid and Cedrosan Saladoid occupation of the site. The two sites in Antigua, attributed to the Middle Ceramic period, have lower richness, but the Elliot's site shows a diversity profile that intersects all the profiles of the Early Ceramic sites, indicating that when the weight of rare materials is decreased, it is ultimately the most diversified collection. Anse à la Gourde and Baie Orientale 2, the two sites from the Late Ceramic period included in this dataset, show two very different behaviors. Anse à la Gourde has a profile strongly resembling the older sites, but simply lower on the graph, while Baie Orientale 2, which has only two materials (99 objects made of calcite and 1 object made of volcanic rock), is located at the bottom of the graph. If Anse à la Gourde had been interpreted as not diversified in an earlier version of this work (Queffelec *et al.*, 2020), it should be noted that the graph is now very different with truly undiversified sites, such as Baie Orientale 2, as mentioned earlier, but also the three sites from the Late-Final Ceramic period: El Cabo, El Flaco, and Playa Grande. The Pielou's equitability index shows three groups (Figure S1). The first group of sites, the majority, whose equitability is relatively high, ranging from 0.74 to 0.91, shows a descending continuum in which it is difficult to place

a clear separation. These sites do not have materials that are significantly overrepresented compared to others. The second group, consisting of El Cabo and Playa Grande, whose values range from 0.56 to 0.62, is interpreted as having a predominance of one material over others, here in diorite and calcite respectively.

Finally, Baie Orientale 2, as noted above, shows a very strong imbalance in favor of calcite, which is reflected in the Pielou's equitability index with a value of 0.08.

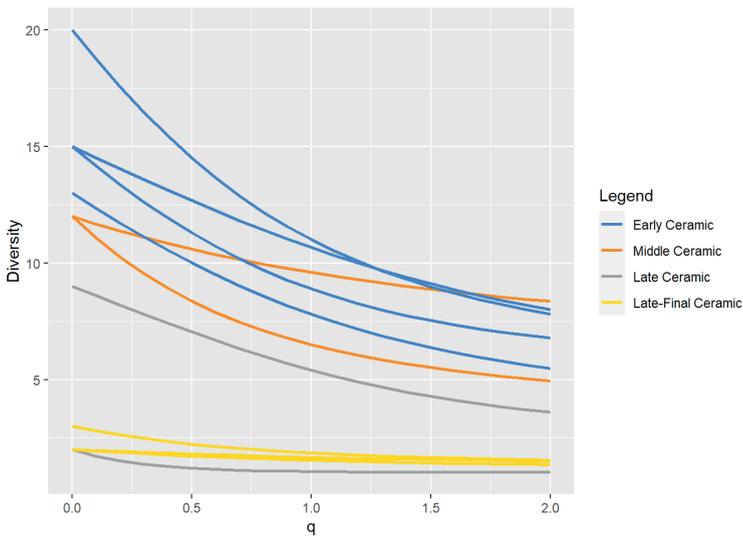


Figure 1. Raw materials diversity profiles.

Richness in raw materials of all the sites from the Early Ceramic falls within the possible variability calculated for the number of objects they have delivered, if we randomly drew the same number of objects 10 000 times from the pool composed of all lapidary objects from the 11 sites (Figure 2). They are even situated rather in the high part of the confidence interval, with Hope Estate and Vivé being respectively outside the confidence interval at 80% and 95%. Royall's, a site from the Middle Ceramic, having delivered a significant number of objects, is well below what would be expected from a random drawing of such a number of objects and therefore shows a rather strong selection of raw materials compared to all available materials. The sites from Late and Final Ceramic are also largely below what would be expected if it were a random drawing of this number of objects, except Anse à la Gourde, which shows a comparable wealth to the average of random drawings. The recent sites are therefore very selective in terms of the raw material used, and this is not a bias linked to the sample size, even for Playa Grande, which is

the site that delivered the fewest objects (13). Combining the interpretation of diversity profiles and observed richness compared to numerical simulations makes it possible to distinguish very clearly the Early Ceramic sites in terms of raw material diversity.

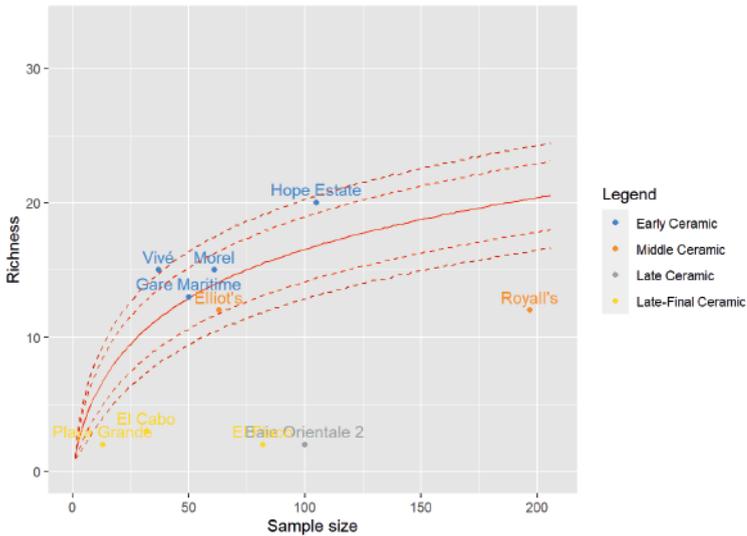


Figure 2. Raw materials richness model and position of the archaeological sites.

Typological diversity

Similarly to the diversity of raw materials, diversity profiles for types (beads and pendants combined) were calculated (Figure 3). They demonstrate a very marked difference between the sites of the Early Ceramic period and the other sites, with the former having a much higher diversity than the latter. The typological diversity profiles of the Middle Ceramic period sites are here similar to those of the more recent sites, unlike the diversity profiles of raw materials for sites of this same period. However, it is important to note that the typological data are very imperfect for the Middle Ceramic period sites, unfortunately, as mentioned earlier. Regarding the homogeneity of the distribution of bead and pendant types by site (revealed by the Piélou index), a variety of situations without strong limits is observed (Figure S1B), except for Baie Orientale 2 whose collection, apart from raw material fragments, consists of 11 cylindrical beads and a single disc-shaped bead. The only chronological particularity belongs to the Final Ceramic period sites in the Dominican Republic, both of which have a very strong evenness index: for these sites, types are evenly represented.

The observed richness of archaeological samples was compared to a model created by merging the 18 sites' samples into one, and drawing randomly 10 000 times in this pool for each sample size (Figure 4). This graph indicates that sites with high amount of lapidary production (Sorcé, Pearls and La Hueca) do not have a typology based solely on randomness, since they should

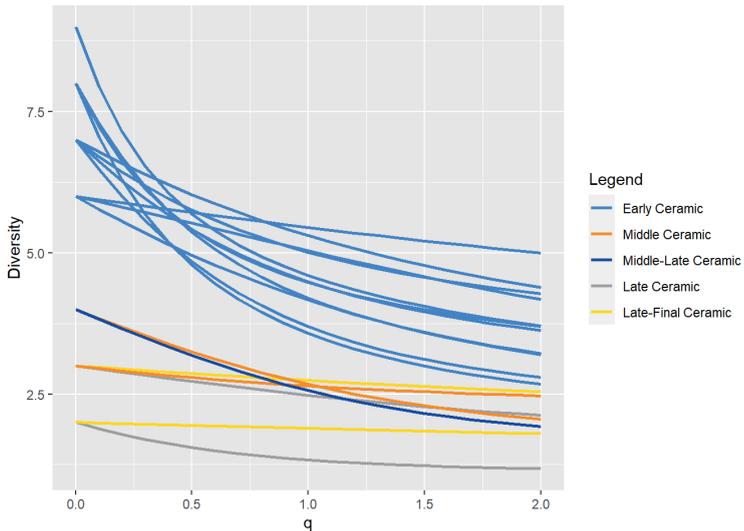


Figure 3. Types diversity profiles.

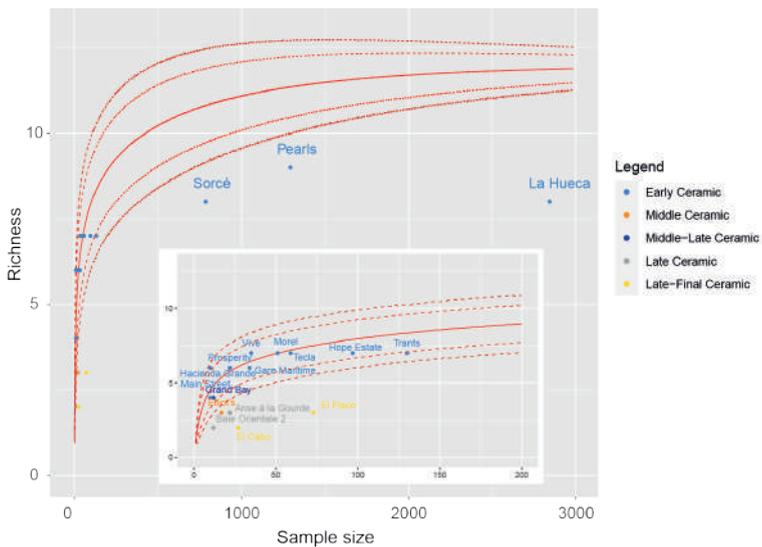


Figure 4. Typology richness model and position of the archaeological sites with insert zooming on the 0-200 region for clarity.

have an even higher richness than the one they actually show. Their inventory, even if diverse, does not correspond to a simple random draw from a virtual lot of objects created by summing all collections from all represented sites. For sites with smaller sample size, this is also often the case: sites with low richness (2 or 3) are all outside the modeled variability, indicating that they also have a specific choice of bead and pendant types, since a random draw of the number of objects that make up their collection should have created a more diversified collection. Sites with richness between four and seven (except Trants) are within the modeled variability. Their relatively small sample size could be the cause of their lower richness than sites with higher number of artifacts. This interpretation is the same whether all types, even the rarest ones, are retained or when these rare types are excluded (not shown). It could indeed have been thought that with such rare types, sites with large sample size would necessarily be below the modeled richness, as the random draw of 2800 objects has a very high chance of containing all types, even the rarest ones. However, when these rare types are excluded, the sites with the highest frequencies remain below the modeled distribution.

Similarity

Raw material similarity

Seriation (centered data, Euclidean distance, OLO algorithm) of sites and individualized raw materials highlights four groups of sites (Figure 5). Huecan Saladoid sites (Punta Candelerio, La Hueca, Gare Maritime and Sorcé, the site neighboring La Hueca) are grouped due to their high serpentine content. A second group stands out, based on the significant presence of calcite, including sites from the Late Ceramic (Anse à la Gourde, Baie Orientale 2, Grand Case) and Final Ceramic (El Flaco) periods, and with a weaker similarity, Hope Estate (Early Ceramic) and Royall's (Middle Ceramic). A third group corresponds to Early Ceramic and Middle Ceramic sites rich in rock crystal and presenting a diversity of materials such as nephrite, amethyst, diorite, etc. Finally, a group with significant proportions of diorite and, to a lesser extent, carnelian, is highlighted. It includes sites from several periods, such as the Early Ceramic (Trants), but especially recent and final sites (Golden Grove, which is a diorite bead production workshop, El Cabo, Playa Grande). This group also contains the site of Vivé, which, while indeed presenting several objects in diorite and carnelian, also stands out for a high proportion of turquoise and amethyst.

In order to eliminate a potential bias created by the sites studied in more detail from a gemological perspective (the sites of Antigua and those of the French islands), and also to perhaps get closer to the Amerindian view of these materials who did not have the analytical means to distinguish all green rocks,

nor maybe the need or desire to do so, I attempted two different groupings for the green rocks (not shown but see Queffelec, 2022). First, I considered that turquoise could be left aside, due to its relatively easy recognition for non-gemologist archaeologists, as well as potentially by Amerindians. I also grouped all green rocks together. Similar groupings can then be observed: a diorite (+carnelian) group including sites from different periods, a calcite-oriented group mainly comprising recent sites, a diversified group (rock crystal + amethyst + turquoise + green rocks) including ancient sites, and finally a group heavily oriented towards green rocks including Early Ceramic sites in which the Huecan Saladoid sites are even more strongly grouped.

Another way of representing the affinities between sites and raw materials is Correspondence Analysis. Figure 6 shows the first three dimensions of this analysis. The first dimension clearly corresponds to the opposition between sites rich in greenstones (especially serpentine) and other minerals, with a cluster of ancient sites including the Huecan Saladoid sites on the left of the graph, and more recent sites on the right side. The second dimension distinguishes sites rich in calcite from those rich in diorite, as already observed in the seriations. The third dimension mainly incorporates the variance in rock crystal proportion. By keeping only dimensions 1 and 3 (Figure 6), this analysis separates the sites extremely effectively based on their period. The results obtained by the Correspondence Analysis largely confirm the results of the seriations, highlighting the robustness of this quantitative methodology.

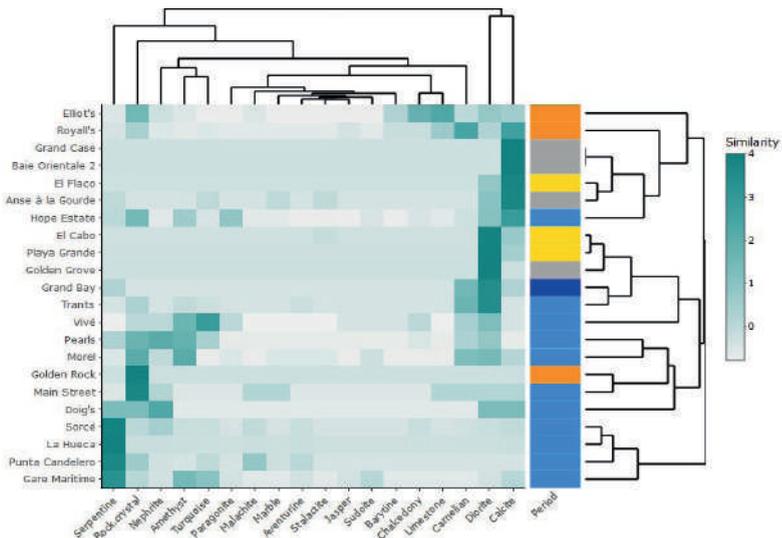


Figure 5. Seriation of archaeological sites and detailed raw materials.

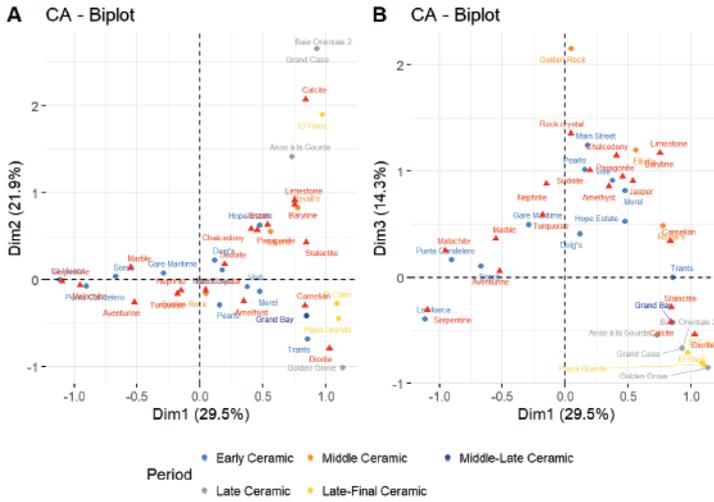


Figure 6. Correspondence Analysis of sites and raw materials.

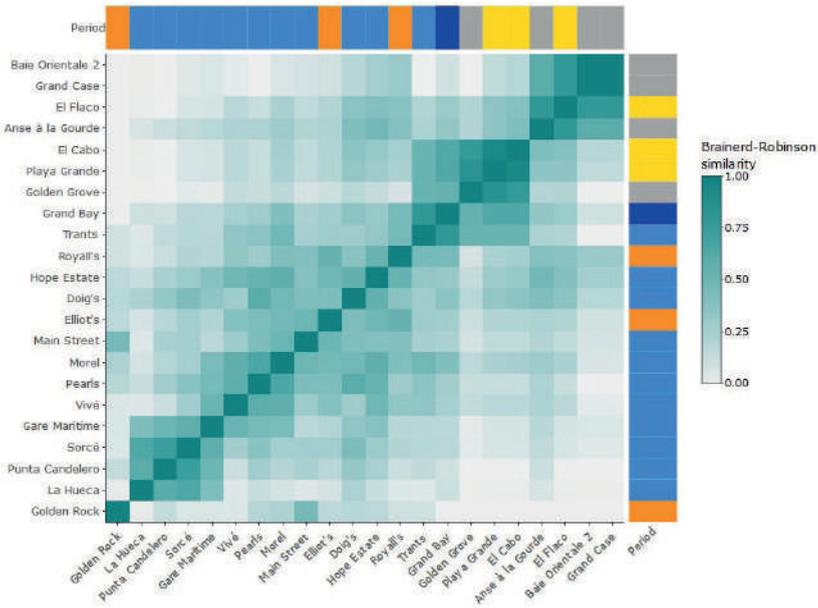


Figure 7. Heatmap of similarity of archaeological collections based on detailed raw materials (Brainerd-Robinson similarity, 'Heatmap' algorithm).

Rather than Euclidean distance, archaeologists often use the Brainerd-Robinson distance, to assess the similarity between archaeological collections from different sites. On the heatmap created from this similarity matrix (Figure 7), the color of the cell at the intersection of two sites a and b corresponds to this similarity value, and the seriation orders the sites to bring the most similar sites closer together. One can immediately notice the grouping of recent sites at the top right of the graph, especially the sites rich in calcite that form a compact group. The recent sites rich in diorite deviate slightly and are located close to the older sites that have yielded several diorite beads. The heart of the graph groups diversified Cedrosan Saladoid sites, and as we move up towards the bottom left, a group of Huecan Saladoid sites stand out, just before the Golden Rock site. Golden Rock can be considered an outlier due to the uniqueness of the rock crystal as the gemstone used to produce a necklace found in a burial. The nine possible combinations of the three data precisions (all distinct raw materials, green rocks grouped except for turquoise, all green rocks grouped) and the three seriation algorithms (Heatmap, PCA, PCA-Angle) have been tested, with very few variations.

The exploration of network analysis results can be made difficult by the entanglement of too many links between nodes or the overlap of nodes. Several methods exist to represent such networks (Henry and Fekete, 2008), and one of them corresponds to the representation by clusters or matrices. Here, to maintain the node/link representation type, thresholds are applied to the list of links between sites to keep only links with a similarity greater than or equal to the chosen threshold (Figure 8). Figure 8A thus represents the network of archaeological sites when the threshold is set to remove the maximum number of links between sites while maintaining a single, fully connected network, meaning that all sites are linked in a single network. It can be observed that the strongest similarities are between recent period sites, namely between Playa Grande and El Cabo for the Late-Final Ceramic and Baie Orientale 2 and Grand Case for the Late Ceramic. Two groups of recent sites are linked to the group of ancient and Middle Ceramic sites through Hope Estate for the group of sites rich in calcite, and through Trants for sites rich in diorite and carnelian, forming a system similar to that already observed. It should also be noted that there is a specific group of Early Ceramic sites at the top of the figure, which includes sites attributed to the Huecan Saladoid and Sorcé, the neighboring site of La Hueca on the island of Vieques. These sites are connected to sites attributed to the Cedrosan Saladoid through the Guadeloupean site of Gare Maritime. Finally, the Middle Ceramic sites⁵ are located as interface between recent sites rich in diorite and Cedrosan Saladoid

⁵ Except Golden Rock which is alone, due to its very specific collection made of a single rock crystal collar.

sites. The Grand Bay site, attributed to Middle-Late Ceramic without being able to distinguish the origin of the lapidary objects more precisely in this multicomponent site, is here clearly located in one of the Post-Saladoid groups. The choice of the threshold used to represent the network being arbitrary, as interesting as the threshold that allows at least one link per site may be, it is important to observe the networks formed with other thresholds (Peeples and Roberts, 2013) (Figure 8B-E). With the lowest threshold represented here, 0.3, it can be seen that the Late and Final Ceramic sites form a single set with very strong similarities. The color scale of the links, as well as the thickness scale of the links, representing a wider range of values, allow for better differentiation between groups. Thus, recent sites, which have much less diversity than older sites, can show much stronger similarities because they only involve two or three raw materials. The heart of the network, formed by Cedrosan Saladoid sites, has many more connections (which places it at the center via the node positioning algorithm), but the links are weaker, as the raw materials are more diverse, making it difficult to achieve very high similarities. From a threshold of 0.4, the two groups within the recent sites are distinguished, and the network strongly resembles the network described previously for a threshold of 0.461. At a threshold of 0.462 (not shown here), the network is no longer complete, and of course, the Golden Rock site is the first to be removed from the network. At a threshold of 0.5, the groups of recent sites are also separated from the Early and Middle Ceramic sites, clearly indicating that this is where the chronological and possibly cultural limit lies if one wishes to dichotomize Ceramic Age lapidary.

For the Early Ceramic period, the period represented by the most numerous sites, it is possible to calculate the network and the various centrality values for the nodes (Figure 9). This network and the centrality values were calculated and represented with the threshold allowing to maintain a unique and complete network, and for detailed raw materials (Figure 9A, B, and C) or greenstones grouped but turquoise (Figure 9D, E, and F). It can be observed that the site of Morel has the highest degree, meaning that it has the most links with other sites, especially due to its position as a connector between two more peripheral sites, Trants and Main Street, and the rest of the Cedrosan Saladoid sites (Figure 9A). If we look at the inventory of these three sites, it is the relatively high content of rock crystal and carnelian at Morel that ensures this connection with Trants and Main Street. Apart from these two more peripheral sites, the differences between sites in terms of centrality degree are not very pronounced, and they are even less so when the specificity of mineralogical characterization of the studied sites in the French islands is largely eliminated by grouping green rocks together (Figure 9D). This specificity of sites whose materials have been characterized in the finest detail is even more visible with regard to betweenness (Figure 9B),

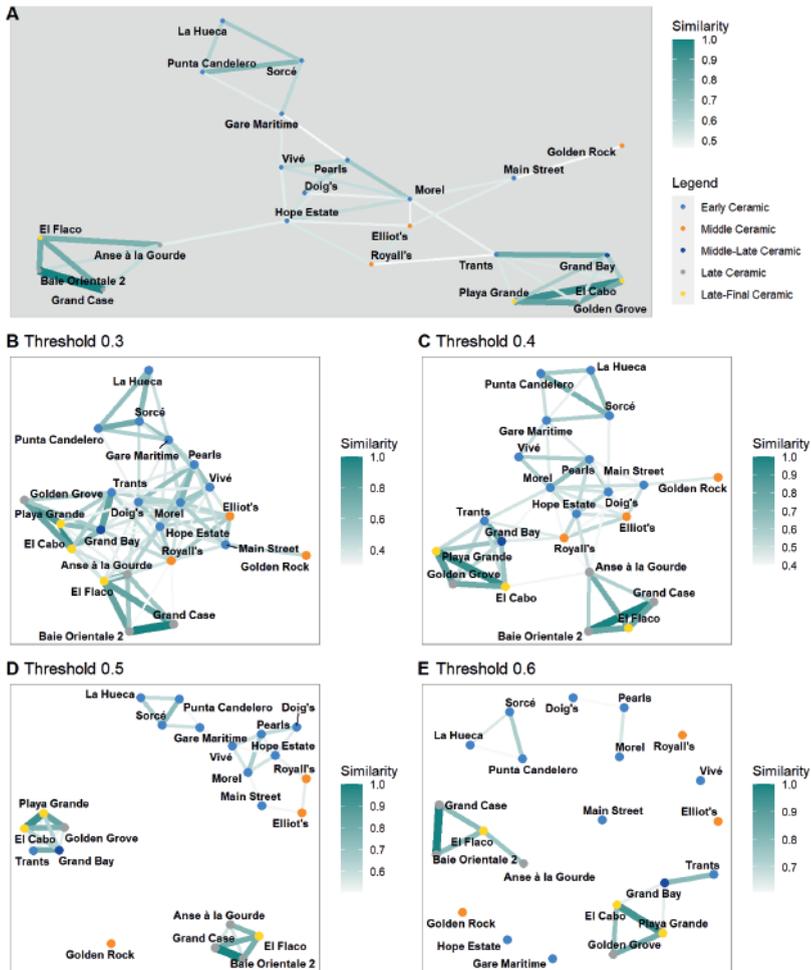


Figure 8. A. Network based on Brainerd-Robinson similarity index between sites calculated from the detailed raw material composition of the collection. Threshold for keeping edges was set to the minimum value allowing to keep a complete and unique network. B-E. Networks for different values of the threshold. For all 5 graphs, nodes are positioned following the Kamada and Kawai algorithm, color and width of the links relate to the similarity value.

where three sites are visibly more central than the others: Morel, which makes this connection with the two aforementioned sites, as well as Vivé and Gare Maritime, which are the sites connecting the Cedrosan Saladoid sites and the Huecan Saladoid sites (+ Sorcé). When green minerals are grouped together, except for turquoise, which is considered relatively easy to identify

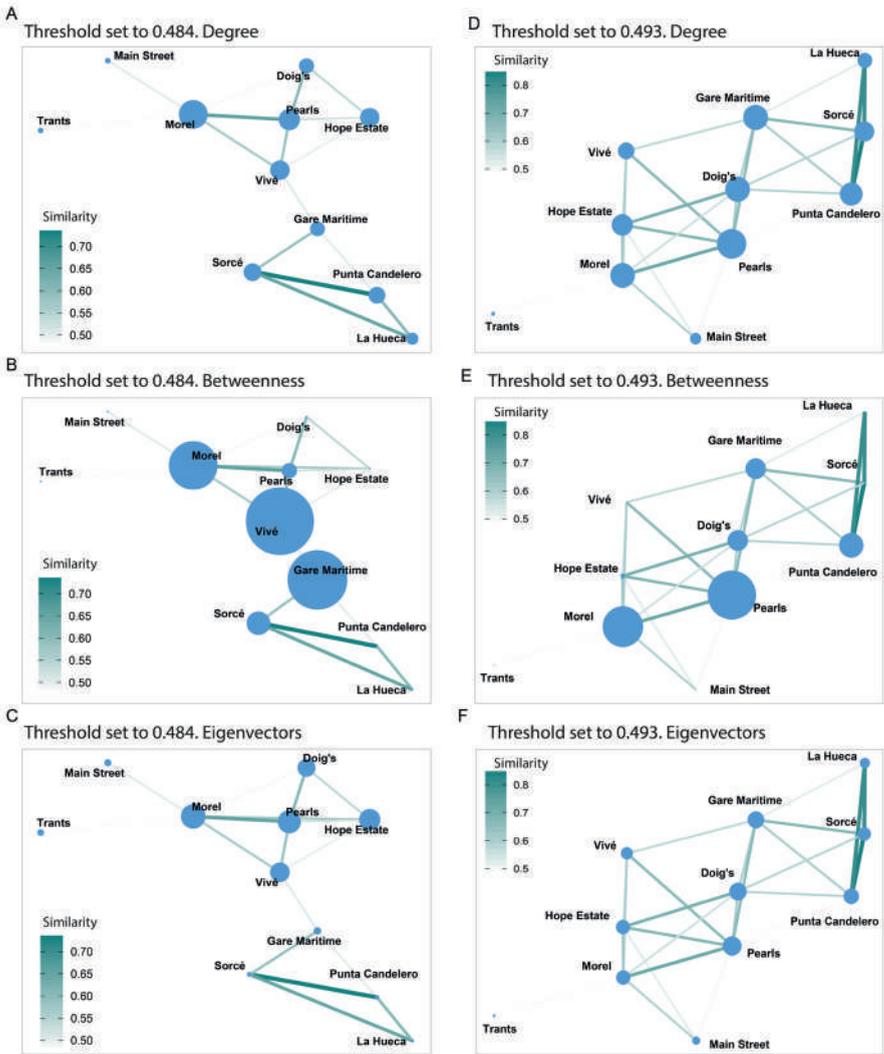


Figure 9. Networks of the Early Ceramic sites, based on the Brainerd-Robinson similarity. Color and width of edges are present the similarity. Size of the nodes represent the centrality values (Degree for A and D, Betweenness for B and E, Eigenvectors for C and F). Similarity are calculated with detailed raw materials (A, B and C) or with greenstones grouped but turquoise (D, E and F). Nodes are positioned through the Kamada and Kawai algorithm.

with the naked eye and without being a gemologist, Morel retains an important position in the network, but Pearls becomes the site with the highest betweenness (Figure 9E). Sites with high betweenness are often called “hubs” and can have an important influence on the network, whether in terms of exchanges of goods or information, depending on the reasons for the existence of the network. Finally, when eigenvector centrality is used to represent the size of the network nodes, one can observe the importance of a node in the entire network, rather than only in relation to those with whom it is directly linked (Peeples and Roberts, 2013). It can then be noted that the 5 highly interconnected sites of the Cedrosan Saladoid (Morel, Doig’s, Pearls, Hope Estate and Vivé) are of paramount importance in this Early Ceramic network, unlike the peripheral sites, Trants and Main Street, as well as the trio of the Huecan subs-series completed by the Sorcé site, if the maximum degree of precision regarding raw materials is maintained (Figure 9C). However, when green materials are grouped together, no site stands out clearly in the network as better connected than the others (Figure 9F). What is most striking is the low connectivity of Trants, which, only connected to the Morel site thanks to its relatively high content of diorite, seems to be very poorly connected to this network of Early Ceramic sites in terms of raw materials. Unfortunately, more recent periods than the Early Ceramic period do not allow for this type of analysis, as they are represented by too few sites.

Typological similarity

Similarity analyses by seriation and correspondence analysis were also carried out on typological data in order to search for chronological specificities in terms of the forms of produced objects, which could provide very interesting information on the technical and/or aesthetic choices of the Amerindians of the Ceramic period. At the lowest level of detail, what I call object type, there is no very interesting result but the fact that beads are largely dominant in the samples, except for the site of La Hueca which yielded more pendants than beads (Figure S2).

The seriation concerning object types was still carried out, showing a division in three groups of the archaeological sites (Figure S3). One group is characterized by a high proportion of bead-pendants, composed of two late Ceramic sites in the Dominican Republic, El Carril and El Cabo. Another group of three sites includes the sites richest in pendants: Sorcé La Hueca, Punta Candelero and Elliot’s, two early Ceramic sites and one middle Ceramic site. Finally, the vast majority of sites are located in a third cluster very rich in beads, within which only those of the late Ceramic period stand out a little: Playa Grande because of the labrets that have been identified there, and El Flaco because of its content of bead-pendants that places it close to the first group.

Looking more closely at the typology, it is interesting to observe the groups formed when seriation concerns the sites for which information on bead and pendant types is known (Figure 10). When bead and pendant types are taken into account, the main distinction is between Late Ceramic sites and the others, once again, since El Flaco and El Cabo are isolated due to their content of bead-pendants. The other sites are separated into two groups depending on whether they are richer in cylindrical or discoid beads, which is even more strongly confirmed in the analysis focused solely on bead types, which clearly distinguishes these two groups (not shown). Although the separation criteria of the clusters are clear, the content of these clusters only provides one clear piece of information on a possible chronological distinction: there is none. These analyses clearly indicate that sites can be quite different from each other in terms of the typology of beads and pendants, but this difference is not related to the chronological period to which the archaeological site is attributed, except for the Late Ceramic sites from Dominican Republic.

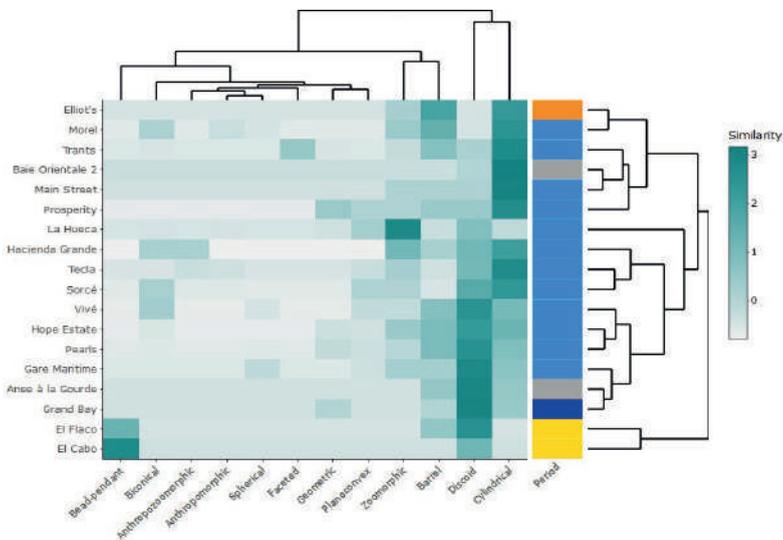


Figure 10. Seriation of the archaeological sites based on their Euclidean distances calculated on the detailed types of objects that have been identified.

Correspondence Analysis carried out on the detailed typological data required additional processing. Indeed, while seriations aim to group sites, CA tries to maximize the variance on a few dimensions and therefore seeks to highlight disparities and differences. Thus, rare types have a huge weight in the overall variance of the dataset, as the few sites that contain them are compared to sites that do not contain them at all, and this obscures the variability related to other types. If in the seriations the rarity of faceted beads identified only in Trants, or the rarely inventoried labrets, did not seem to play

a major role in bringing sites closer together, in the CA, it was necessary to remove them from the dataset, otherwise the only information that could be gleaned was that the sites that presented these rare types were different from the others. Then, as with some diversity analyses, the faceted bead type was excluded (only 1 site), as well as spherical beads (less than 10 objects) and anthropozoomorphic pendants (less than 10 objects). The bead-pendants, which also have a strong weight in the analysis, were not removed because they are present in significant quantities, are easily identifiable, and since they have a strong impact only on the first dimension, it is possible to ignore their presence by observing dimensions 2 and 3 (Figure S4C). This also applies when performing the same analysis on bead types only (Figure 11). These analyses confirm the clear distinction between the El Cabo and El Flaco sites, related to their content of bead-pendants. When observing dimensions 2 and 3 of these CA, the sites do not form well-defined groups, and in particular, no chronological distinction is evident. The most opposed types are the biconical, barrel, and planoconvex beads, while discoid and cylindrical beads are located more centrally, indicating that they have lower variance. In particular, discoid beads seem to be the most common element in both analysis including all types as well as in the one including only beads.

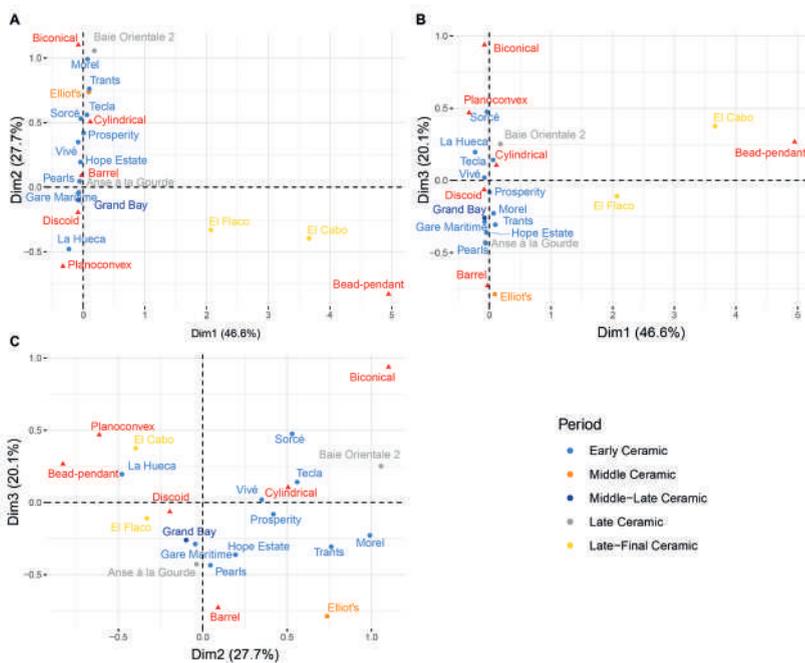


Figure 11. Correspondence Analysis for the archaeological sites and the detailed typological composition of the beads.

3.2.3 Combined typology and raw materials similarity

In order to extract even more in-depth information, while being aware of the varying quality of the data when it comes to entering into detail, we can try to analyze the dataset combining raw materials and typology. First, a new dataset needs to be created, combining information from typology, raw materials, and keeping only the sites for which both information is known (Table 3). Correspondence Analysis, whether introducing maximum precision at the level of green rocks or grouping green rocks together (except for turquoise), shows marked preferences for certain materials for the production of certain types of lapidary adornments (Figure 12). These analyses also show that zoomorphic pendants (the vast majority of pendants) are located opposite to colorless materials (calcite, rock crystal) and finally opposite to most types of beads, as they are opposed on the first dimension of the CA which accounts for 65% of the variance. In particular, the proximity of serpentine with

Table 3. Dataset combining precise types and raw materials of the general lapidary production during the Ceramic Age in the Caribbean islands

Gemstone	Barrel	Biconical	Cylindrical	Discoid	Faceted	Geometric	Planoconvex	Spherical	Zoomorphic
Amethyst	69	8	31	39	2	-	7	2	1
Anorthite	-	-	-	4	-	-	-	-	-
Aventurine	1	1	10	2	1	1	1	-	7
Barytine	-	-	2	-	-	-	-	-	-
Calcite	17	1	46	53	-	6	1	-	11
Carnelian	47	-	37	12	4	-	-	-	-
Chalcedony	2	-	-	-	-	-	-	-	-
Diorite	135	2	201	168	6	-	2	-	1
Jasper	2	-	-	-	-	-	-	-	-
Limestone	2	-	-	-	-	-	-	-	-
Malachite	-	-	1	1	-	2	2	-	1
Marble	1	-	3	-	-	-	-	-	-
Nephrite	1	-	3	5	-	23	5	1	42
Paragonite	-	-	-	6	-	-	1	-	7
Rock crystal	36	8	74	78	2	2	9	-	4
Serpentine	2	1	4	20	-	4	1	1	717
Stalactite	1	-	1	-	-	-	-	-	-
Sudoite	-	1	-	4	-	-	-	-	2
Turquoise	15	-	7	135	1	10	29	-	4

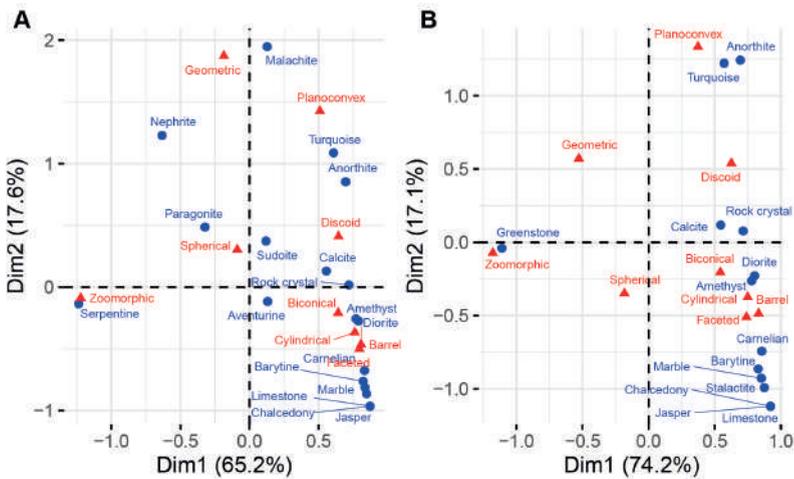


Figure 12. Correspondence Analysis combining raw materials and detailed typology, for the detailed raw materials (A) and the greenstones grouped but turquoise (B).

zoomorphic pendants is noteworthy, when precise determinations of materials are preserved, and that of malachite with geometric pendants. Nephrite and paragonite are less affiliated with a particular type, but when green rocks are grouped, the weight of serpentine (in very rich sites in Puerto Rico, for example) takes over (Figure 12B). The discoid type remains fairly central on the second dimension of the Correspondence Analysis, which mainly opposes elongated beads with planoconvex beads and geometric pendants. The most common colorless materials (calcite and rock crystal) are also located in the central part of this second dimension, used to produce several different types of beads. It is interesting to note that these two materials with similar colors ultimately have a similar, diversified use. Other materials are strongly linked to elongated beads: white and red materials, and to a lesser extent, amethyst and diorite. It can also be observed that turquoise, as expected, is located close to the planoconvex type.

It is also possible, while retaining the most information (site+raw material+typology), to create a dataset allowing for the analysis of similarity between sites (Table S3). With such precise data, the number of objects is significantly reduced and drop to 2224, due to the combination of lacking typological or gemological information for several sites. For example, the site of Doig's only includes one object here because only one object from this site is described in terms of raw material and type, while the complete collection is made of 43 objects. The problem is the same for sites that have been included in other analyses, such as Hacienda Grande (5 objects known for type and raw

material), Main Street (8), Playa Grande (4), Punta Candelero (7), and Tecla (2). All of which have been removed from the dataset. Although their weight is very low and does not change the result of the correspondence analysis, these poorly documented sites create significant distortions in network analyses. The limit for retaining an archaeological site in the dataset was arbitrarily set at 10 objects documented for their type and raw material. This dataset of 14 sites and 84 Type-Raw material, although it is far from ideal, allows the study of proximities between archaeological sites in the corpus at an unprecedented level of detail. The resulting CA includes the 14 sites, but it is not possible to display the 84 Type-Raw material combinations while maintaining a readable graph (Figure 13). This analysis highlights, on the first dimension of the analysis (28% of the expressed variance), the major opposition that exists, at this level of precision, between the sites rich in green rocks and pendants from the Early Ceramic of Vieques, such as La Hueca and Sorcé, and the sites richer in colorless and non-green materials, and richer in beads, from the Cedrosan Saladoid and later periods. The second and third dimensions of the analysis (29% of the variance combined) confirm the clear opposition between the Early Ceramic and the later periods. Although the only Middle Ceramic site retained in this dataset behaves in this CA like the Early Ceramic sites, the site of Grand Bay, attributed to the Middle/Late Ceramic period for the lapidary collection, is situated at an interface position between the Early Ceramic and Late/Final Ceramic sites.

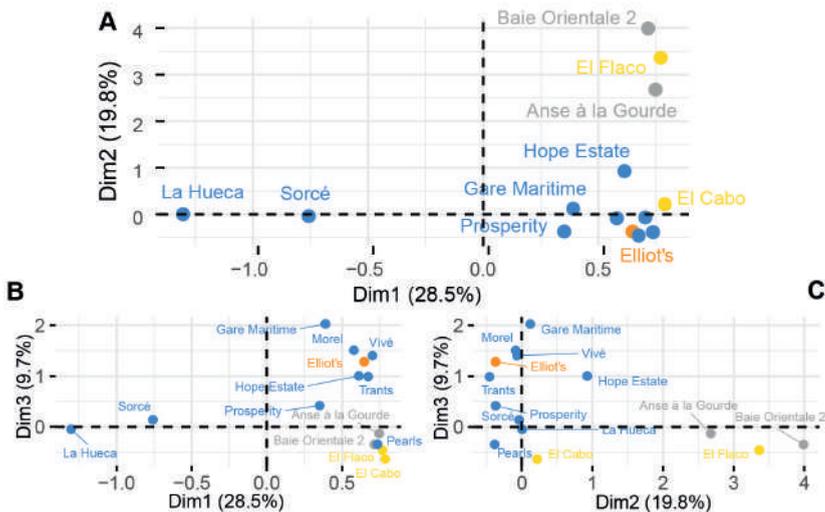


Figure 13. Correspondence Analysis of the archaeological sites' lapidary collection combining raw materials and detailed typology for each site.

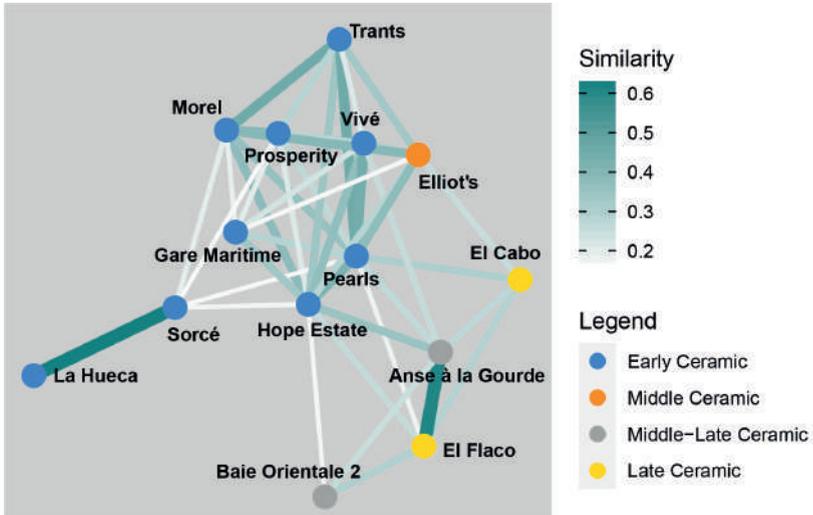


Figure 14. Network based on Brainerd-Robinson similarity index between sites calculated from the detailed raw material and typology of the archaeological samples. Threshold for keeping edges was set to the minimum value allowing to create a unique and complete network. Nodes are positioned following the Kamada and Kawai algorithm.

When network analysis is performed on this dataset combining types and raw materials, it is clear that the core of the network corresponds to Cedrosan Saladoid sites, while Vieques' Early Ceramic sites (Sorcé La Hueca and Sorcé) are only weakly connected to it (Figure 14). The Late Ceramic and Final Ceramic sites are also isolated, grouped together, although clearer links connect them to the core of the network. The large number of very specific categories on which this analysis is based creates weaker similarity indices than when only types or raw materials were analyzed. However, the same pattern of distribution of sites is found, based on a rather clear subdivision between Early/Middle Ceramic sites and Late/Final Ceramic sites.

Geographic distribution

Distribution of sites and lapidary artifacts

The distribution of lapidary production in the Ceramic period at a regional level has mostly been analyzed within a chrono-cultural framework, as we have done above. However, it seems important to also analyze this data from a purely geographical perspective in order to highlight whether or not there are variations attributable to this dimension of human settlement in the region. One could indeed expect different distributions of raw materials depending

on the geology of the islands. It would also be conceivable that certain types of objects, certain types of beads or pendants, are more represented in one or another sub-region of the archipelago.

It is possible to show that archaeological sites that have yielded lapidary artifacts are distributed throughout the entire Caribbean arc (Figure S5). Almost every island has at least one site (except Barbados), but some islands are less well supplied than others. First of all, there is a certain bias in the two main French islands, Guadeloupe and Martinique, where the research conducted for several years has allowed for an exhaustive inventory that would not have been possible if I had only been able to rely on easily accessible publications, as was the case for the other islands. Antigua is particularly well-endowed, thanks to the work of R. Murphy (1999; 2000). Jamaica is also well-endowed, especially for an island in the Greater Antilles, thanks to the pioneering work of M. J. Roobol & J. W. Lee (1976). When comparing this first map of site distribution with the map of the number of beads and pendants per site, a quite different picture emerges (Figure 15). In fact, less rich areas appear here, such as in the Lesser Antilles: Barbados, St. Vincent, St. Lucia, Dominica. These islands, which all have one or more sites (except Barbados), have not yielded any truly rich sites, unlike Montserrat with the unique but very rich site of Trants, or St. Eustache, which seems quite rich, but actually corresponds to the single site of Golden Rock where we have already seen that there was only one exceptional find: a burial with 81 beads. In the Greater Antilles, too, the change is significant: Puerto Rico and Vieques take their rightful place, which we have already seen with the sites of the Early Ceramic period such as Sorcé, La Hueca, and Punta Candelero, while Jamaica is visibly much poorer, with the numerous sites identified mostly having only one identified object, and although they are attributed to the Early/Middle Ceramic period, they only present objects made of chalcedony, calcite, limestone, but no objects made of green stone or amethyst. Several of these observations can be related to the archaeological research effort in certain islands: Dominica, St. Vincent, Barbados, and Jamaica have not received as much interest as Antigua, St. Martin, or Grenada, at least for the study of stone adornments. However, serendipity certainly plays a role in this unequal distribution, as archaeological research often owes the discovery of major deposits to chance, as is the case, for example, with the Golden Rock burial, which makes up the entire corpus of stone beads from St. Eustache. Excavation methods can also be responsible for differences between islands, as they have been excavated according to various field practice schools, some excavating larger surfaces than others. The only observation that seems possible from these two maps is a greater concentration of beads, not sites, in the Lesser Antilles and up to the east of Puerto Rico.

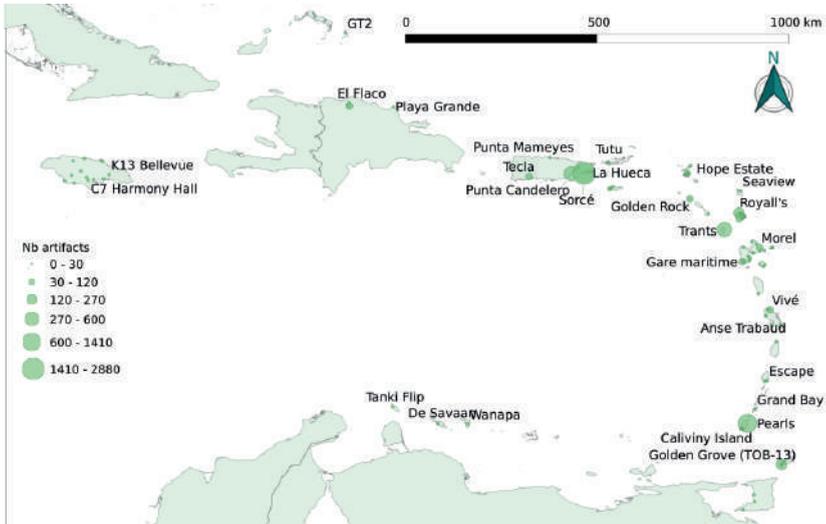


Figure 15. Map showing the distribution of the number of lapidary artifacts per site matters to connect the sites, and not their geographical proximity. The analysis was also carried out by combining green stones with each other (with or without excluding turquoise), and the result is very similar.

Distribution of raw materials

The network analysis of raw materials shows that the links between sites do not follow a geographical logic since strong similarities can connect sites with very distant positions, while close sites can be unrelated (Figure 16). As previously demonstrated, it is the periods that matters to connect the sites, and not their geographical proximity. The analysis was also carried out by combining green stones with each other (with or without excluding turquoise), and the result is very similar.

Beyond this regional analysis of the distribution of all raw materials based on the similarity of their representation in sites, which allows for a direct comparison with the chronological distribution previously established, it is also possible to study simply the geographic distribution of each raw material. To do so, I extracted data from the GIS created from the database for each of the most represented raw materials and for some materials worthy of discussion. I intentionally omitted doubtful determinations, materials identified in only one site, and very general determinations such as “volcanic rock”. This leaves eight widely spread materials: amethyst, calcite, carnelian, rock crystal, diorite, nephrite, turquoise, and serpentine (Figure 17). The maps of the most common materials clearly show a homogeneous distribution of all materials on the scale of the Antillean arc. Note simply the distribution

of calcite and diorite, which extends to the Dominican Republic, due to the presence of recent and final Ceramic sites that have been unearthed there. These maps thus once again demonstrate the very high geographical homogeneity of the materials used in lapidary production during the Ceramic Age in the Antilles, with the only notable exception being the distinction of the Dominican Republic sites. As for the rarer materials, one may note the distribution of limestone adornment elements, which are only identified in the northern part of the Lesser Antilles, and particularly on limestone islands. This distribution clearly shows the relation between lapidary production and archaeological sites' substrate and therefore, very probably, a local production of these elements, with the most easily available material, to supplement, no doubt, the materials desired in terms of color, brilliance, hardness, etc. The second interesting material is malachite. This green mineral, rather easily recognizable to the naked eye, has been identified only in the northern part of the Lesser Antilles. If no precise source for this gemstone is known in the region, it seems quite possible that it is also local, according to a mode of reasoning similar to that developed for limestone. Poor-quality sources of malachite are mentioned in Puerto Rico (Rodriguez, 1993) and Antigua (Murphy et al., 2000), and may suggest, perhaps, sources of better quality, of low volume, unknown to archaeologists.

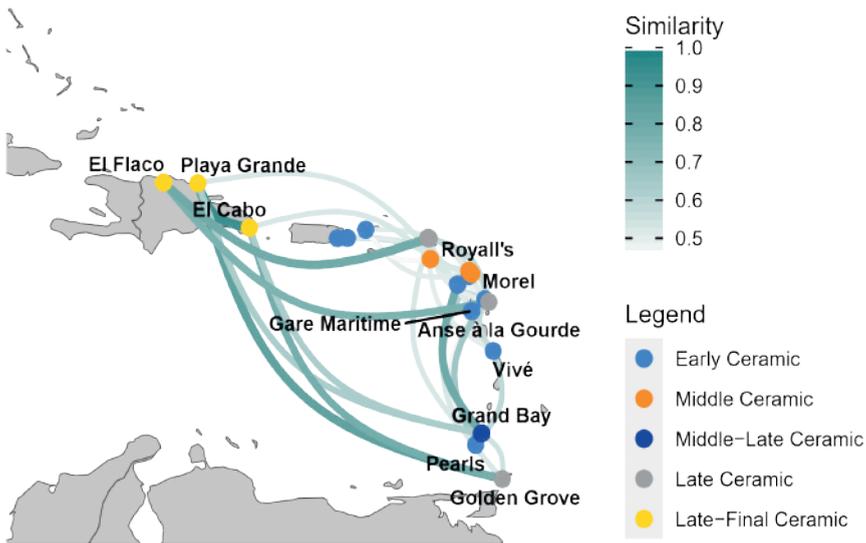


Figure 16. Network based on Brainerd-Robinson similarity index between sites calculated from the detailed raw material, with nodes located at their geographic coordinates. Threshold for keeping edges was set to the minimum value allowing to create a unique and complete network.

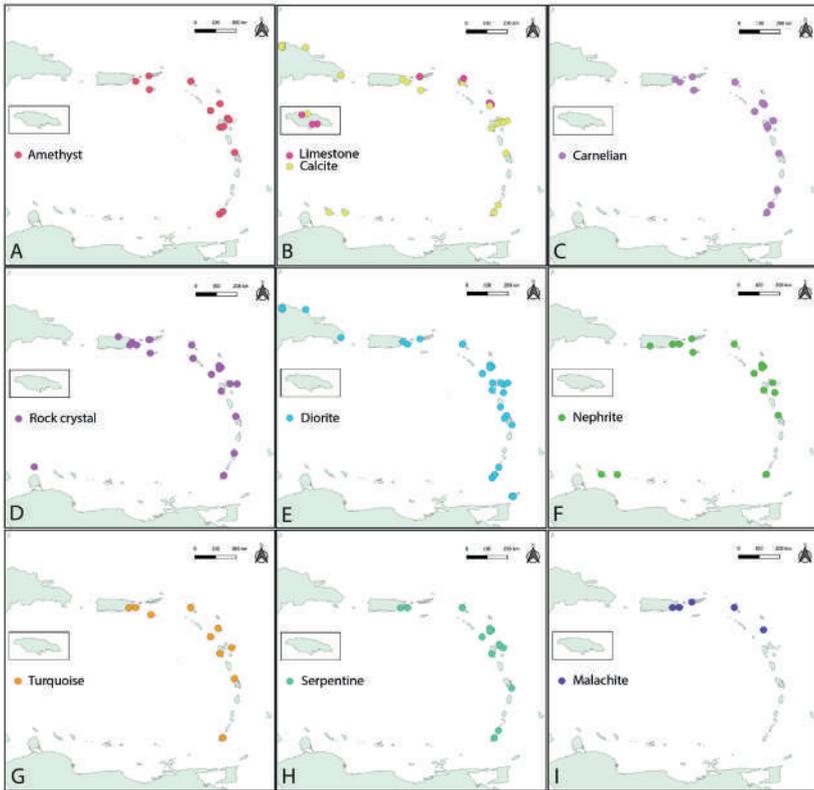


Figure 17. Maps showing the distribution of diverse raw materials.

Distribution of types

The most abundant objects, beads, are distributed ubiquitously, since almost all the inventoried sites present this type of object (Figure 18A). The most common types of beads are also evenly distributed in the Caribbean islands, even for slightly rarer types such as bi-conical or plano-convex beads (Figure 18B-F). As for pendants, it can be noted that they are also evenly distributed in the Lesser Antilles and Puerto Rico (Figure 18G-I). Regarding the Greater Antilles, it should be noted that although sites that have yielded pendants are present, they are not the most common sub-types (geometric, zoomorphic). For Jamaica in particular, this is due to a lack of information, as pendants are not typologically attributed (Roobol and Lee, 1976), while for the Dominican Republic, it is not possible to precisely link objects and sites even in recent publications. Finally, the raw material fragments are homogeneously recovered from archaeological sites too (Figure S6). The degree of precision of the information on the shapes that these fragments take in the sites is not always

very high, and many of them are simply indicated as being raw material or discarded elements of the *chaîne opératoire*, but there is still a significant number of crystals mentioned. The presence of flakes is not so rare, and it is therefore likely that the initial stages of the production of these beads, could have occurred on most sites, even if some sites far surpass others in terms of raw material fragments or preforms, such as Trants and Golden Grove (Crock and Bartone, 1998; Mones, 2007).

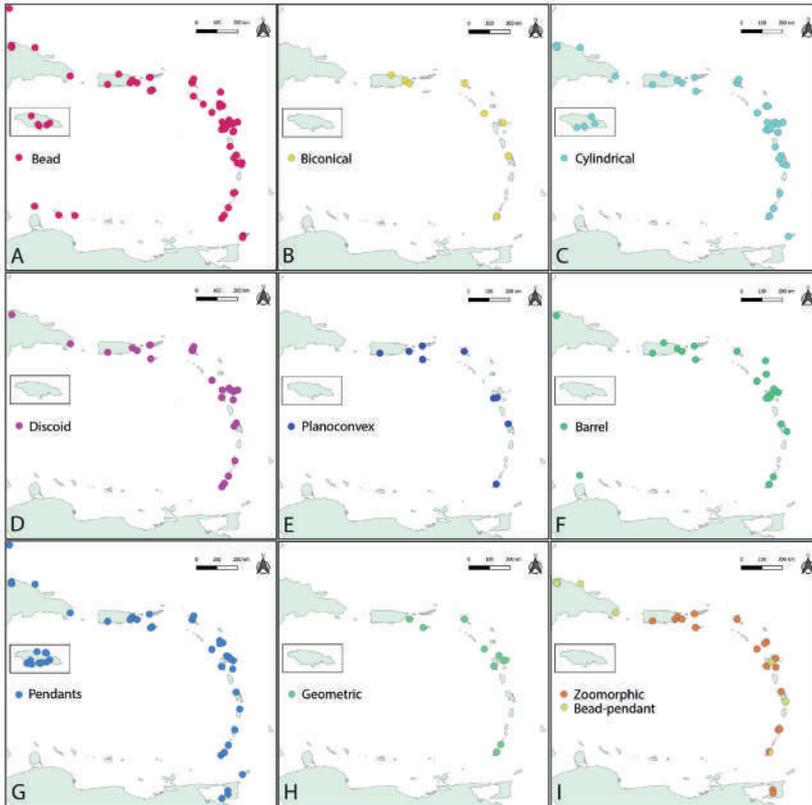


Figure 18. Maps showing the distribution of types of beads.

For objects of more particular shapes, such as pendants, I think it is interesting to represent a large number of them, as this has never been done before, while preserving their relative positions as much as possible (Figure 19, Figure 20, Figure 21). Unfortunately, for the sake of readability, it is not possible to maintain the respective scales of the artifacts, but these elements can be accessed to scale in the online database (Queffelec, Fouéré, and Caverne, 2021). These figures allow us to visualize remarkable similarities between some archaeological objects found on very distant islands. Within

zoomorphic pendants in the form of frogs, flat or round, usually attributed to the Cedrosan Saladoid, exceptional similarities in shape are noted, highlighted by frames of the same color (Figure 20). These particularly similar greenstone decorative elements are sometimes separated by thousands of kilometers, for example, very similar objects have been found in Grenada and Puerto Rico, at both ends of the Antillean arc. As for the small zoomorphic pendants, called “segmented frogs” and traditionally attributed to the Huecan Saladoid sub-series, since more than a thousand of them were found in the Sorcé-La Hueca site (VI-02), striking similarities are also noted that extend beyond purely Huecan Saladoid sites (Figure 21). In particular, some similar productions have been found in Pearls (GR-01) (Falci, Knaf *et al.*, 2020), at the very southern tip of the archipelago, where Huecan Saladoid is not usually recognized in ceramic production, although D. Bonnissent (2013) includes it in the diffusion area of this sub-series based

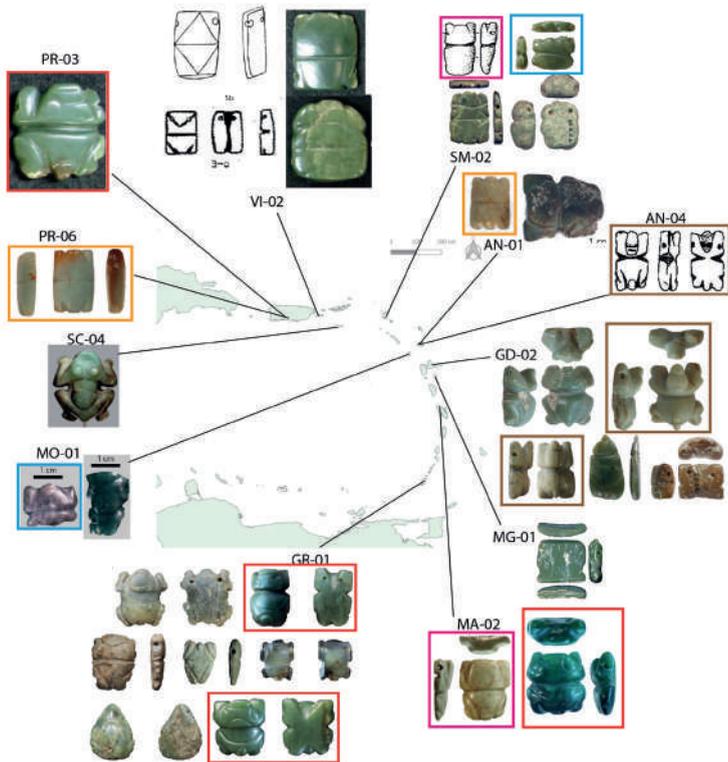


Figure 19. Map showing the distribution of frog-shaped pendants classically attributed to Cedrosan Saladoid tradition. Images not at the same scale for ease of visualization.

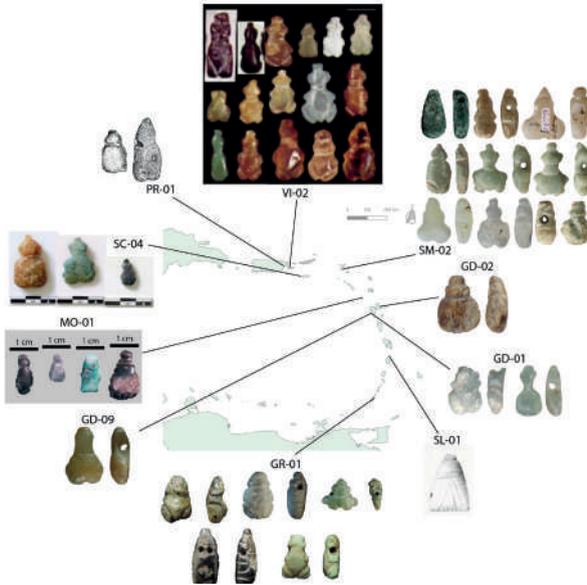


Figure 20. Map showing the distribution of “segmented frog” pendants classically attributed to Huecan Saladoid tradition. Images not at the same scale for ease of visualization.

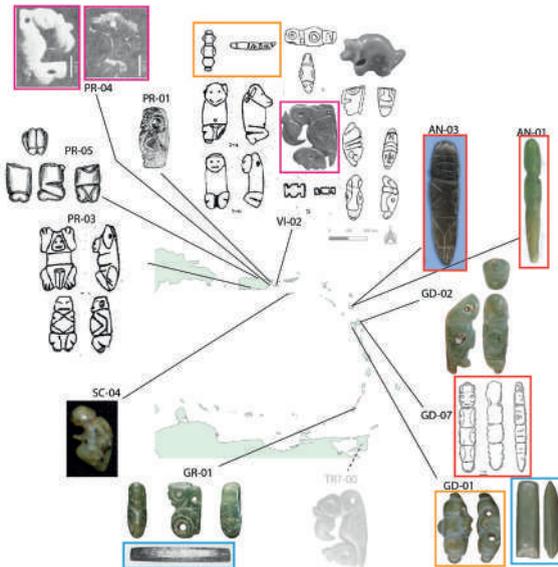


Figure 21. Map showing the distribution of other zoomorphic pendants, “axe-god” pendants and anthropomorphic pendants. Only a selection of pendants from Vieques, Puerto Rico and Grenada is shown. Pendant TR-00 is of doubtful archaeological provenience. Images not at the same scale for ease of visualization. Similar types are squared with same color.

on the work of R. P. Bullen (1964) and R. P. Bullen and A. K. Bullen (1973). A more recent re-evaluation of the site collections confirms that the attribution of Huecan Saladoid to certain levels of Pearls should not be considered (Hanna 2019, Annex A.2 and footnote no. 10). It is also interesting to mention that this category of pendants is not only made of green stones, unlike the previous one. At Sorcé-La Hueca (VI-02), a wide variety of materials seems to be used, although it is not possible to know exactly which ones based on the published study, while the use of calcite to produce several of these objects is observed at Hope Estate (SM-02). Finally, it is worth noting the strong resemblance between the two axe-shaped pendants, one from Gare Maritime (GD-01) and the other from Pearls (GR-01) (Figure 21).

Discussion

Temporal or spatial distinction of lapidary production

Despite the many limitations associated with the archaeological record of the Caribbean islands, it is possible to demonstrate, through the use of a database that is as comprehensive as possible, that the lithic productions of the pre-colonial period are very different between the Early Ceramic and the more recent periods. Whether it is the raw materials used, the types of objects produced, or even the more precise combinations of raw materials and types of objects, the Early Ceramic is clearly distinguished, both in terms of diversity and similarity. The sites of the Early Ceramic are more diversified in terms of richness, but also when diversity is evaluated more globally through diversity profiles. I have also been able to show that the lower diversity of the Late Ceramic and Final Ceramic sites is not solely due to their smaller samples, but is indeed due to a choice made by the inhabitants of the Caribbean islands during these periods. As for the similarity of the lithic object collections, it is clear that it is the periodization and not the geographical location that groups the sites. I have been able to demonstrate this in various ways, through seriation analyses, AFC or network analyses. Within the Early Ceramic sites, these analyses have also highlighted a subgroup consisting of sites that provide Huecan Saladoid ceramics, among which is generally found the Sorcé site, even though it is attributed based on its ceramic productions to the Cedrosan sub-series. Its extreme geographical proximity to the La Hueca site (the two sites are next to each other) could explain this phenomenon. These sites are mainly characterized by a significant use of green rocks and are similar to each other to a lesser extent in terms of typology, although many of them have delivered a significant number of zoomorphic pendants. This differentiation, which has been observed by archaeologists for many years, is thus confirmed here by robust analyses based on more comprehensive data

than ever before. Within the period during which Saladoid ceramic productions developed, some authors have noted a strong distinction between the Early Cedrosan Saladoid and the Middle-Late Cedrosan Saladoid, or at least between the periods represented by these ceramic ensembles, which are the Early Ceramic and the Middle Ceramic. Several authors highlight differences in the lifestyle of the agroceramicists between these two periods, with the Amerindians having colonized a large part of the Caribbean archipelago, expanding the types of environments occupied and the types of ceramics produced, in parallel with a visible demographic increase as evidenced by the increase in the number of archaeological sites (Hofman, 2013; Curet, 2005; Keegan and Hofman, 2017; Crock and Petersen, 2004). Unfortunately, the lapidary production during this period is quite poorly represented with only few sites, which could already indicate a loss of importance of this production during this period, since with the increase in the number of archaeological sites, one would expect to also inventory more stone adornments. The Middle Ceramic sites that have been able to integrate the datasets used in the statistical analyses, especially Elliot's and Royall's, show in most of the analyses based on raw materials a relatively intermediate position between Early Ceramic sites and more recent sites, when they are rather similar to Early Ceramic sites in terms of typology. As for their diversity, they are also in an intermediate position in terms of raw materials, but clearly similar to recent sites in terms of typological diversity. Taking into account this loss of diversity already initiated from the Middle Ceramic, the most obvious break between Saladoid tradition and more recent periods is mainly due to the raw materials used. The Late-Final Ceramic sites can be grouped together, in opposition to the older sites. The use of so-called exotic materials almost completely stops, and only three materials then provide the vast majority of production supports: calcite, diorite, and carnelian. Stylistically, forms associated with green materials are also abandoned: pendants in general and zoomorphic pendants in green rock in particular now represent only a very limited portion of stone jewelry. The cultural evolution of Middle Ceramic societies towards Late Ceramic societies, interpreted as internal to the Caribbean arc and not linked to a new migration based on ceramic remains (*e.g.* Hofman, 2013; Keegan and Hofman, 2017) and genomic analyses (Nägele *et al.*, 2020; Fernandes *et al.*, 2020), has apparently also been at work regarding lapidary production. While the homogeneity of the Early Ceramic period can be emphasized, for these more recent periods, it is possible to distinguish two very distinct groups of sites: those who use primarily calcite jewelry and those who use jewelry made of diorite and carnelian.

If the evolution of lapidary productions is clear in the temporal dimension, it must be noted that, regardless of the period considered, no geographical difference is observed. Indeed, strong links between sites, as visible

through network analyses for example, show that they do not correspond to geographical proximity once placed on a map. The Late/Final Ceramic period sites on Hispaniola, for example, integrate the two visible subgroups of this period and mix with the sites of Late Ceramic on St. Martin, Guadeloupe, or Tobago. The older sites themselves can be very strongly similar regardless of the distance that separates them, and from a more stylistic point of view, very similar zoomorphic pendants, barrel-shaped diorite beads, planoconvex beads made of turquoise, and cylindrical beads in rock crystal and amethyst are found throughout the Caribbean islands.

This homogeneity implies regular contacts between human groups inhabiting the Antillean arc during this period, while the origin of at least some of the materials implies direct or indirect contacts with the inhabitants of the American continent. For many human societies, personal ornaments carry a strong symbolic charge, allowing individuals to assert their social status (see introduction). Maintaining homogeneity in these ornaments is therefore necessary to continue understanding these codes on a large geographic scale, such as this long archipelago. The function of adornment, which is very difficult to approach archaeologically unless there are direct associations between skeletons and artifacts, has been very little discussed in the literature, probably due to the fact that these objects are mainly found in midden deposits without association with their wearer. Only A. Boomert (2001) hypothesizes that the use of these adornments was coded by gender, parallel to the gendered classification of animals in the cosmology of their wearers. In this cosmogenic vision, based on knowledge of the inhabitants of the Antilles and the Amazon at the time of contact, frogs, caterpillars, manatees, and turtles would be feminine attributes, while jaguars, dogs, sharks, and vultures would be masculine. It is probably not possible to directly transfer this knowledge of the Amazonian inhabitants in the 16th century to the populations of the Early Ceramic period, but one can imagine different adornment codes according to gender, life stages, and social status, which could require regional homogeneity to remain understandable on a large scale. This strong homogeneity, also evidenced in ceramic production, is interpreted by several authors as a characteristic of pioneering groups, compared to the first inhabitants of Pacific islands in terms of lithic raw material such as obsidian or ceramic styles (*e.g.* Earle and Spriggs, 2015; Spriggs, 2020; Shaw *et al.*, 2022; Kirch, 2017). The significant exchanges that can be imagined based on the widespread distribution of this most symbolic material tradition represented by lapidary production would then have everything to do with maintaining strong connections between isolated groups to minimize risks in a new and dangerous environment. The Caribbean islands are indeed subject to significant natural climatic and geological hazards such as hurricanes, droughts, volcanic eruptions, tsunamis, or epidemics, as well as social hazards

such as conflicts. The sense of belonging to the same extended social group, in difficult or even dangerous conditions of colonizing new spaces, would then be an advantage in order to multiply the possibilities of mutual aid in case of problems (Keegan and Hofman, 2017).

The origin of this lapidary production

The most widely discussed topic among Caribbean archaeologists through the diverse lapidary productions of the Early Ceramic period is undoubtedly the distribution of these objects and the origin of the raw materials used for their production. The interpretations are mostly similar, indicating origins from all around the Caribbean islands as well as the northern coast of South America (e.g. Rodriguez, 1993; Hofman *et al.*, 2007; Cody, 1993). Some studies mainly cite old geological literature or personal communications from geologists (Cody, 1993; Rodriguez, 1993; Murphy 1999), while most recent studies only repeat these hypothetical attributions⁶. These two categories of work ultimately provide very little concrete evidence, and unfortunately, I do not currently believe it is possible to go further in a reasonable way. As D. Watters (1997) wrote: “Archaeologists tend to favour lowland South American sources because of undoubted linguistic and artifactual evidence linking the Caribbean’s early Ceramic Age colonizers with that region, but empirical evidence of such sources is largely lacking”. Ongoing work on turquoise and diorite will hopefully bear fruit in the coming years (Queffelec *et al.*, 2022; Queffelec, 2021), while carnelian could also be a possibility, based on recent work in other parts of the world (Carter and Dussubieux, 2016; Theunissen, Grave and Bailey 2000; Insoll *et al.*, 2004). Hypothesis will have to be tested both with fieldwork and analytical programs about the origin of sudoite (Queffelec *et al.*, 2021) and the origin of nephrite (Acevedo Gómez *et al.* 2018).

One other aspect that remains unclear about the Early Ceramic period’s production of lapidary adornments, is the origin of the cultural tradition and technical expertise. Caribbean archaeologists largely agree that the use of raw materials and the evolution of stylistic frog-shaped pendants suggest a desire to maintain ties with the inhabitants of the continent. Yet, while the link between ceramic productions has been established since the 1950s⁷ (e.g. Cruxent and Rouse, 1958; Rouse and Cruxent, 1963; Rostain, 2008; Bérard, 2013), and has recently been confirmed by genetic studies (Nägele *et al.*, 2020;

⁶ Table S4 summarizes the different proposals of archaeologists in the region regarding the origin of the most common materials.

⁷ However, the origin of the specificities of Huecan ceramic productions still raises questions, especially if their arrival in the Antilles is considered to be earlier than the Cedrosan Saladoid (Bonnissent, 2013).

Fernandes *et al.*, 2020), the production of lapidary adornments do not show such an obvious link, to say the least.

When searching through general literature on the archaeology of northern South America and specifically the Orinoco Basin, references to stone adornments are rare, and some general articles or book chapters don't even mention them (Navarrete, 2008; Gassón, 2002; Arroyo Kalin *et al.*, 2019; Versteeg, 2008). This suggests that stone adornments were not a major element of material culture for the inhabitants of this region during the Ceramic Age, unlike the Early Ceramic period in the Caribbean, where all general writings mention them. The rare mentions of lapidary production mostly concern pendants: muiraquitas and winged plaque pendants or bat-shaped pendants ("placas aladas" in Spanish). However, muiraquitas on the continent are later than in Cedrosan Saladoid or Huecan occupations in the Caribbean islands, as they are found in Kwatta, Konduri or Santarém contexts, which are integrated into the Arauquinoid series (ca. 650-1250/1500 AD) (Rostain, 2008; Boomert, 1987). Their use persisted until colonial periods (see Boomert 1987, pp. 36-40 for numerous examples). The production of beads and pendants in the Santarém or Guyana region is similar to that of the Early Ceramic period in the Caribbean islands (Barata 1954; Roth 1944), but they are indeed later. The distribution of winged plaques and their production workshops is quite different: they are found from Costa Rica to Venezuela, passing through Panama and Colombia and are mainly found in the early centuries AD (Gassón, 2002; Acevedo Gómez *et al.*, 2018; Falci *et al.*, 2017; Wagner and Schubert, 1972). Some examples have been found in earlier contexts, in the first centuries before our era, in Costa Rica and Colombia (Acevedo Gómez *et al.*, 2018). The stone beads are even rarer and also later (Spencer and Redmond 1992; Lozada Mendieta, Oliver and Riris, 2016), or completely absent from texts (Gassón 2002; Arroyo Kalin *et al.*, 2019; Versteeg, 2008). When looking specifically at the elements found in Saladoid contexts on the continent, small lapidary adornment productions can be found, although they are difficult to find. For example, at the Corozal site (Roosevelt, 1980), even though they mainly come from non-Saladoid levels, or at the Saladero site where cylindrical stone beads are mentioned: "En Saladero, por ejemplo, solo encontramos restos de topi, lascas calcedonia, cuentas cilíndricas de piedra y un punzon de hueso. No existen objetos ceremoniales" (Rouse and Cruxent, 1963, p. 153). After a request to the Peabody Museum at Yale University (R. Colten, pers. comm., 2022), it appears that their collections from major Saladoid sites such as Ronquín or Saladero are very poor in this regard. The Ronquín site, in fact, did not yield any stone beads, while all of the stone beads in their Saladero collection amount to five beads, four of which are made from a black and white material resembling diorite, the fifth resembling volcanic rock (Figure 22). These objects are very rare and currently

there is no evidence attesting to a great diversity of production in terms of raw materials or forms: where are the continental Saladoid pendants or the amethyst beads? A more in-depth bibliographic research on these anciently excavated, studied, and published sites, which is difficult to conduct online, would require a significant effort to possibly find some images of lapidary productions, but that is out of the scope of this work.



Figure 22. Photographs of the five lithic beads from the site of Saladero curated at the Peabody Museum (photos Peabody Museum, layout A. Queffelec),

Therefore, it is clear that the production of stone beads and pendants by the Saladoid ceramicists in South America had nothing to do with the one of groups in the Antillean archipelago, either in terms of typology, variety of raw materials, or even simply in quantity found in the sites. On the contrary, one could consider that it is the Isthmo-Colombian region that should be considered, and the Nahuange traditions (Colombia), Middle Zoned Bichrome, La Montana, or El Bosque (Costa Rica). Indeed, several arguments could be used to connect Antillean and Isthmo-Colombian productions in a stronger way than Antillean and lower Orinoco ones:

1. presence of contemporaneous lapidary production in this region as compared with Early Ceramic sites in the Caribbean islands (Jones, 1998; Rodríguez Ramos, 2013; Kuboyama, 2022; Fonseca Zamora and Scaglione, 1978),
2. stylistic proximity for pendants production, such as vultures/condors⁸, bats, frogs for the Huecan Saladoid (Rodríguez Ramos, 2011b, 2011a; Cody, 1993; Narganes Storde, 1999; Fonseca Zamora and Scaglione, 1978),

⁸ The taxonomic attribution is of low interest after C. Giovas 2019.

3. similar raw materials: amethyst, serpentine, agate, chalcedony, rock crystal, paragonite, nephrite (Guerrero, 1998; Rodríguez Ramos, 2011a; Hernández-Murillo *et al.*, 2021),
4. presence of nephrite in Colombia (Acevedo Gómez *et al.*, 2018) and potential presence of sudoite in the ophiolites (Queffelec *et al.*, 2021).

Furthermore, there are additional factors to consider in relation to other aspects of material culture. Recent analyses suggest that the jadeite utilized for axe production partly came from Guatemala (Knaf *et al.*, 2021), a hypothesis previously proposed by R. Rodríguez-Ramos (2011b) based on the observation that there is no evidence of occupation as early as the beginning of the Early Ceramic period on the islands of Hispaniola and Cuba, which are the other potential sources of jadeite. Nevertheless, jadeite axes have been discovered in these early contexts. To support this hypothesis, R. Rodríguez-Ramos (2011b) also examines the typology of the axes, highlighting the similarity between the plano-convex shapes found in Porto Rico and those of Costa Rica. Additionally, the presence of guanin (only one fragment found at the Maisabel site), mother-of-pearl elements, and other indicators, such as coastal lifestyles, certain plant introductions, and dog burials, all suggest proximity to the Isthmo-Colombian region. This interpretive model, which is not widely accepted in the Caribbean archaeology community, emphasizes the Huecoid ceramic series over the Huecan Saladoid sub-series also in terms of ceramic forms and decorations (Rodríguez Ramos, 2013).

As it seems extremely difficult to challenge the solid knowledge gained in the fields of ceramics and genetics through the prism of stone adornment objects, specific hypotheses are probably needed for this particular part of material culture, which was already highly developed from the earliest ceramic age occupations in the Caribbean. One such hypothesis posits that the existing connections between the inhabitants of the Archaic Age Antilles and those of the Isthmo-Colombian region allowed the new arrivals with Saladoid ceramics to create a novel means of recognition, thereby strengthening their bonds during the precarious period of archipelago colonization. Evidence suggests that lapidary adornment items began production in Costa Rica with the Early Chiefdom Society around 300 BC (Kuboyama, 2022), thus contemporaneously with the oldest Huecan Saladoid sites. These new contacts established with the inhabitants of present-day Costa Rica may also have influenced the ceramic productions of some of the new arrivals, resulting in a distinction identified today as the Huecan Saladoid or the Huecoid, as proposed by researchers. Other groups from the continent may have concurrently integrated this new production of stone adornment objects while maintaining their ceramic tradition, as is known today in the Cedrosan Saladoid.

Conclusion

With this work, knowledge of Amerindian lapidary productions in the Caribbean islands has been greatly updated. The data gathered through direct studies and a substantial inventory from scientific literature allowed to create a database of over 8000 objects distributed across more than 80 archaeological sites, providing a robust approach to test the intuitions of Caribbean archaeologists. The use of ecological methodologies confirmed the greater diversity of Early Ceramic assemblages, in terms of raw materials and types of objects, compared to later periods, without this being attributed to a bias arising from variable archaeological collection sizes. Several methods also highlighted that similarities in raw materials as well as typology were linked to site periodization rather than geographic location. The homogeneity of Early Ceramic lapidary productions and of the different archaeological sites in such a network of similarities, was also highlighted, while the specificities of productions from sites attributed to Huecan Saladoid were emphasized. Based on this specific archaeological record, more recent sites distinguished themselves into two groups. In this Early Ceramic-Late/Final Ceramic dichotomy, the lapidary productions of the Middle Ceramic are often in an intermediate position.

Finally, this work highlights the significant similarities between the Antillean arch and the Isthmo-Colombian region in the Ceramic Age in terms of lapidary ornament production, as well as the absence of an evident link on this subject with the original Saladoid groups of the lower Orinoco valley. The exchange network of the Early Ceramic period probably included the Isthmo-Colombian region, and it is not easy to interpret the production of an exceptionally diverse ornamentation that used exotic materials among these pioneering groups as a desire to maintain a link with their region of origin, which was actually very poor in lapidary ornaments. The archaeological record rather highlights a desire to develop their own ethnic codes, possibly related to a new social organization, participating in the development of a sense of unity beneficial to the colonization of the archipelago.

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Woody Resources as a Medium for Colonial Engagement: Explaining the Artifactual and Architectural Record at La Soye, Dominica

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Abstract

Wood and other tree byproducts were significant commodities in contexts of early colonial economies, but few archaeological studies focus on these resources. This article presents historical and archaeological evidence of the exploitation of woody resources for the purpose of naval stores and export at the site of La Soye, Dominica, Eastern Caribbean, beginning in the 1580s and continuing until the first quarter of the eighteenth century. This research highlights the importance of wood and woody resources in early colonial

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encounters and economic relationships, and the role of Indigenous knowledge in facilitating an increasingly complex global economy.

Key words: *Caribbean Archaeology, European Colonialism, Kalinago History, Piracy, Trade*

Los recursos leñosos como medio en el advenimiento colonial: explicando el registro artístico y arquitectónico en La Soye, Dominica

Resumen

La madera y otros materiales de los árboles eran productos básicos importantes en los contextos de las primeras economías coloniales, pero pocos estudios arqueológicos se centran en estos recursos. Este artículo presenta evidencia histórica y arqueológica de la explotación de los recursos leñosos con fines de almacenamiento y exportación naval en el sitio de La Soye, Dominica, Caribe Oriental, comenzando en la década de 1580 y continuando hasta el primer cuarto del siglo XVIII. Esta investigación destaca la importancia de la madera y los recursos leñosos en los primeros encuentros coloniales y las relaciones económicas implicadas, así como el papel del conocimiento indígena para facilitar una economía global cada vez más compleja.

Palabras clave: *arqueología caribeña, colonialismo europeo, piratería, historia de kalinago, comercio.*

Les ressources boisées en tant que médium dans l'avènement colonial: explication du bilan artistique et architectural de La Soye, Dominique

Résumé

Le bois et les autres sous-produits des arbres étaient des produits de grande importance dans les premières économies coloniales, mais il existe peu d'études archéologiques qui se concentrent sur ces ressources. Cet article présente des preuves historiques et archéologiques de l'exploitation des ressources ligneuses pour la construction et la réparation navale, et d'autres produits du bois sur le site de La Soye, Dominique, Antilles, qui fut occupé à partir des années 1580 et jusqu'au premier quart du XVIIIe siècle. Cette recherche met en évidence l'importance du bois et des ressources ligneuses dans les premières rencontres coloniales et les relations économiques, ainsi que le rôle des connaissances indigènes dans la facilitation d'une économie mondiale de plus en plus complexe.

Mots-clés: *Archéologie des Caraïbes, colonialisme européen, piraterie, histoire des Kalinagos, commerce.*

Introduction

Woody resources have been an important element for understanding mobility, migration, craft production, and human-environment interactions in the Caribbean before 1500 (Cartwright 2018; Schearn, 2020). Similarly, scholars have noted the importance of wood in the eighteenth and nineteenth century, either as a fuel source for lime kilns (Bodin *et al.*, 2021) or as a commodity produced in lumber camps (Hatch, 2011). With a few exceptions (see Finamore, 2007), less attention has been paid to the role of woody resources in contexts of early colonial economies. This is a shame as such encounters can highlight the role of Indigenous knowledge in facilitating an increasingly complex global economy (See Whitehead, 2003, 193). This article presents historical and archaeological evidence of the exploitation of woody resources for the purpose of naval stores and export at the site of La Soye, Dominica, Eastern Caribbean, beginning in the 1580s and continuing until the first quarter of the eighteenth century. La Soye (Figure 1) represents one of the few early colonial contexts in the Eastern Caribbean where a number of new world resources including cotton, tobacco, wood, and cassava were commercialized with the aid of Indigenous knowledge. Among these goods, woody resources

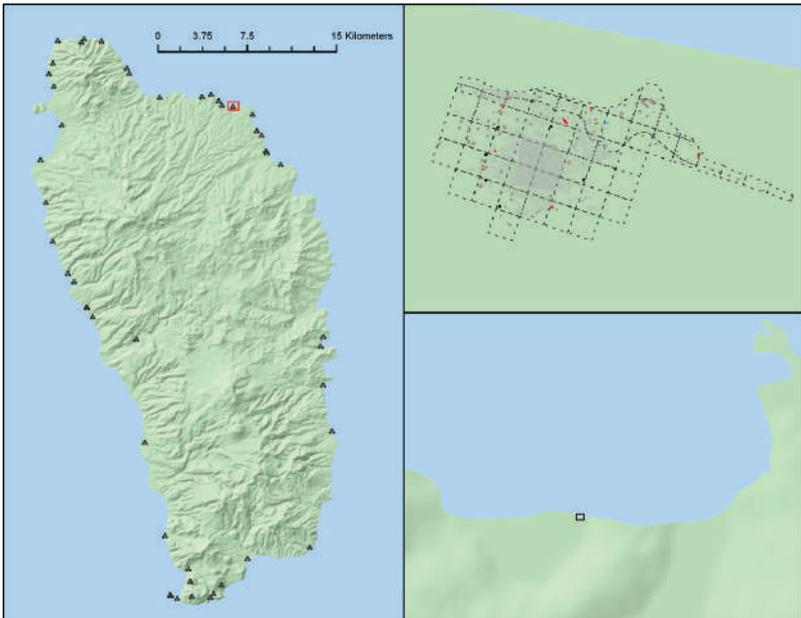


Figure 1. Location of La Soye, with all Identified Pre-Columbian Sites, left (GIS locations and map courtesy of Benoit Berard) and Map of excavations, right.

were critical for building canoes, which facilitated regional trade. They also provided the raw material for repairing hulls, including timber and pitch, and provided sturdy logs to reinforce masts, among numerous other functions.

This research was undertaken as part of a broader study of changing maritime landscapes in the eastern Caribbean and represents the latest phase in the two-decade Archaeological Survey of Colonial Dominica (ASCD) which was initiated to map the environment and economic implications of colonialism over the long term. The ASCD seeks to dismantle the Columbian divide in its methodological approach, its temporal scales of analysis, and its interpretive frame. La Soye has the added benefit of being a relatively compact locus of study with a diverse array of environmental features, intact stratigraphy allowing for exceptional chronological control, and a culture history that begins approximately 1800 BP and continues to the present. Research methods included a range of remote sensed, geophysical, environmental, and excavated data. As such the project has been able to amass a material, botanical, and faunal record to document changing settlement patterns over the past 1,500 years, with particular attention to years between 1400 and 1800 CE.

Investigations of Colonial-Indigenous encounters explore the novel social structures formed with cultural encounters, and the nature of power relations in the past and present (Cusick *et al.*, 2015). Before European incursion, the Caribbean archipelago was a network of social, cultural, political, and economic entanglements. As Caribbean archaeologists and ethnohistorians have long argued, the Caribbean Sea was an aquatic “highway”; a seascape that encouraged mobility and dynamic systems of exchange among Indigenous groups (Callaghan, 2013; Fitzpatrick, 2013; Hofman *et al.*, 2008; Keehnan *et al.*, 2019; Mol, 2014; Pagan-Jimenez *et al.*, 2015; Rodríguez-Ramos, 2013; also see Curet and Hauser, 2011). Studies of cultural encounters and contact, such as those between European groups and Kalinago in the hinterlands of the Caribbean, can examine the possibility, as noted by Stein (2005:12), “that alliance strategies may have been extremely important in ancient, nonwestern, and precapitalist colonial networks, particularly when colonizing groups were dealing with populous and/or already-complex local polities whom they could not literally dominate.” At La Soye we examine the premise that during a time of upheaval, migrations, depopulation, competition and conflict, alliances with Europeans were a particularly important survival strategy for Indigenous groups in frontier contexts, such as the Dominican Kalinago. Keehnen and Mol (2020:3) argue that the pre-Columbian social and economic structures within the Caribbean emphasized inter- and intra-island exchange networks and alliances that “served as a template for the first encounters between indigenous Caribbean people and Europeans.” Further, Deagan (2003:6) argues alliance building was an “especially important mechanism in frontier

areas.” Our research in Dominica investigates these processes at the local scale, exploring the structure and material manifestations of trade alliances between European and Indigenous groups.

As more recent scholarship has shown, Indigenous peoples of the Caribbean continue to shape Caribbean landscapes well after such encounters—indirectly through the improvements and knowledges systems inherited in the landscape, and directly through the durable presence in the landscape (Rivera-Collazo et al. 2018). This paper shows how Europeans on the Indigenous frontier, relied on longstanding knowledges about woody resources (including timber and pitch) to provide critical naval stores for maritime ventures in the 17th century. Rather than emphasizing impact of European colonialism on formerly Indigenous socionatural systems and the strategies this paper looks at how indigenous co-constituted this frontier when encountering the precarity wrought by European incursion. This preliminary, and by no means conclusive, study of a 17th century masonry feature and associated deposits presents an opportunity to demonstrate the consequences of colonial encounters. In so doing, it identifies a means by which cosmopolitan trading factories and port towns might be studied. This approach diverges from existing scholarship in the historical archaeology of the Caribbean which tends to consider civic and urban contexts outside of nature and in the absence of Indigenous input. In the case of La Soye, as early as the 16th century, Indigenous residents of the site established economic relationships with European traders, who sought to exploit the abundant natural resources of the yet uncolonized island. Based on excavations in 2018 and 2019, we propose that wood and woody resources were a central facet of these encounters at La Soye.

Historical context

Ethnohistoric accounts of early interactions between Kalinago and Europeans are limited by a number of factors, including the vagaries of first-hand accounts and the nature thorough which they were archived and distributed in Europe, the difficulty of identifying 17th century sites capturing these encounters (Honychurch, 1996; Lenik, 2012). The 16th and 17th centuries represent a period of dynamic change in the Caribbean, as European powers vied for access to resources and claims to territories, and Indigenous societies were assaulted, attacked, disrupted, and displaced. In the years following Columbus’ arrival, Spain and Portugal remained the most influential colonial empire, and the Dutch became the prominent trading power from the 17th to 18th century, establishing strategic settlements throughout the Eastern and southern Caribbean. This era is marked by competition over both legal and illicit trading of commodities, and of human chattel in which a range of actors participated (Lenik, 2018; Hauser and Armstrong, 2012). With increasing

European settlement from the 16th century, the Caribbean experienced an amplified focus on extractive economies, the widespread importation of exotic biota, rapidly rising population densities including voluntary immigrants, enslaved Africans and Indigenous Americans, and an eventual shift towards environmentally destructive plantation monoculture (Watts, 1990). As these processes escalated, formerly Indigenous landscapes underwent significant transformations, as island and aquatic ecosystems were altered from a rapid escalation of resource extraction and competition with introduced species. These transformations produced new and diverse forms of socioecological relationships.

On the morning of Sunday, the 3rd of November 1493, on his second voyage, Columbus encountered Dominica, as he entered the Windward islands, naming the tallest of the four islands in view “Dominica,” after the day on which they spotted it. The people living on the island, the Kalinago, called it Wai’ti Kubili (meaning Tall is her Body) (Rocheft, 1658). The label “Carib” was first noted in accounts from Columbus’ voyages and other Spanish explorers in the Caribbean and referred to peoples inhabiting islands east and south of Hispaniola. The subsequent narratives and mythologies surrounding these groups, including a warlike and cannibalistic characterization, persists into present perceptions of Indigenous people in the Caribbean (and beyond) (Hulme and Whitehead, 1992; Hofman *et al.*, 2008). The contemporary Kalinago on the islands of St. Vincent, Guyana, and Dominica are the descendants of groups Indigenous to these islands, with lineages from pre- and post-Columbian migrants from across the Greater and Lesser Antilles and South American Caribbean coast.

In the 16th century, the Spanish remained more focused on the large northern islands and mainlands, but used Dominica as a wood and water stop (Borome, 1972a). Despite historical misrepresentations or exclusion from ethnohistoric accounts, for centuries after Columbus’ landing, the Kalinago were an integral part of the colonial social and economic systems in the Lesser Antilles, and maintained control of several islands during this period, including Dominica. The Kalinago permitted European vessels to stopover along the coast of Dominica, to get freshwater and wood, and would trade foodstuffs including plantains, sweet potatoes, cassava bread, hens, pineapples, and bananas, as well as goods such as tobacco, cotton, turtle shell, and hammocks, in exchange for iron implements including nails, knives, needles, hooks, bills, sickles, hoes, hatchets, saws, iron griddles, colored glass beads, trinkets, mirrors, spirits, and, sometimes, firearms (Breton, 1665; Du Tertre, 1667, vol 2). These exchange systems became central to relationships between Indigenous groups and European traders and colonial settlers.

Throughout the 16th century, the Kalinago, particularly those living in Dominica, led sporadic raids on European settlements in the Greater Antilles and neighboring islands. In addition, Indigenous groups were consistently moving to evade European incursion, slavery or worse, moving between islands, and to and from the northeast coast of South America. The population during the sixteenth and seventeenth centuries in Dominica, therefore, was plausibly a mixture of predominantly Kalinago, with some Taino, enslaved Africans, and Europeans. However, as larger numbers of Europeans continued to encroach on their territories into the 17th century, particularly the French and British, Kalinago groups were under continual threat from the Europeans and led raids on British and French controlled islands throughout the eastern Caribbean. After decades of conflict, in 1660, along with St. Vincent, Dominica was declared under treaty as a “neutral” territory by the Europeans to remain under the control of the Kalinago. During this period, however, Dominica was immersed in continual hostilities among the European groups – the French and English in particular – as they battled for control in the Lesser Antilles.

From the 16th century, wood and tree byproducts were particularly valuable commodities for export to North America and Europe, and also for inter-island commerce. During the first century after European invasion, Indigenous communities in the Lesser Antilles had accepted wood and water stops, and small groups of sailors who would come ashore to barter and trade (Pérotin-Dumon, 2003:143). From the very beginning of European colonial incursion into the Caribbean, Dominica was a well-established location for vessels arriving from their Atlantic crossing to obtain water, wood, and other supplies (Borome, 1966; Latimer, 2009; Hulme and Whitehead, 1992). Along with water, food resources, and even the healing waters of the hot springs, Europeans were interested in firewood, and materials for ship repair, and Dominica was preferred for these resources (Borome, 1966; Latimer, 2009; Hulme and Whitehead, 1992). Unlike many islands in the Caribbean after the arrival of Europeans, Dominica’s forests continued to thrive throughout the colonial period (Atwood, 1791; Honychurch, 2019). There were several factors that created these conditions, but Kalinago resistance was a major impedence to formal colonization, which the island eluded until the late 18th century. Additionally, aside from some areas along the coastal plain, the rugged mountainous geography of the island was not suitable for extensive plantation agriculture, and therefore did not experience the substantial deforestation that occurred on other islands (Atwood, 1791; Honychurch, 2019).

The Kalinago on Dominica thus took advantage of the ideal geographical positioning, and their control of the island to trade for desired European goods, and wood provided a valuable commodity to do so. And Dominica had a plethora of endemic species that provided resources for a variety of purposes (Table 1). Canoe building among the Kalinago was an important activity in

the prehistoric, historic, and continues until the present, and Dominica had expanses of ideal habitat for various trees used to construct dugout canoes (Shearn, 2020). Many of the species that were long known to the Indigenous communities as valuable for canoe construction, both for their wood and byproducts, became coveted by European traders for ship construction and repair, and even exportation to Europe. The West Indian mahogany (*Swietenia mahagoni*), called *acouja* colloquially, for example, was valued for its resistance to parasites, and durability, and was commonly exported to Europe, and was common on Dominica (Du Tertre, Vol 2: Labat, 1693-1705:186). Other species were esteemed for their suitability for house construction, and were used from pre-Columbian into contemporary traditional houses on Dominica (*ti kai*) (Philogene-Heron, 2022).

Table 1. A (non-exhaustive) compilation of important tree species in Dominica

Tree species used in traditional (<i>ti kai</i>) house construction (from Philogene Heron, 2022)	<i>Amanoa caribaea</i> , <i>Vitex divaricata</i> , <i>Ormosia monosperma</i> , <i>Endlicheria sericea</i> , <i>Aniba ramageana</i> , <i>Ocotea leucoxyton</i> , <i>Tovomitia plumieri</i> , <i>Pithecellobium micradenium</i> , <i>Sideroxyton foetidissimum</i> , <i>Manilkara bidentata</i> , <i>Meliosma sp.</i> , <i>Haematoxyton campechianum</i> , <i>Andira inermis</i> , <i>Chione glabra</i> , <i>Tecoma leucoxyton</i> , <i>Chimarrhis cymose</i> , <i>Symphonia globulifera</i> , <i>Zanthoxyton Flavum</i> , <i>Simarouba amara</i>
Tree species used in canoe construction (from Shearn, 2020)	<i>Dacryodes excelsa</i> , <i>Cedrela odorata</i> , <i>Ceiba pentandra</i> , <i>Swietenia mahagoni</i> , <i>Hymenaea courbaril</i> , <i>Tabebuia heterophylla</i> , <i>Calophyllum Brasiliense</i> , <i>Talipariti tiliaceum</i>
Gums, copals, aPigments, dies and stains (compiled from Breton, 1665; Hodge and Taylor, 1957; Taylor, 1938)	<i>Bixa Orellana</i> , <i>Genipa americana</i> , <i>Picramnia pentandra</i> , <i>Bursera simaruba</i>

Much of the wood and tree resources were trafficked as contraband, supplied by “pirate” transient loggers on islands and areas not occupied by the Spanish throughout the Caribbean, Central and South American coast (Finamore, 2007:65; McBride, 2007:50). Ship repair and maintenance was also an important activity at these ports, requiring a supply of wood and wood byproducts such as resins, gums, and pitch (Coulaud *et al.*, 2023). The historical literature suggests that small bands of traders began to live among the Indigenous groups, including the Kalinago, in the 17th century, focused

on tobacco production and wood resources (Pérotin-Dumon 2003:145). In the mid-late 17th century, there were known settlements of French and English woodcutters “living peacefully” throughout Dominica (Christie, 2003:18; see also Honychurch, 2019). From the 16th century, then, there were small, dispersed groups of Europeans living on Dominica, and we argue there is a distinct archaeological presence at La Soye of such individuals. Who exactly these groups were (that is, what nationality or culture) is unclear, as Dutch, English and French interlopers were a consistent present in the Lesser Antilles throughout the 16th, 17th and 18th centuries. Whether they were corsairs, buccaneers, pirates, freebooters or others is up for debate at La Soye (see Dawdy, 2012 for a discussion of piracy). We do know, however, that these small encampments were sites where European smugglers took advantage of the lack of colonial oversight of the island and capitalized on Kalinago trade networks, and where Kalinago groups used their traditional knowledge of woody resources to forge advantageous relationships.

As noted, throughout the 16th and 17th centuries some French, English and Dutch sailors established temporary shelters across the Lesser Antilles to facilitate trade and gain access to resources. These informal encampments would “pave the way for permanent settlements by the northern Europeans” (Hofman *et al.*, 2019:366). We suggest that La Soye was a Kalinago settlement, where an informal European factory (trading outpost) was established with European sailors likely living among the Kalinago. This settlement was abandoned sometime in the early-mid 18th century when the French attempted an informal colonization of the island. The site is located on the coastline of a historically important trading channel between Marie-Galant, Guadeloupe and Dominica, protected by a headland (Point La Soye) from the south. This region was well-known for piracy and contraband trade (Coulaud *et al.*, 2023). Behind this point is one of the first sheltered anchorage for large vessels voyaging from Africa and Europe. Not far to the South remains the territory of the contemporary indigenous Kalinago community (Honychurch, 1997). Previous survey has identified early colonial period Indigenous sites in Woodford Hill region (Boomert, 2010, 2011; Evans, 1968; Petitjean Roget, 1978), and our research validates the presence of ancestral Kalinago at the site through material culture. Testing indicates an initial abandonment of the trading settlement at La Soye sometime in the early to mid 1700s (Hauser *et al.*, 2019). This timeline corresponds to the attempted establishment of a formalized imperial French presence on the island in 1727, after which “pirates vanished from Dominican ports never to return” (Boromé, 1972b:82), and most of the Kalinago moved just to the south of the site, where the Kalinago territory is situated today.

Due to colonial invasion and conquest, Indigenous groups in the Lesser Antilles were highly mobile and connected across the islands and waters

(See contributions to the volume edited by Curet and Hauser, 2012) shaping interactions both licit and illicit in years subsequent to European encounters (See Hauser, 2021 for illicit interactions surrounding Dominica and Dunnivant (2021) and Singleton and Landers (2021) for discussion of Maritime Maronnage in the Caribbean). The precarity of this period and subsequent migrations and movements of people led to the development of shared cultural patterns and material expressions unique to this time period. Breton (1665) notes that Indigenous settlements in the Eastern Caribbean were close to sea at mouth of river on rugged sides of islands, facing the Atlantic. The historical record suggests that trading ports in the early colonial period were often located in, next to, or on Indigenous settlements with archaeological histories that extend to the early part of the common era (Deagan, 2003). We propose La Soye has particular relevance for broader anthropological inquiry related to the role and trade and exchange in alliance building strategies in situations of colonial entanglement, and the impact of European settler colonialism on groups and landscapes on the frontier of the European colonial gaze (Deagan, 2003; Lightfoot and Martinez, 1995; Stein, 2005). The investigation of this landscape examines how Indigenous socioecological relationships were impacted, and how new social, political and economic systems emerged with the onset of European settler colonialism. A deeper understanding of coupled human-natural systems can show how socio-natural landscapes are products of past human interaction and alteration. La Soye was an important site of interaction between the Kalinago and European traders. Our work attempts to unravel the specific nature of these interactions and alliances and disentangle the history of human-natural systems associated with the site.

Archaeological Methods and Chronology

Overview of Excavations

The site was identified eroding from the beach after Hurricane Maria in 2017, and archaeological testing was initiated in 2018 and 2019 by project members to mitigate areas at risk from coastal erosion (Figure 2). These field seasons focused primarily on the shoreline, involving salvage data recovery efforts to counter encroaching site erosion from storm surge and rising sea level. Our efforts to test the most vulnerable sections of the complex identified structural and material evidence associated with the settlement. Excavations in 2018 revealed structural foundations overlying a surface occupation midden, alongside an extramural activity area (Hauser *et al.*, 2019). Work in 2019 expanded the extent of excavations. We excavated 32 square meters adjacent to the remains identified in 2018 delineating the signature of the structural remains identified from the previous year. Under this surface, we

uncovered a stone floor and platform, comprised of tightly packed large stone and mortar capped by a compacted living/floor surface and encircled by six postholes. The material culture recovered from La Soye contains considerable ceramics, glassware, tobacco pipes and small finds of European origin. Syncretic pottery forms and personal objects (pendants made from nonlocal metal) recovered at the site indicate that there were novel forms of cultural traditions emerging from these inter-cultural encounters.

LaSoye 2 Excavations 2018-2019

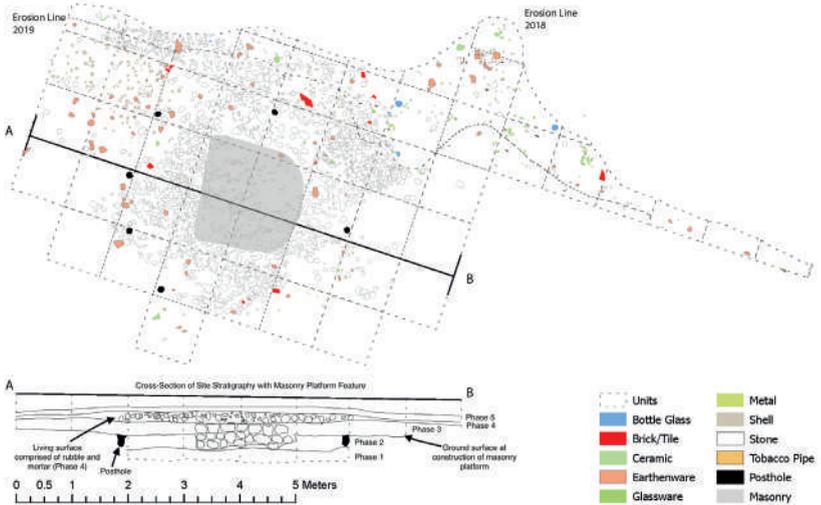


Figure 2. Map of Excavations with Cross Section of Site Stratigraphy.

La Soye is an excellent and comparatively artifactually rich example of a colonial period trading settlement that never grew into a larger European settlement. Excavations from 2018 and 2019 identified evidence of five consecutive periods of occupation, which offer an opportunity to assess the material signatures of mixed Indigenous-European colonial settlements in the Eastern Caribbean. Using radiometric dating of unidentified charcoal in combination with stratigraphic and material culture analysis we were able to establish a reliable chronology for La Soye (Table 1). There is a pre-contact phase known from prior excavations and our own, represented by coarse earthenware and lithics, and has a date of 1413-1480 cal AD. The first evidence of Europeans occurs in the second phase of occupation (16th-early 17th century), with a date of 1477-1642 cal AD. The third phase of occupation (roughly 1650-1730) represents the more established “trading

settlement” period. This period is represented by an increase in European and Indigenous material culture, with a corresponding spike in radiocarbon dates (a total of 6 dates were obtained from previous and the current field season), all dating between 1678-1764 cal AD. Materials and structural features from this phase suggest an intensification of Kalinago occupation of the site. This pattern corresponds with evidence from the documentary record indicating that when Kalinago numbers on the island became low in the mid-late 17th century, there was a shift in settlement to the northeastern windward coast (Breton, 1665; Labat, 1693-1705; Myers, 1978; Taylor, 1949). This was also when both the French and English were consistently attempting to gain trade alliances with Kalinago groups, which is represented by European architecture at the site that suggests a least an ephemeral European presence. By the mid-18th century, imported ceramics increase and diversify, while local ceramics decrease, suggesting a decline in Kalinago occupation, and potential abandonment of the site. This timeline corresponds to the establishment of an imperial French presence on the island beginning in 1727, when the remaining Kalinago along the northwest coast moved just to the south, where the territory is situated today. In fact, in 1749, France attempted to partition Dominica into 8 administrative centers, with two administrative officers assigned to the district of La Soye (Boromé, 1972b:85). This likely ended any and all illicit or informal trading in the area.

Table 1. Chronology and Artifact Class Frequencies

<i>Phase</i>	<i>Approximate Dates of Occupation</i>	<i>C-14 Dates*</i>	<i>Presumed Occupants</i>	<i>European Ceramics</i>	<i>Amerindian/ Local Course Earthenware</i>	<i>Pipes</i>	<i>Nails</i>	<i>Glass</i>
1	Pre-Columbian	1413-1480 cal (95.4%)	Ancestral Kalinago		Analysis in-progress			
2	16 th to mid-17 th	1477-1647 cal (95.4%)	Kalinago with European traders	22	47	23	349	26
3	Mid 17 th -early 18 th	1800-1940 cal (62.8%) 1678-1764 cal (32.6%)	Kalinago with European settlers	301	508	201	150	386
4	Mid to late 18 th Century		French	551	244	165	274	217
5	Late 18 th to early 19 th		English/African	125	21	68	210	82

* All obtained from unidentified charcoal fragments.

Many of the Amerindian ceramics at the site are diagnostic as belonging to the archaeologically-defined “Cayo” complex, first identified in the enclave by surveys completed by Leiden University in 2009 (Boomert, 2011) (Figure 3).

Boomert (2011:296) defines “Cayo” as the “Kalina/Kalinago/Lokono sphere of interaction, closely knit by ties of kinship, ethnicity, language, exchange, war and culture, which encompassed the Windward Islands, Trinidad and the littoral zone of the Guianas” during the ‘contact’ period. The “Cayo” are the ancestors of the contemporary Kalinago residing on the island today, who have remained involved in the project from its initiation in 2018. Cayo ceramics in Dominica are characterized as quartz tempered low-fired earthenware, coil-produced and open-fired, with paste color arranging from black to dark grey to brownish red, often in the form of small to medium sized jars that have an “outcurving rim, vertical or almost vertical neck and globular body”; they have limited decoration, and often have attached rounded “nubbins” near the neck or rim (Boomert 2010: 664-665).



Figure 3. Cayo Ceramic Sherd Recovered from La Soye.

Stone Feature

Excavations along the shoreline in 2019 excavated a remnant elevated stone floor and foundation at approximately 30cm below surface, comprised of three levels of tightly packed large stone and mortar capped by a compacted living/floor surface composed of small stone and mortar. (Figure 4) The stone platform was constructed in the form of a “D” and is approximately 2 meters in diameter, and 40 centimeters in height. A series of 6 stone-lined postholes surrounded the platform at a depth just below the top of the platform extending to approximately 70cm below surface. The placement of these postholes is indicative of a thatch roof or covering for the structure, The extramural zone surrounding the platform contained European and Indigenous ceramics, faunal remains, pipes, bottles, and other materials. This

feature is stratigraphically associated with phase 3 of the occupation at the site, described below.



Figure 4. Masonry feature with Postholes (Left); Bisected posthole feature (Right)

Chronology

There is considerable correspondence between both material culture and radio-carbon dates for deposits at La Soye. To date each level, we relied on TPQ rather than overall MCD of European ceramics because the wide range of manufacturing dates of imported coarse earthenware (particularly Delft and Faience) are too broad to assess the relatively short temporal occupation of each level of the La Soye site. This same issue applies to the other relatively dateable artifacts (including pipes and glass bottles) that will be discussed in this section. Phases 2-4 all contained evidence of European-Indigenous interaction, although over time the assemblage shifts to an increase in European manufactured goods. We excavated in natural levels based on transitions in sediment. However, As is well known, coastal deposits are dynamic due to tide, bioturbation and sandy soils. Considering the short time span of occupation represented by a limited vertical deposit in a sandy and dynamic matrix, excavation likely hit transitional deposits, making chronological control somewhat challenging, but with careful attention to stratigraphy and the material record, we have developed a general site chronology that parallels the documentary evidence of post-Columbian occupations of Dominica.

Phase 1

Stratigraphic levels related to phase 1 all correspond to the pre-Columbian period, extending back nearly 1500 years. This context was excavated at

La Soye in the 1960s, 1970s and again in the early 2000s (Boomert, 2010, 2011; Evans, 1968; Petitjean Roget, 1978). Our contemporary excavations also identified this phase, which is characterized by undiagnostic coarse earthenware and lithics, and has a date of 1413 - 1480 cal AD (95.4% confidence rate). Much of the material from this context just before European encroachment into the Caribbean is generally undiagnostic, but evidence of occupation at the site on the eve of European colonial invasion. The majority of the pre-Columbian material excavated, however, contain technical characteristics, shapes and decorations observed belong to the early Cedrosan Saladoid repertoire, suggesting repeated and continued occupation of the site.

Phase 2

Levels related to this phase contained the first evidence of European activity and returned a radiocarbon sample date of 1477-1647 cal (95.4% confidence rate), and a TPQ of 1690, indicating initial occupation between the 16th and mid 17th centuries. Local coarse earthenware (80%) outpaces imported ceramics at this level. Imported ceramic types included primarily Delft (8%), Faience (4%), slipware (1%) and Chinese export porcelain (1%) and red Chinese stoneware (1%). All glass identifiable to form were case bottles. We recovered 24 bowls, 8 bowls with stems, and 56 stem fragments of kaolin pipes, and 18% of these were of Dutch manufacture. Identifiable glass forms include 11 case bottles, 2 tumblers, and 4 wine bottles. This phase likely represents a transition from an Indigenous settlement into an active trading post, with Europeans potentially ephemerally residing at the site.

Phase 3

Stratigraphic levels related to this phase are associated with the masonry platform feature and has a TPQ of 1700. Three radiocarbon dates were derived from this level, and all returned date ranges of 1800-1940 cal (62.8% confidence interval) and 1678-1764 cal (32.6% confidence interval). At this level, local coarse earthenware is still well represented in the assemblage (63%). The ceramic ratios combined with the growing amount of bottle glass, pipes, and nails indicate that at this point colonial occupation and interaction had intensified. Among the imported ceramic assemblage, Delft is the most visible, representing approximately 43% of the assemblage. Faience is also still highly apparent, making up 34% of the assemblage, with Slipware (6%), Vallauris (10%), Saintonge (1%), and Chinese stoneware (>1%) also present in small frequencies. Glass included 53 case bottle fragments, 6 pharmaceutical bottles, 56 fragments of tumblers, and 267 wine bottle fragments. Pipes are represented by 32 bowls, 20 bowls with stems and 149 stems. Approximately 68% of the pipes were determined to be of Dutch manufacture. Phase 3 was the height of settlement and trading activity at La Soye, with mixed styles of

architecture and material culture suggesting the more permanent presence of European traders at the site, likely living among the Kalinago.



Figure 5. Artifacts Recovered from Phase 3 Deposits: Delft plates (Top); Bottom Left to Right: Dutch Tobacco Pipes; Various Imported European Ceramics; Glass Tumblers.

Phase 4

Phase 4 consists of a living surface comprised of large stone rubble and mortar, with a TPQ of 1762 based on the presence of 3 sherds of creamware – the sparsity of this ceramic within this level, however, would suggest that these were intrusive or misassociated. Discounting the creamware, this level has a TPQ of 1725. At this point, the ceramic assemblage consists of about 69% imported ceramics and 31% local coarse earthenware. Delft still accounts for the vast majority of imported ceramics, making up approximately 46% percent of the assemblage. Faience represents less of the assemblage at 30%. Also within this deposit is Vallauris (11%), Chinese export porcelain (13%), Slipware (3%), and Albisola (2%). Biot, Saintonge, Huveaune, Chinese stoneware, and Creamware make up approximately 1% of the assemblage. Wine bottle fragments are more frequent in this level (N=90), with an additional 37 case bottle fragments, 4 bowls, 1 fragment of stemware, and 18 tumblers. This deposit included 37 pipe bowls, 12 bowls with stems, and 116 stems. Dutch manufactured pipes make up 48% of the assemblage. This phase represents the transition from a mixed Kalinago-European settlement to when the French attempted to informally colonize the island in the early-mid 18th century.

Phase 5

Finally, phase 5 represents a surface scrape, and has a TPQ of 1786. Although there were fewer artifacts identified at this level than the previous, it demonstrates the same trends as levels 2 and 3. Imported ceramics represent 86.1% of the assemblage, with a corresponding decrease in local coarse earthenware. Delft continued to make up a large percentage of the imported ceramics, at 21%. Vallauris comprises 20% of the assemblage, with Creamware (21%), Faience (7%), Slipware (11%), and Chinese Export Porcelain (2%) also recurring. The remainder of the imported ceramics consisted of Whiteware (2%), Red Chinese Stoneware (>1%), Huveaune (>1%), and Saintonge (>1%). Wine bottle fragments were the most common in this deposit (N=14), with 1 case bottle, and 1 stemware fragment. Pipes included 12 bowls, 3 bowls with stems, and 53 stems, of which 98% were identified as Dutch. This level represents the transition to the British occupation of the site and Dominica, when this region of the island rapidly shifted to a plantation economy.

Discussion

Isabella Collazo-Rivera (2023:159) has argued that archaeologists should go “beyond the description of specific events where climate change and social response coincide, to identify lessons and wisdom from the experiences of the past that can be useful to address the challenges we face today and will face in the future.” As noted above, historical sources consistently highlight the importance of Dominica as a “wood and water stop” for European vessels entering the West Indies from their Atlantic voyage beginning in the 16th century (Latimer, 2009; Hulme and Whitehead, 1992). The Indigenous communities on the island were essential to these ventures, and the Kalinago established themselves as integral agents of exchange from the moment of European Imperial efforts in the Caribbean. The ethnohistoric record details a range of commodities traded by the Kalinago in the Lesser Antilles, including tobacco, various foodstuffs (vegetable and animal), textiles, and other resources. Beginning in the late 16th century in the Lesser Antilles with the trade in tobacco, communities of European (mostly Dutch and French) communities of sailors lived among the Kalinago to facilitate commercial activities (Whitehead 2003:127). These commercial activities increased in the Lesser Antilles into the 17th century, with French, English and Dutch merchants vying for access to local commodities. Trading ports on the frontier of European colonial endeavors were often clandestine, with pirates and sailors establishing discrete settlements on islands that were sparsely occupied, or creating relationships with Indigenous groups for contraband commodities (Coulaud *et al.*, 2023).

Wood was clearly one of the most highly valued resources from the point of the early encounters and became progressively more important as several islands in the Lesser Antilles were experiencing extensive environmental degradation from the rapid development of sugar plantations beginning in the mid-late 17th century (Draper, 2017; Watts, 1990). Wood and woody commodities were exploited and traded within the Caribbean and exported to Europe and North America. Further, as Whitehead (2003:194) suggests, access to metal tools encouraged commerce in cut wood, which along with processed dyes, animal products and various gums and resins, were of central importance to developing Amerindian-European economic relations.

The presence of metal tools and at the sites corroborates historic accounts that suggest that iron cutting implements, specifically for timber processing, were highly desired trade goods by the Kalinago (Honychurch, 1997). These tools were fully integrated into traditional practices like canoe and agriculture by the 17th century (Honychurch, 1997:297).

Radiometric dating and material culture suggest that La Soye was an active locus of exchange between the Kalinago and Europeans as early as the 16th century. The dense deposit of mixed Indigenous and European artifacts dates clearly from the mid 17th to early 18th century and indicates a peak of occupation and trade just as the Kalinago were refocusing their settlements along the Windward coast of Dominica. During this time, we also see an increase in European wares and architectural elements at La Soye, including the masonry platform. We maintain that the archaeological evidence from the site supports a European presence, as seen throughout the Lesser Antilles (Whitehead, 2003:27, 146), with traders/smugglers living among the Kalinago at La Soye to access valued commodities including tobacco and foodstuffs, but most significantly wood resources. Metal implements and tools also appear in more frequency in this deposit, including a billhook, a saber, and several fragments of large blades (analogous to a cutlass or machete).

Labat provides a comparable example to what we are suggesting at La Soye from the late 17th century, when Dominica ostensibly was still under the neutrality treaty between the French and English. He notes “the English, however, made use of the Peace of Ryswick [1697] and a private treaty with the Caribs of Dominica to go there for lumber. Next, they made an ajoupa near the sea to shelter this lumber till it was shipped” Labat (1693-1705:115). We argue that the masonry feature likely had a similar function at La Soye, as a raised platform for naval stores, notably wood or lumber. The masonry is of a European style, while the postholes suggest a sort of syncretic structure with a thatch roof as a cover to the building. Similar thatched roof structures (although constructed of wood and without a stone foundation) have been identified at a known colonial European pirate-occupied site in St. Martin

(Coulaud *et al.*, 2023). Due to site erosion, it is probable that there were other similar structures at the site that have been lost.

In terms of the specific woody resources that were exported from La Soye, as discussed previously primary accounts make note of numerous important commercial tree species in the Lesser Antilles. Two species are of particular interest at La Soye based on the ethnohistory and archaeology. The white gommier (*Bursera simaruba*), was a prized wood for canoes and shipbuilding, and named for its gum-like amber copal, used for torches, incense, boat calk and medicine (Du Tertre, vol 2:160; Little and Wadsworth, 1964:238; Scheman 2020:5). At La Soye, we have recovered small pieces of the copal within the 17th century deposits, suggesting this resource was traded at the site. Second, the name La Soye likely came from a French misrepresentation of the Kalinago word suau for the genipa tree (*Genipa americana*), which bears fruit that was used as a pigment for tattooing, painting, medicine, and as insect repellent (Bouton, 1640:6; Du Tertre, vol 2:190; Hodge and Taylor, 1957:519). Wood from mature genipa trees was also considered a good hard wood for building (Du Tertre, vol 2:191). Although not confirmed, a dark bitumen/pitch on the interior of local coarse earthenware pots with flat bottoms recovered at La Soye could represent this pigment (Figure 6). Regardless, the origin of the name of the site, the archaeological record, and the location of the site along an active trading channel indicate that the La Soye was recognized for the exploitation of woody resources.



Figure 6. Amber copal fragments (Left); Pitch on Interior of Local Coarse Earthenware Pot.

Conclusion

The archaeological and historic evidence presented here suggests that La Soye was the location of a 16th-18th century trading settlement on the northeast coast of the Caribbean Island of Dominica, and represents an important site of colonial interaction between the Indigenous Kalinago who retained control of the island, and European settlers. This research also highlights the importance of wood and woody resources in early colonial encounters and

economic relationships. Through archaeological testing we were able to develop a chronology for La Soye, and establish that what we initially thought was a European trading settlement was in fact occupied and controlled by the Kalinago into the early 18th century. Materials and features from this phase of occupations suggest an intensification of Kalinago settlement at the site, corresponding with evidence from the documentary record indicating that when Kalinago numbers on the island became low in the mid-late 17th century, there was a shift in settlement to the northeastern windward coast. This was also when both the French and English were consistently attempting to gain trade alliances with Kalinago groups. The material culture and architectural patterns suggest that what was initially a periodic European presence at La Soye in the 16th-early 17th century (marked by trade items associated with solely Indigenous architecture) became a more permanent occupation by the mid-late 17th century, which is represented by the presence of European-style architecture intermixed with Kalinago artifacts and structures. Dominica is repeatedly noted as a wood stop in the historical record, and this region was known for pirate activity. The ephemeral nature of the early European presence at La Soye is consistent with the transient nature of contraband loggers (Finamore, 2007:64). As trading relations solidified, it seems that some traders likely established more constant residence at the site, reflected in the architecture and increasing relative frequency of European artifacts. By the mid-18th century, imported ceramics increase and diversify, while local ceramics decrease, suggesting a decline in Kalinago occupation, and potential abandonment of the site. This timeline corresponds to the establishment of an imperial French presence on the island in 1727, when the remaining Kalinago along the northwest coast moved just to the south, where the territory is situated today.

This research offers new data related to early encounters between Europeans, Indigenous Kalinago in the Caribbean. While a few sites documented in Grenada, St. Vincent, and the Dominican Republic have shed light on many of the contours of trade and cultural exchange, La Soye is located at a critical juncture on the Lesser Antilles, and highlights the prominence of Indigenous communities in early colonial interactions. This study focuses on a specific encounter event and place, and emphasizes a particular resource, but connects to discussions of colonial entanglements in the Caribbean frontier. The intercultural dynamics that developed during the early colonial period in the Lesser Antilles “built upon local and regional networks of peoples, goods, and ideas that had developed in the insular Caribbean over the previous 6000 years” (Hofman *et al.*, 2019:359; See also Hofman and Bright, 2010; Hofman *et al.*, 2011). This period also represents a period of dramatic socioecological transformation, and here we have shown how wood and wood byproducts were a central facet of the dynamic trade activities.

This site is a protected anchorage along a highly trafficked channel, and we suggest La Soye was a locus of illicit and contraband trade of woody resources, offering a rare example of an Indigenous settlement in the Frontier of the colonial Caribbean with which European settlers maintained economic alliances with Indigenous groups, but did not control the exchanges. The research reveals that such trading alliances with Europeans allowed for economic autonomy among Kalinago groups, showing the resilience and adaptiveness of communities who lived in constant precarity, with Europeans aggressively vying for control and access to resources and territories.

Many of the trees utilized historically in Dominica remain present on the island, primarily in the forested interior of the island (Dewalt *et al.*, 2016). As least until the mid-20th century, the Kalinago, and other island communities continued to exploit various species for home and canoe building, as well as for subsistence and medicinal purposes (Hodge, 1943; Hodge and Taylor, 1957). Like much of the Caribbean, however, with modern development, capitalistic resource extraction and climate change, however, deforestation and ecological instability are a great threat to Dominica's ecosystem and to traditional ways of life (Hofman *et al.*, 2021). Indigenous cultural knowledge persisted for thousands of years, even in the face of colonialism, are currently at risk. Ongoing grassroots revitalization efforts like the Kalinago canoe trail project (<https://discoverdominica.com/en/the-kalinago-canoe-trail-project>), however, aim to use local knowledge to inform cultural and environmental conservation efforts.

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Lucayan Road on Middle Caicos Island: A Community Built Component of Sun-Synchronized Salt Harvest and Ceremonialism

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Abstract

A protohistoric Lucayan-built road is an integral part of the public architecture and ceremonial space at a complex Lucayan archaeological site (MC-6) on Middle Caicos, in the Turks & Caicos Islands. Several attributes of MC-6 have stimulated hypotheses concerning the social organization and economic dynamics of the community. Those attributes include imported ceramics and lithics originating from the Greater Antilles (principally from Hispaniola); planning that is evident in the deliberate community design; physical linkage of the community via the road to a source of salt, which is a valuable trade commodity; and calendric scheduling of activities implied by an annual celestial cycle recorded in the astronomical alignments of a central court. The site has been posited as the seat of a cacique, possibly of a multi-community Paramount-Cacique, who was empowered by regional trade networks and associated kinship alliances. In the context of these hypotheses, the amount of labor time, and the consequent: number of people required to build the

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road, are considered in relationship to the social organization necessary to marshal the required workforce, plan and build this public work, and schedule related social and ceremonial activities.

Key words: road, plaza, astronomy, Lucayan, Turks & caicos, cacique, public works, public architecture.

Carretera de Lucayan en la Isla de Caicos Medio: un componente comunitario construido mediante la sincronización del sol y la Cosecha de Sal y Ceremonialismo

Resumen

La carretera protohistórica Lucaya es una parte integral de la arquitectura pública y el espacio ceremonial en un complejo sitio arqueológico de Lucaya (MC-6) en Caicos Central, en las Islas Turcos y Caicos. Varios atributos de la MC-6 han estimulado varias hipótesis sobre la organización social y la dinámica económica de la comunidad. Esos atributos incluyen cerámicas y líticos importados originarios de las Antillas Mayores (principalmente de La Española); planificación que es evidente en el diseño deliberado de la comunidad; la vinculación física de la comunidad a través de la carretera a una fuente de sal, que es un valioso producto comercial; y la programación calendárica de las actividades implicadas en un ciclo celestial anual registrado en las alineaciones astronómicas de un patio central. El sitio ha sido postulado como la sede de un cacique, posiblemente de un cacique supremo multicomunitario, que fue empoderado por las redes comerciales regionales y las alianzas de parentesco asociadas. En el contexto de estas hipótesis, la cantidad de tiempo de trabajo, y el consiguiente número de personas requeridas para construir la carretera, se consideran en relación con la organización social necesaria para reunir la fuerza de trabajo requerida, planificar y construir esta obra pública, y programar las actividades sociales y ceremoniales relacionadas.

Palabras clave: Camino, plaza, astronomía, Lucaya, Turcos y Caicos, cacique, obras públicas.

Discovery, Definition, Dating

The Lucayan Road (hereafter Road) analyzed here was evidently found by Loyalist planters when they arrived in Caicos Islands in the late 18th century. Daniel McKinnon, a British national, visited the Turks & Caicos during the Loyalist plantation period and noted (1804, pp. 132-133) that the first settlers of the “Caicos” had found “an old road traversing one of the islands... which they ascribed to the Indians; for the Spaniards, although they exterminated the inhabitants, were indifferent about their country, not worthy the possession” (*sic*).

In the modern era, a Lucayan Road was encountered and mapped on Middle Caicos during 1977 field investigations by an archaeological team from the University of Illinois; it was found to be an integral part of a complex of public architectural features within a large Lucayan archaeological site, MC-6 (Sullivan, 1980). The Road is, thus far, a unique archaeological feature in the Lucayan culture area, which lies north of Hispaniola and Cuba and extends for nearly 1000 kilometers from the Turks & Caicos northwest through the Bahamas (Figures 1 and Figure 2).



Figure 1. Lucayan Islands.



Figure 2. Middle Caicos and MC-6.

MC-6 was substantially undisturbed when initially surveyed in 1976, having been fortuitously located well south of the north coastal areas that were cleared for plantation agriculture by Loyalists in the late 18th and early 19th centuries. Post-loyalist settlements by Turks & Caicos Islanders on Middle Caicos also have been concentrated distant from the site, along the north coast. The result is that MC-6 had remained sufficiently free from significant disturbance and had retained sufficient site integrity to have served as a very productive laboratory for archaeological investigations by a series of researchers (Sullivan, 1980, 1981; Keegan, 2007, 2008, 2013; O'Day, 2002; Sinelli, 2001; Sullivan and Freimuth, 2015).

In 1977 the Road was the subject of aerial photography (Figure 3), which showed the Road standing out clearly when imaged early in the morning when the sun was at a low angle.

During field investigations in 1977 and 1978 the Lucayan Road was ground mapped along with surface collection of Road transects, and test excavation of an associated structure. That investigation was followed up by GPS mapping of the Road in 2018, and in 2023 the Road was revisited for aerial drone photography and engineering assessment. These latter forays were primarily focused on gathering data that would enable modeling of the labor involved in the Road construction.

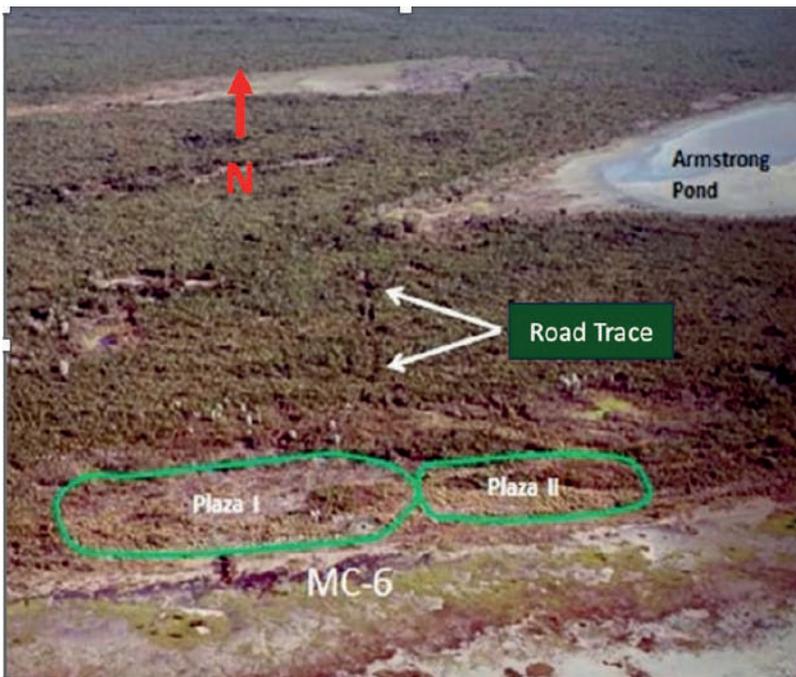


Figure 3. Aerial Image of Lucayan Road and MC-6.



Figure 4. Survey Team Member Richard Chase, near Transect 8, Lucayan Road, MC-6, 2018.

The Road was built by removing trees and the transport of loose surface limestone and earth aside to clear a relatively smooth, flat, and hard limestone surface. The cleared material was piled in ridges along the Road edges (Figure 4). For most of the course of the Lucayan Road the flanking ridges are almost entirely stone; but at the northern end, as the Road encroaches on the Armstrong Pond floodplain where soils are thicker, the ridges are mostly composed of soil, suggesting that the surface soil was graded to the sides to expose the hard stone surface below. Thick vegetation made ground photography of the Road challenging. However, Figure 4 is illustrative; it is a photo of a portion of the Road, taken near transect no. 8, during the 2018 survey.

Figure 5 is an aerial view of the Lucayan Road which depicts the GPS positions of Lucayan Road transects recorded in 2018. The transect positions reflect slight flexes in the course of the Road (it is not completely straight), with a general track from south to north of approximately 5 degrees west of true north.

The Road extends close to half a kilometer, stretching from within the main plaza (batey), Plaza I, of MC-6, and transiting north through hardwood forest to the flood plain of a seasonal source of salt, Armstrong Pond (Figures 5, 7-9).

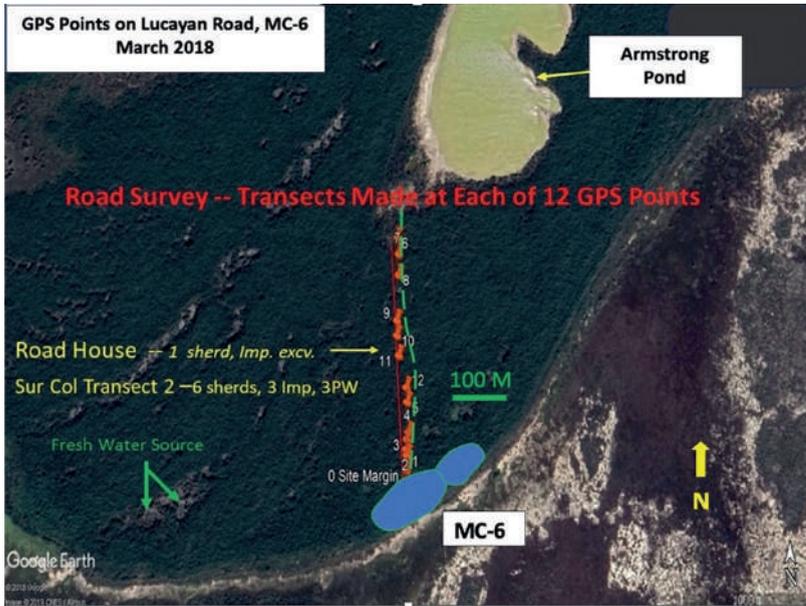


Figure 5. Lucayan Road, Transects, MC-6, Armstrong Pond.

Radiocarbon dates from MC-6 (Figure 6) indicate that the site was occupied from the late 15th through mid-16th century. This radiocarbon data, in combination with Chicoid ceramic stylistics, date the site as a Late Ceramic, protohistoric occupation, contemporaneous with the terminal phases of Classic Taino culture in the northern Caribbean.

<i>Location</i>	<i>Lab & No.</i>	<i>Age BP</i>	<i>UNCAL</i>	<i>CAL</i>	<i>RANGE</i>	<i>Reference</i>
MC-6 Plaza 1 Structure 3	ISGS 2623	450 ± 70	1500 ± 70	1496 ± 81	1415 – 1577 68%	Sullivan & Freimuth 2022: 14
MC-6 Plaza 1-N Structure 8	Beta 155021c	400 ± 40	1550 ± 40		1430-1530/ 1560-1630 95%	O'Day 2002:, p. 4
"	Beta 155020c	320 ± 40	1630 ± 40		95%	
A bove 2 Recalibrated		400 ± 40		1522 ± 72	68% 1450-1594	

Figure 6. Radiocarbon Dates, MC-6: Sources and Locations.

Integrated Community Design

The Road is of particular interest in the context of the physical and social space in which it was conceived and utilized as part of the interconnected public architecture and ceremonial spaces within this Lucayan community. Public architecture at MC- 6 is taken here to include deliberate community design reflected in distinct residential zones and activity areas surrounding plazas; community/ceremonial space within the plazas; and a stone and earthen-ridge lined court within Plaza I - that was evidently an astronomical observatory (Figures 7-9).

The Road enters the larger batey, Plaza I, from the north, bisecting the northern midden ridge and structural remains. The southern terminus of the Road is within Plaza I. The site is a formally planned community that measures approximate 275x60 meters. The community was structured around two distinct plazas (Figure 7 and Figure 9). Plaza I at MC-6 is surrounded by midden deposits, ranging from 60 cm to more than 1 meter deep, that include structural remnants as well as abundant ceramics, faunal remains and some lithics of Antillean origin. The interior of the Plaza I area is approximately 140 meters long and changes less than 30 cm from end to end, strongly suggesting that it was artificially leveled. There were distinct occupation zones on the northern and southern sides of Plaza I. There is one structural remain at the junction point of the two plaza areas, that central structure is continuous with the Plaza-I South midden (Figure 7).

Plaza II, abutting Plaza I to the east, is a level area cleared of surface stone, and is flanked by limestone rubble ridges. The interior length of Plaza II is approximately 85 meters. There is no evidence of midden accumulation on the flanks of Plaza II, but the cleared central surface of the plaza and the flanking ridges are scattered with ceramic sherds, as well as with fragments of coral and shell.

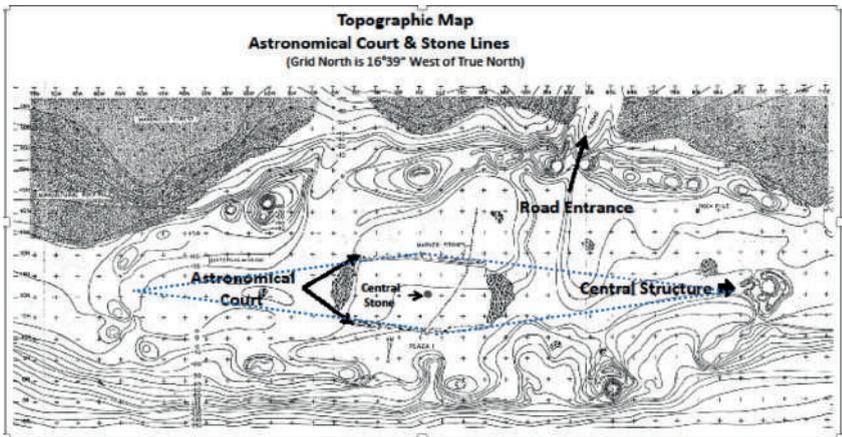


Figure 7. Plaza I, MC-6, Road Entrance.

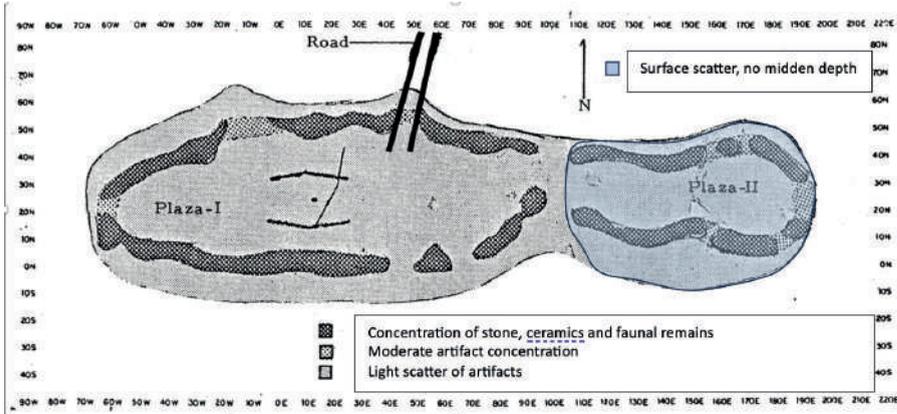


Figure 8. C-6, Plaza I and Plaza II.

In 1977 a surface collection was made of more than 15,000 ceramic sherds from the Plaza I area, and of 2,400 sherds from the Plaza II zone. The percentage of imported ceramics among the surface collections varied notably.

Imported ceramics are easily identified since the Lucayan Islands are entirely sedimentary, while the Greater Antilles are principally igneous and metamorphic formations. Imported ceramics have distinctive paste as well as igneous and metamorphic tempering. These traits stand in contrast to the shell tempered local ceramics, a variant of Palmetto Ware, that have soft friable paste derived from local clays, of which of Saharan aeolian deposits are a component.

The imported ceramics at MC-6 are consistently in Late Ceramic Chicoid style. The relative percentages of imported ceramics among surface collections on Plaza I and Plaza II are shown in Figure 9 (Sullivan, 1981, pp. 143-151; Sullivan and Freimuth, 2015, pp. 7-9). The ceramics were collected in timed sessions made within discrete surface units. We note that the surface collections are biased toward imports, which are easier to see against the background soil than is the locally made Palmetto Ware, because of their distinctive color and surface finishes. Nonetheless, that bias is consistent and homogenized across two months of collections made by than 40 different collectors. We assess that the relative frequency of ceramic imports in the surface collections reflects differential use by occupation zone and activity area.

The highest frequencies of imports occur in and around Plaza I (Figure 9). The Plaza area, inside the flanking north and south occupation zones, shows higher frequency of ceramic imports than the occupation zones themselves; and the highest of all is within the central stone lined court. The far western margin of the Plaza I area, where the North and South occupation zones meet, is higher in imports than the flanking occupation zones. In the Plaza II area imported ceramics are notably less common than in Plaza I; they are similarly present north and south of the plaza; most frequent along the ridge to the

east of the plaza; and least common in the plaza area itself. There is a stark contrast between the percentage of imports in the Plaza I central court (33%), vs the central part of Plaza II (< 1%).

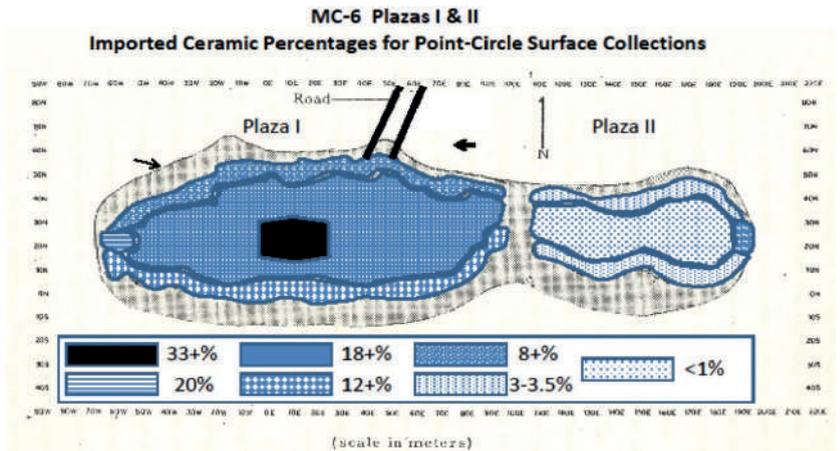


Figure 9.

Plaza I and Plaza II are different. This distinction between the Plazas has been interpreted as a reflection of differences in kinship ties and social status Sullivan (1981, p. 431). Keegan (2007, pp. 174-175) reported that his follow-up subsurface testing and that of Roth (2002) along the margins of Plaza II did not produce material suggestive of occupation and may have been consistent with use as house gardens. The presence of ceramics in Plaza II, where there is a scarcity of midden, indicates it was not a residential zone, and suggests that food was consumed there in association with group activities, which we separately suggest are likely to have been social-ceremonial gatherings. Drawing upon Rouse’s summary description of Classic Taino village traits (1992, pp. 8-17), we suggest that Plaza II may have served variously as a ball court and / or, dance plaza, the venue for festival or ritual “arietos”.

Within Plaza I there is a central court, flanked by low stone and earthen ridges, that jointly form the central portion of a parallelogram, the east and west limits of which close just inside the ends of Plaza I (Figure 7). The central court measures approximately 20x30 meters. Within the court, there is an introduced stone, centered from north to south between the flanking stone and earth ridges, and offset slightly to the east (Figures 6 and 9).

Transit azimuth observations along the flanking ridges of the court, and with the instrument plumb-bob at the mid-point of the court central stone (Figure 10), in combination with Stellarium celestial software, reconstructions at the Smithsonian Air and Space Museum Planetarium, and on-site observations

at the summer solstice in 1980, have demonstrated that the court was an astronomical observatory (Sullivan, 1981; Sullivan and Freimuth, 2015).

Site Datum Point -- Central Stone and Star Court

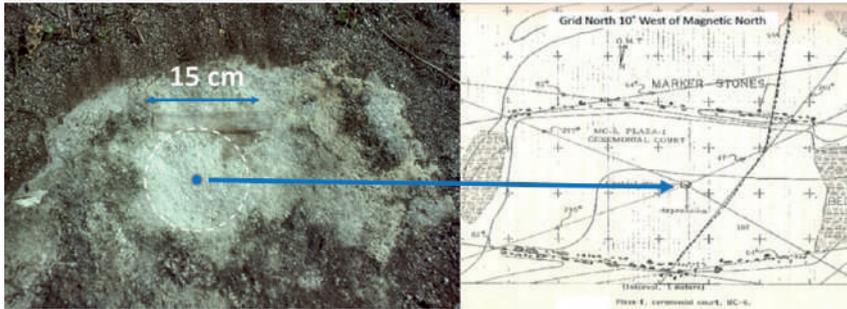


Figure 10.

The azimuths recorded in the court structure correspond with the annual cycle of the sun, to include the summer and winter solstices, zenith passage of the sun, as well as the spring and fall equinoxes (Figure 11). These key celestial cycle events are recorded in the azimuths of the long axes of the flanking stone and earthen ridges, and from the central stone toward the horizon rising and setting positions of the sun and selected stars of the first magnitude. The court, which we term the Star Court, was a celestial calendar. MC-6 had at its heart, an astronomical timepiece, that recorded the cycle of the seasons through observation of the repeated movement of celestial bodies along the horizon.

Astronomical alignments indicate that the Ceremonial Court is an Astronomical Calendar interpreted as a component of ceremonialism associated with social control of the village cacique (S. Sullivan, G. Freimuth, 2015)

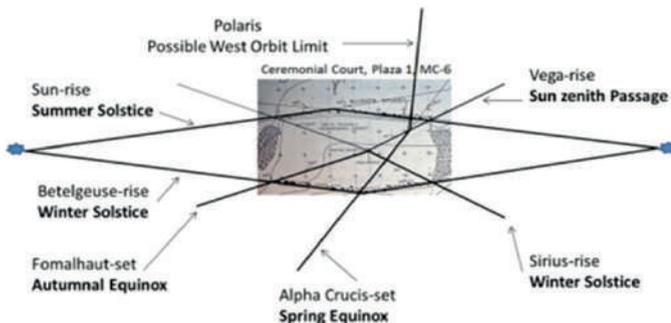


Figure 11. Star Court Astronomical Alignments.

Regional Parallels

There are several parallel examples of astronomical orientation of plazas at Taino sites. Astronomical observations and functions of Taino plazas/bateys as astronomical observatories has been analyzed at several sites, including MC-6, by Rodríguez Álvarez (2010). He ascribed astronomical alignments and functions to multiple bateys in the Dominican Republic and Puerto Rico, with particular attention to Chacuay and the ceremonial centers at Tibes and Caguana, to include focus on the role of central stones in bateys that evidently served as points of astronomical observation (*Ibid*, pp. 187-226). Those central stones are similar in placement and function to the central stone at MC-6. Álvarez interpreted the intentional astronomical alignment of Taino site plazas in terms of the recording of celestial cycles in correlation with the yearly progression of seasons in order for the Taino to determine when they could obtain needed resources (*Ibid*, p. 271). Rogiou Lamarche (1984, p. 10) observed that the main axis of the plaza in Chacuey, a Late Ceramic Dominican site, was oriented toward the sun rising position at the winter solstice. Fabiola Jara (2015, pp. 931-944), in a study of the astronomical practices of lowland South America Arawak speakers, noted a common practice of observation of the solstices and equinoxes, and astronomer focus on the seasonal appearance of specific stars in association with local cycles, including the onset of the rainy season, as contributors to scheduling of economic activities. The archaeoastronomy of the Plaza Principal at Tibes, with emphasis on celestial observations made from a central stone, similar in placement to the central stone at MC-6, was presented at the IACA Congress in 2017 (Sullivan *et al.*, 2017).

The Lucayan Road on Middle Caicos has counterparts in Taino sites to the south in the Greater Antilles. Road-like structures at Late Ceramic Taino sites occur in Puerto Rico in association with bateys and ceremonial precincts (Rouse, 1992, pp. 113-116). Earthen ridge-lined roads or causeways are present at Classic Taino sites on Hispaniola, notably at Chacuey (Figure 12), El Cacique, and San Juan de la Maguana (Alegria 1983, pp. 34-54). Late ceramic sites with plazas/bateys are known from late Taino sites in eastern Cuba, notably at Laguna de Limones and Pueblo Viejo (Etayo, 2015, p. 147); and are widespread in late ceramic village sites in Hispaniola, Puerto Rico and nearby Virgin Islands. In the Dominican Republic the majority of bateys are associated with Boca Chica (Chicoid) ceramics; in the Puerto Rico most are characterized by late, Period IV, Capa pottery.

There is a concentration of bateys in the northwestern Dajabon-Mao district of the Dominican Republic (Alegria, 1983, pp. 34-60). The closest trade links of MC-6 are with Hispaniola, northwestern Hispaniola in particular. The described Antillean distribution of late ceramic villages with plazas and bateys coincides closely with Rouse's map of the Classic Taino culture area; and which included

the Turks & Caicos Islands (1992, Figure 3, p. 8). Rouse observed MC-6 firsthand; he had visited the site and walked the Lucayan Road in the fall of 1977. Further documenting the cultural linkage, The Lucayans of the Turks & Caicos spoke the Classic Taino dialect (Granberry and Vescelius, 2004, p. 14).

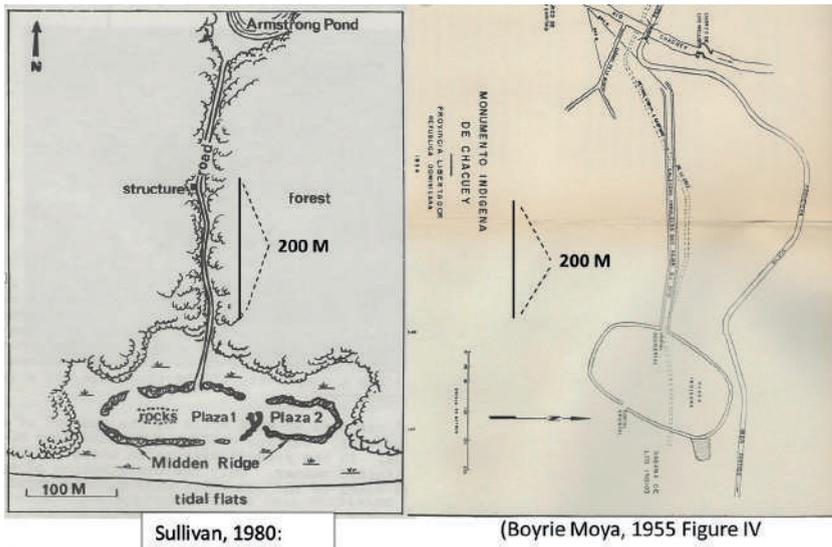


Figure 12. Plazas and Roads at Chaquay and MC-6.

Road as a Public Work

The Road, plazas and Star Court are an integrated suite of planned public works, which were the products of organized community labor. These constructions formed the framework for public ceremonial space at the site. The design, construction and use of these ceremonial spaces reflected a portion of the reciprocal roles and interactions of the local Lucayan cacique and the people living within the MC-6 community, and more broadly, the people living within the cacique's sphere of influence, who may have visited the site and taken part in ceremonial and economic activities. The level of effort involved in the construction of the Road is considered here as a contributor to modeling the social interaction that generated cooperative community work to create a venue for ceremonial observances.

The Road itself takes on a ceremonial patina because it is a monumental work built beyond utilitarian requirements, and it is physically connected to the main site plaza, which we consider social-ceremonial space. On land, the Lucayans and their Taino kin transported materials by hand, or in hand-held containers on foot. The internal width of the MC-6 Road ranges from 7 to 11

meters. A comparable Taino road feature, also flanked by low ridges, occurs at Chacuey, Dominican Republic (Figure 12), where the road averages 10 meters in internal width (Boyrie Moya. 1955, p. 47). Demonstrating traits similar to those of the MC-6 Road, the Chacuey road extends from within the site main plaza to a point close to a body of water (Ibid, p. 48).

In modern urban usage, a path 3 meters wide is ample for two directional movement of pedestrians (<https://ruraldesignguide.com/physically-separated/shared-use-path>). By that measure, the MC-6 Road is large enough for 4 to 5 people to walk abreast; or, for multi-person groups to pass one another freely in both directions.

In this context, Columbus (quoted in Navarette, 1945: 230-235), noted an encounter in 1492 with a Taino cacique on the coast of northern Haiti in which the cacique was accompanied by a retinue of 200 people, and was carried on a litter. The Lucayan Road appears to be wide enough to accommodate the transit of a litter with bearers of up to 6 meters wide. This ethno-historical observation, made along the north shore of Haiti, is perhaps telling, since the strongest trade ties of MC-6 around the time of European contact was with Hispaniola (Keegan, 2007, p. 184; Berman *et al.*, 2013, p. 270). More specifically, the people of MC-6 were evidently in contact with the Classic Taino speaking peoples of northwestern Hispaniola, from Monte Cristi west along the north coast of Haiti, which is the indicated coastal source zone of distinctive imported ceramics found at MC-6, which included vessels with ferro-magnesium tempering, and ceramics with white slip and broad line incision (Sullivan, 2022, pp. 7-8).

The construction of the Road required planned and coordinated community effort. The commitment of time and energy to build the Road is analyzed here and may be instructive regarding the collective effort and roles of the hypothesized MC-6 cacique and the people under the cacique's influence who were jointly involved in the Road design and its construction. Results of the 2018 and 2023 Road surveys appear below. The 2018 assessment contributed to a presentation at the 2019 SAA meeting in Albuquerque. The 2023 survey expanded on-site engineering assessment.

MC-6 modeled as seat of a cacique

A combination of site features has led to characterization of MC-6 as the seat of a powerful cacique with regional ties, and probable multi-site influence or authority (Sullivan, 1981; Berman *et al.*, 2013; Keegan and Mclachlan, 1989; Keegan, 2007, 2014; Sullivan and Freimuth, 2015; Sinelli, 2010; Ostapkowicz, 2023). The strong evidence of regional exchange manifest in the extensive presence of imported ceramics and lithics from the Greater Antilles at MC-6 stimulated description of the site as a key component of a "Northern

Caribbean Economic and Social Interaction Sphere” (Sullivan, 1981, p. 412); which Berman *et al.* (2013, p. 270) focused more narrowly upon exchange with Hispaniola and eastern Cuba for the Turks and Caicos. The archeological traits that contributed to this characterization include formal community planning, strong evidence of regional trade, the concentration of imports in some site residential areas, public ceremonial spaces in the form of the plazas and the Road; and, importantly, the empirical link of the community via the Road to a source of an exportable commodity—salt – at Armstrong Pond. Multi-village regional authority for a cacique corresponds with the concept of “Cacicazgo”, headed by a Paramount Cacique, “under whose control are districts and villages governed by a hierarchy of subordinate chiefs (Oberg, 1954, p. 484).

Workforce requirements for Road construction

The 2018 survey incorporated 12 GPS registered transects (Figure 4). We recorded the overall length of the flanking stone walls, and at each transect we measured the internal width between the stone rows, external width from outer edge to outer edge of the stone rows; stone row width, and stone row height. Road measurements appear in Table 1.

Table 1 provides measurements of the width of the Road and the flanking rows of stacked stone; stone pile length and height, and averaged readings.

Table 1. Road and Flanking Stone Pile Dimensions

<i>The data obtained was as follows</i>	
Length of flanking stone walls	470x2= 940 m
Maximum & minimum external width	7.2 m - 11.28 m
Maximum & minimum internal width	4.6m - 6.6 m
Maximum and minimum stone pile width	1.22 - 3.35 m
Maximum and minimum stone pile height	.46 m - .76 m
<i>That data averaged were</i>	
Stone pile width	1.61 m
Stone pile height	.64 m
External width	8.71 m
The area cleared of trees and brush (470x8.71)	4,094 m ²

One measure of the labor involved in the construction of the road is the weight of the materials moved. The flanking ridges are almost entirely composed of limestone. A cubic meter of limestone weighs about 2,711 kilos (<https://www.aqua-calc.com/calculate/volume-to-weight>). To approximate the volume of the stone involved, the flanking stone rows are modeled as

prism. The stone rows are composed of stacked rough stone and are irregular in profile, with some interior gaps between stones. A prism approximates the consolidated mass of the irregular stone pile.

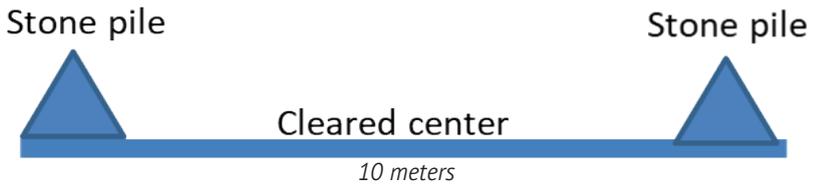


Figure 13. Graphical Representation of a Lucayan Road Transect.
Stone Pile Outline *Prism Abstraction*



Figure 14. Graphic of Stone Pile Abstracted as a Prism.

The formula for determining the volume of a prism is:
 Volume of prism = Base area x length
 Base area= base width x height/2 = 1.61 m x .64 m/2= .5152 m
 Length= 470 x 2= 940
 Volume = .5152 m x 940 m= 484.288 (484) cubic meters of limestone
 The weight of that mass of limestone is calculated as:
 484 x 2,711 kilos per cu meter= 1,312,124 kilos x 2.2= 2,886,673 lbs

An exceptionally large stone was moved out of the roadbed and stacked along the margin; it measured 1.68 m x 1.02 m x .46 m. A rectangular block of these dimensions would have a volume of .788 cubic meters. The weight of such a block would be .788 x 2,711 kilos= 2,136 kilos, x 2.2= 4,699 pounds. The rounded edge ellipsoid shape of this rock means that it weighs something less, but above 4,000 lbs. in any case.

Movement of such large stones required a group cooperative effort. Transposition of a very large stone, such as the example above, could have been effectuated by several individuals working together using wooden pry poles,

sliding it across the ground. No special technology or unique skills were required. Any able-bodied adolescent or adult could have contributed to the effort.

A stone measuring more than 2m in length, located in the Road ca. 20m north of MC-6, was not moved from the roadbed. Moving this was probably within MC-6 residents' capabilities. If so, then its position is intentional, and may mark a boundary or control point. *We recommend that in the future the stone should be righted and the under surface examined for petroglyphs.*

Otherwise, no petroglyphs were observed on the stones flanking the Lucayan Road, and the stones did not appear to have been arranged originally to stand erect. They were simply stacked.

In consideration of the amount of community labor involved in the Road construction, we offer the following calculations. They are based upon an approximate total weight of stone moved of 2,886,673 lbs. lbs., and upon variables of the number of people working, the weight of stone to be moved, and the number of days required to accomplish that task. A common weight for man-portable bulk items is 50 pounds – e.g., which is a common weight for a bag of cement. Moving 1000 lbs. is the equivalent of the movement of 20 bags of cement weighing 50 lbs each. The stones removed from the roadbed only needed to be moved a few meters. Moving 50 lbs a few meters is not an overtaxing burden.

Table 2. Estimates of Labor Involved in Road Construction

No of people	1000 lbs./day	Days	2000 lbs./day	Days
1	“	2,887	“	1,443
2	“	1,443	“	722
5	“	577	“	289
10	“	289	“	144
20	“	144	“	72

Moving the rock was just one task. Clearing trees and brush from the course of the road was another. The area cleared measured 4,094 m². Roadbed clearing labor: If 20 people collectively clear 100 sq. meters of trees and brush per day, roadbed clearing would take ca. 41 days. Considering the physical challenge and labor time involved in stump and root removal, 2 months is more probable. With the foregoing in mind, 20 people, collectively clearing daily 40,000 lbs. of rock (2000 lbs. each), would take 72 days (ca. 10 weeks) to clear the Road. Add to this the needed preparatory work of clearing the trees and vegetation from the roadbed, then about 4 to 5 months of labor by 20 people appears reasonable.

We have not calculated the hours per day of labor required but have simply offered a model of the weight of materials potentially moved daily and a candidate rate of vegetation clearing. Without attempting precision with regard to hours of effort, we advance the assumption that the labor was part time, some number of multiple hours per day, over a few months. The road construction work need not have been continuous and may have taken place over multiple seasons. Maintenance of the Road would have been constant/periodic, but at a relatively low-level of effort.

Relevant in terms of total effort, but for the most part not qualitatively different, was the community labor required for construction and maintenance of the remainder of public architecture at MC-6, of the plazas and the ceremonial court. Collectively, the public architecture at MC-6 could have been constructed by a relatively small group of people, working part time, over a period of months, which may have been distributed over multiple seasons. Each of these required community labor, and each reflected direction from a central authority, i.e., the cacique, and empowered associates. As noted, most of the labor involved in site construction was unspecialized, with contributions from small group of specialists, which is consistent with the findings of Abrams (1987) for labor contributions to the construction of Copan in the Yucatan. Our findings are also in general accord with the assessment of the amount of labor and skill levels required for construction of plazas at Tibes, as reported by Torres, Curet *et al.* (2014, p. 146).

Role of a Cacique in Public Architecture, Planning and Ceremonialism

The Road was one element of several connected components of public architecture at MC-6. Fox *et al.* (1996, p. 483) observed that, “Large-scale public architecture, as the most highly visible material symbol of political authority, has traditionally been central to archaeologists’ definitions of social complexity... I view these public sites not as “inert containers” for social action, but as meaningful settings in a “lived” landscape which were actively used and interpreted in ritual to create and manipulate perceptions of social differences.”

In the Caribbean, public architecture in the form of plazas and batays were the product of organized community labor. “In addition to serving as the venue for community gatherings and ceremonialism, they reflected the power and organizational influence of the cacique and helped cement cultural identity and strengthened group solidarity” (Torres, Curet *et al.*, 2014, pp. 146-147).

We do not know if the labor for construction of the Lucayan Road and their public architecture at MC-6 came only from residents of MC-6. The local

cacique, who Keegan (2007, pp. 1-91) assessed as possibly being of the lineage of the very powerful early historic cacique Caonabo, may have held sway over multiple communities. If so, members of those outlying linked communities may have contributed to the labor pool, perhaps as a component of community solidarity and service in association with festive gatherings (*Ibid*, p. 142).

However, the integrated design of the residential zones, plazas and Star Court at MC-6 required a central planning authority - that of the cacique and of an associated elite. In particular, the conceptualization, design, construction, and use of the astronomical observatory in the Star Court required very specialized skills and knowledge sets, that had to have been accumulated and passed down over a very long period - many years, and probably many generations. While the cacique exercised specialized leadership skills that were not required of most community members, the astronomers were true craft and knowledge specialists.

The cacique, and empowered associates, are the logical reservoirs of specialized astronomical knowledge. They are likely to have used the astronomical calendrics and associated mythological structures to lead and regulate arietos- public ceremonial activities with magical and religious elements, that would have been acted out in the village plazas. One such ceremonial activity might have been associated with the salt harvest and exchange activities.



Figure 15.

Harvested Salt Armstrong Pond



Figure 16. Salt Formation in Dry Season, Armstrong Pond.

The Road, plazas and Star Court were an integrated suite of public works, that were the product of organized community labor. This ensemble of public spaces, had at their core the celestial calendar, particularly the cycle of the sun. The Road extends from Plaza I, near the Star Court, to the margins of Armstrong Pond, which commonly produces vast volumes of crystalline salt in the summer (Figure 15 and Figure 16).

Sun and wind evaporated salt is a seasonal and ephemeral resource on Middle Caicos. The saline Armstrong Pond commonly starts to bake out and precipitate salt in late June. Peak salt production at Armstrong Pond coincides with the summer solstice and sun zenith passage southward, in the period from circa June 21st to 12 July.

Conclusions

The Lucayan Road is part of an interconnected assemblage of public works at MC-6 that included two Plaza areas that provided common spaces for gatherings that are likely to have included arietos and ceremonial activities. The bulk of these public works were the product of unskilled labor that would have required only a part time commitment by community members to accomplish.

The Road connects Armstrong Pond, the source of a vital resource, salt, with Plaza I of MC-6. In the center of Plaza I is the Star Court, which is an astronomical calendar that records key celestial events, the summer solstice and sun zenith passage prominent among them. The astronomical observations and construction of the Star Court within Plaza I would have

required personnel with specialized knowledge, accumulated over many years of celestial observations. Surrounding the Star Court in Plaza I, and within the adjoining Plaza II, are public, ceremonial spaces.

The suite of evidence suggests that ceremonial activities, coordinated by the cacique and an associated elite with specialized astronomical knowledge, used the celestial calendar to schedule ceremonial assemblages. These gatherings, as well as work on the site's public architecture, may have included participants from outlying dependent communities within a regional cacicazgo centered on MC-6.

In the context of the Lucayan Road connection between Plaza I and the Star Court with the salt source at Armstrong Pond, those ceremonies are likely to have included observance of the summer solstice and southward sun zenith passage in late June to early July. Those key solar events heralded the beginning of the Middle Caicos dry season that was essential for the crucial economic activity of salt gathering for export. The salt trade is assessed as underpinned regional trade relationships, associated kinship networks and alliances, and MC-6 community prosperity.

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Stone carvings from the Lucayan archipelago: anthropomorphic celts, monolithic axes and zoomorphic figures/pestles

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Abstract

A small assemblage of stone carvings – monolithic axes, figural celts and pestles – were recovered from the Lucayan archipelago (The Bahamas and Turks and Caicos Islands) during the late 19th and early 20th centuries, and are now held in museum collections. The majority have very little associated information, but “excavating” museum archives, consulting historic publications, and building a corpus of surviving examples can expand their interpretive value. They were imported to the islands, most likely as finished objects from neighboring Hispaniola and/or Cuba in the period ca. AD 800 to 1500. They may have been used to consolidate alliances and support mutually beneficial exchange within an expanding economic and political network.

Key words: anthropomorphic celts, monolithic axes, museum collections, collection histories, The Bahamas, Turks and Caicos Islands.

Tallas de piedra del archipiélago lucayano: celtas antropomorfos, ejes monolíticos y figuras zoomorfas

Resumen

Un pequeño conjunto de piedras talladas – hachas monolíticas, hachas figurativas y morteros – se recuperaron en el archipiélago de Las Lucayas (islas Bahamas e Islas Turcas y Caicos) entre finales del siglo XIX y comienzos

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del siglo XX, las cuales hoy día se conservan en colecciones de museos. La mayoría de ellas tienen muy poca información asociada, pero “excavando” archivos de museos, consultando publicaciones históricas y la construcción de un corpus de ejemplos sobrevivientes pueden ampliar el valor interpretativo de estos artefactos. Estas piezas fueron importadas a las islas, muy probablemente como objetos terminados, desde las La Española y/o Cuba en el período comprendido entre el 800 d.C. y el 1500 d.C. Es posible que se hayan utilizado para consolidar alianzas y apoyar intercambios mutuamente beneficiosos dentro de una red económica y política en expansión.

Palabras clave: *hachas antropomórficas, hachas monolíticas, colecciones de museos, historias de colecciones, Bahamas, Islas Turcas y Caicos*

Sculptures sur pierre de l'archipel Lucayan: celtes anthropomorphes, haches monolithiques et figures/pilons zoomorphes

Résumé

Un petit assemblage de sculptures sur pierre – haches monolithiques, haches anthropomorphe et pilons – a été récupéré dans l'archipel Lucayen (Bahamas et îles Turques et Caïques) à la fin du 19e et au début du 20e siècle, et est maintenant conservé dans des collections de musées. La majorité dispose de très peu d'informations associées, mais «fouiller» les archives de musées, consulter des publications historiques et constituer un corpus d'exemples survivants peuvent accroître leur valeur interprétative. Ils ont été importés dans les îles, très probablement sous forme d'objets finis en provenance des îles voisines d'Hispaniola et/ou de Cuba au cours de la période de ca. 800 à 1500 après JC. Ils peuvent avoir été utilisés pour renforcer des alliances et soutenir des échanges mutuellement bénéfiques au sein d'un réseau économique et politique en expansion.

Mots clés: *haches anthropomorphe, haches monolithiques, collections de musées, histoire des collections, Bahamas, îles Turks et Caicos.*

Gravuras em pedra do arquipélago Lucayan: celtas antropomórficos, eixos monolíticos e figuras/pilões zoomórficos

Resumo

Um pequeno conjunto de esculturas em pedra - machados monolíticos, machados figurativos e pilões - foi recuperado do Arquipélago das Lucaias (Bahamas e Ilhas Turcas e Caicos) durante o final do século XIX e início do

século XX, e estão agora conservados em coleções museológicas. A maioria possui muito pouca informação associada, mas “escavar” arquivos de museus, consultar publicações históricas e construir um corpo de exemplos sobreviventes pode expandir o seu valor interpretativo. Estes objetos foram importados para as ilhas, muito provavelmente como objetos acabados, vindos da vizinha Ilha de São Domingos e/ou Cuba no período de aproximadamente 800 a 1500 d.C. Eles podem ter sido usados para consolidar alianças e favorecer trocas mutuamente benéficas dentro de uma rede econômica e política em expansão.

Palavras-chave: machados antropomórficos, machados monolíticos, coleções de museus, histórias de coleções, Bahamas, Ilhas Turcas e Caicos.

Pre-Columbian Caribbean stone carving has taken its rightful place as among the most accomplished artistic traditions in the Ancient Americas. Some artifact categories, such as trigoliths (three-pointed stones) and stone collars, always feature in museum exhibits (e.g., Kerchache, 1994) and have garnered much interest and study (e.g., Walker, 1997), while other stone carvings remain less well known, particularly examples recovered from islands outside the Greater Antillean core of Hispaniola, Puerto Rico and Cuba. This overview of the stone carvings from the Lucayan archipelago (today’s Bahamas and Turks and Caicos Islands) – here focusing on anthropomorphic celts, monolithic axes and a small, select group of other anthro/zoomorphic stone carvings (pestles, figures)¹ (Figure 1) – is part history, part museology and, ultimately, part archaeology. Through this small group of artifacts, it is possible to chart the emerging local interest in the prehistory of the region from the mid-19th century, explore the role played by museums in securing collections just as anthropology and archaeology arose as fields of academic enquiry, and integrate “lost” historic finds back into local prehistories in order to explore their relevance to how we can better understand the people who settled the region from ca. AD 800. This small, but important assemblage augments the broader study of these artefact categories in the wider Caribbean, and better positions the Lucayan archipelago within the context of prehistoric networks that connected the region.

¹ Bahamian/TCI anthropomorphic pendants – as ornaments, as opposed to functional (e.g., pestles) or ‘pseudo-functional’ artifacts (e.g., anthropomorphic celts, which cannot be used as celts) – are discussed elsewhere (see Ostapkowicz, 2023:217-223).



Figure 1. Distribution of anthropomorphic celts, monolithic axes and zoomorphic stone carvings within the Lucayan archipelago (The Bahamas and Turks and Caicos Islands). Base map by John Pouncett, adapted by Joanna Ostapkowicz.

Within The Bahamas and Turks and Caicos Islands, growing local interest in prehistory emerged from the 1850s, coinciding with a more intensive development and commercial exploration of the islands. Commercial guano mining had a brief, but intensive period in the mid- to late-19th century, particularly in the Turks and Caicos Islands (TCI), where caves were entirely cleared of their contents, including Indigenous artifacts. The emerging local middle class, with aspirations to document the quickly disappearing island heritage, amassed artifacts that took pride of place in the home, or were displayed in the first museums and libraries established on the islands as well as being loaned to regional exhibitions. International researchers travelling to the islands, often funded by major US institutions such as the Smithsonian and the Heye Museum/Museum of the American Indian, would seek out these local collections, circulating information about them upon their return. Those institutions with resources at their disposal, and the aim to amass “comprehensive” collections of Americas archaeology, would then pursue acquisition. These institutions also funded fieldwork in the Caribbean, led by their curators, who were tasked with surveying local collections and purchasing choice pieces, if not entire holdings (e.g., the work of Jesse Walter Fewkes on behalf of the Smithsonian’s Bureau of American Ethnology, from ca. 1890s, particularly in Puerto Rico, is a good example –

see Schiappacasse, 2019; 2021). They were to conduct archaeological surveys of massive regions, often for months on end, and to excavate promising sites (e.g., Mark Raymond Harrington of the Heye Museum in Cuba, 1915). Upon return, and once the artifacts were accessioned into the museums, fieldwork reports (e.g., Harrington, 1921) and catalogues would be generated and published, documenting the expanding regional holdings. These were among the first systematic efforts to categorize the archaeological material culture of the Caribbean region, and they remain key references. The histories of the artifacts discussed below chart some of these early efforts in The Bahamas and TCI. Aside from this historical context, the select corpus of artifacts (figural stone carvings, including anthropomorphic celts and monolithic axes) more importantly provide insights on the material culture that was circulating in the region during prehistoric times, and how it connected communities.

Legacy collections need to be grounded in the context of their acquisition, in efforts to trace their provenance – from find location, to the hands that circulated them, to the interpretations surrounding them – in order to better situate them in (pre)history. That these artifacts are still relevant is self-evident when one considers the significant heritage that has been lost on these islands – from damage sustained by ever increasing development through to hurricanes and rising sea levels (Ostapkowicz, 2023). Notably, anthropomorphic celts and monolithic axes have not been recovered in the region during archaeological investigations since Theodoor de Booy's fortuitous find of an axe at Juba Point Cave, Providenciales in 1911. This goes to the point that museum legacy collections have great potential to fill gaps in our understanding of the past; we cannot hope to build understanding of the past without integrating them into current and future investigations of the islands.

Anthropomorphic celts

Anthropomorphic celts (Figure 2) are a rare artifact category both within the Lucayan archipelago and the wider Caribbean. There are but a handful of examples known – Fewkes (1915:4) documented 13 spanning the Caribbean, two of which were from The Bahamas; most now reside in international museum collections, while others have disappeared from public record. Though this is unlikely a reflection of their true numbers, it goes to the point that even Caribbeanists with an extensive knowledge of the region's material culture in both public and private collections were only able to document a few examples (Figure 2-3). Their characteristic form features a carved face and, occasionally, shallowly depicted arms and legs, carved to one side of the celt. Very

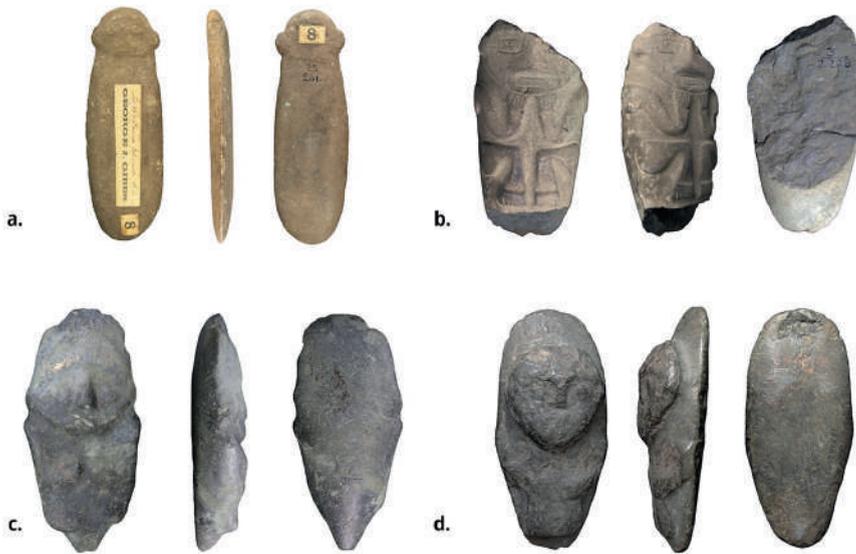


Figure 2. Anthropomorphic celts (three views of each) recovered in the Lucayan archipelago, not to scale. a. “Mummiform idol,” greywacke, Gibbs collection, “Caicos Islands,” ca. 1860, L: 19cm; W: 6cm; D: 1.8cm, Division of Anthropology, American Museum of Natural History, 25/241. b. Anthropomorphic celt, meta-tuff, Betsy Bay, Mayaguana, L: 14cm; W: 7cm; D: 4.4cm, National Museum of the American Indian, 032228. c. Anthropomorphic celt, meta-basalt, Great Inagua, L: 24.5cm; W: 11.2cm; D: 5.2cm, National Museum of the American Indian, 113518. d. Anthropomorphic celt, mafic schist, “The Bahamas,” ex-Benjamin W. Arnold collection, L: 20cm; W: 9cm; D: 5.2cm, Peabody Museum of Natural History, ANT. 137362. Material identifications by Gareth Davies and Alice Knaf (Ostapkowicz, Knaf and Davies, 2022). Photos: Joanna Ostapkowicz, courtesy institutions listed.

rarely, zoomorphic examples have been recovered (e.g., Cuba - Fewkes, 1915:12).² They have been variously known as “engraved,” “ceremonial,” “sculptured,” and “effigy” celts and, most recently “celtiforms,” to distinguish them from the more frequently recovered petaloid celts that feature smooth and finely polished surfaces; the latter were hafted to wooden handles, largely functioning as carving tools (see Figure 8d) (Ostapkowicz, Schulting and Davies, 2023). Despite retaining the celt shape, the engravings on the effigy

² <https://www.cultura.gob.es/museodeamerica/coleccion/america-prehispanica/hacha-ta-na.html>. Note that this example is not a petaloid celt, but an axe.

celts rendered them difficult to haft, and so largely useless as tools³ – but the alignment of the body within the celt shape was clearly significant, implying a connection between the figural depiction and the petaloid shape. As no hard stone occurs within the limestone islands of the Lucayan archipelago, all examples were imported into the region, most likely from Cuba and Hispaniola, where the majority have been recovered historically, though rarely with any contextual information (see below).

The earliest reference currently known to a surviving anthropomorphic celt from the Lucayan archipelago comes from the collection catalogue of George J. Gibbs, a resident of Grand Turk in the mid- to late 19th century. Gibbs amassed a large and important collection of prehistoric artifacts from the Turks and Caicos Islands, including one anthropomorphic celt (Figure 2a). He identified this as a “mummiform idol” in his catalogue, noting that it had been “found at [the] Caicos about the year 1860” (Gibbs ms 1). It was listed separately as a “ceremonial stone” in the correspondence related to the collection’s acquisition by the American Museum of Natural History in 1900, clearly among the highlight pieces. Its shape – an elongated oval “body” surmounted by a head with prominent ears – conforms to the anthropomorphic celts category (though with the head at the butt or proximal-end of the celt, as opposed to the blade). Carved of greywacke, the only surface elaboration is the presence of coffee-bean shaped eyes, a line for the mouth and the ridge denoting the hair and chin line.

The next find of an anthropomorphic celt in the Lucayan archipelago was documented by Frederick Ober (1894:276), who noted a “remarkable specimen, which was discovered in a field... in 1892, and brought to Nassau during my stay there[. It is] ten and one-half inches [27cm] long, three and one-half inches [4cm] broad, and has carved upon it a face, as in a moon, with oblique, oriental eyes. This is also of dark-green stone, probably jade or serpentine, and is the only one of the kind I have seen.” It is notable that Ober, who was doing a survey of the wider Caribbean region in efforts to secure collections for the World’s Columbian Exposition of 1893, saw this as “one of a kind.” That it was “brought to Nassau” suggests that it likely came from the “out” or “family islands” (the wider Bahamas); Nassau being the capital, quite a number of finds on the neighbouring islands made it to the city (e.g., Ostapkowicz, 2023:89). The so-called “Rae specimen,” named after the owner (Mr. C. S. Rae of Nassau, New Providence), would be studied by Theodoor de Booy, who visited the region

³ Fewkes(1907:96)notesthat“therecanhardlybeadoubtthat[thisistype]ofceltwasneverhafted,asno signs of its attachment to the handle are to be seen, and as the presence of a handle would conceal part of the figure cut upon it. [These ceremonial celts were] probably carried in the hand.”

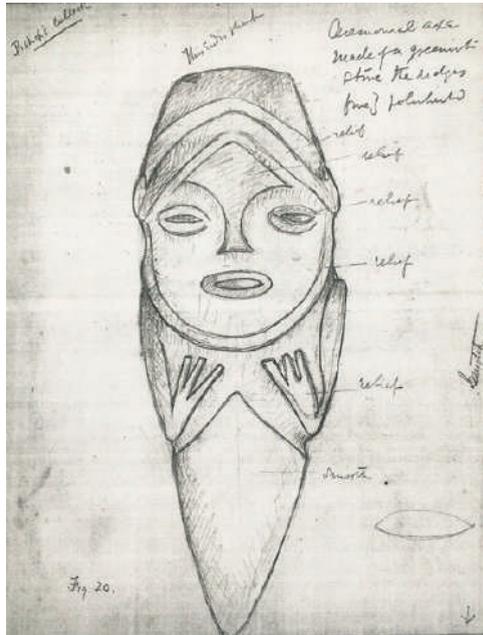


Figure 3. Jesse Walter Fewkes' illustration of an anthropomorphic celt, documented during his visit to the Archbishop Meriño collection in Santo Domingo, Dominican Republic in 1902. Photo: Joanna Ostapkowicz, courtesy Jesse Walter Fewkes papers, National Anthropology Archives, Smithsonian Institution, 4408/45a.

in 1911, undertaking the first dedicated archaeological survey of the Turks and Caicos Islands, and returning in 1912 to work in The Bahamas on behalf of the Heye Museum, New York (Ostapkowicz, 2023:92-95). Although his assessment of the carving was never published, his sketches of it were shared with Jesse Walter Fewkes of the Smithsonian Institution, who made a quick note of it in his 1912 field notebook (Figure 4a), and later referenced it in his 1915 article, *Engraved celts from the Antilles* (see also Fewkes, 1922:177). Within the broader corpus of anthropomorphic celts Fewkes was able to study, he considered the "Rae specimen" to be "similar, almost identical" to an engraved celt recovered from Haiti and now in Berlin's Ethnologisches Museum (Figure 4b, c), and concluded "it seems probable that [the Nassau] specimen was brought to the Bahamas from the neighboring islands," most likely Haiti (Fewkes, 1915:5; 1922:177). The carving has since disappeared, leaving only Fewkes' cursory sketch (the de Booy sketches have not been found) and his suggestion that it shared stylistic similarities to the Haitian anthropomorphic celt. This is the furthest north that



Figure 4. The anthropomorphic celt in the Rae collection, Nassau, (left) and the Haitian example in the Berlin collections (center and right), which Jesse Walter Fewkes considered stylistically “almost identical” (Fewkes 1922:177). a. Notes, ca. 1912, by Fewkes (Field Notebook 59a, Manuscript 4408) discussing the “ceremonial celt” from the Rae collection, likely based on sketches made by Theodoor de Booy. b. Haitian anthropomorphic celt, L: 34cm; W: 8.9cm; D: 2.9cm, Ethnologisches Museum, Staatliche Museen zu Berlin, IVCb 84. c. Fewkes notes on the Haitian celt, consulted during a visit to Berlin in 1913 (Field Notebook 59d, Manuscript 4408). Images of Fewkes notes courtesy Jesse Walter Fewkes papers, National Anthropology Archives, Smithsonian Institution; image of Haitian celt, courtesy Ethnologisches Museum, Berlin; photos by Joanna Ostapkowicz.

an effigy celt has been documented in the Caribbean, though this is not to say that other examples may not have been present in the northern Bahamas – they simply have not been documented in the published literature or made it into museum collections with their provenance information intact.

Two Bahamian anthropomorphic celts/carvings, then part of the Benjamin W. Arnold collection, were featured in Warren K. Moorehead’s (1910) *The Stone Age in North America* (Figure 5). Arnold’s collection was reportedly amassed over 30 years prior to his death in 1932, and, according to Froelich Rainey (1934ms:7) was considered to be “the largest [private] collection of Bahamian Archaeology in existence.” And while part of the Arnold collection entered the Peabody Museum of Natural History in 1945, the two anthropomorphic celts featured in Moorhead’s book unfortunately did not; their current whereabouts are unknown. Another effigy celt, however, was donated to the Peabody, and

the original Arnold catalogue lists it as a “celt from the Bahamas, with carving of face, arms and legs. This celt has evidently been in much better condition and shows that [several] efforts have been made to destroy the effigy figure” (Figure 2d). The carving does indeed feature numerous chips and striations to the surface, particularly around the figure itself. The head is quite prominent, both in size – taking up roughly half of the carving – and in raised height, while the body likely featured both arms and lower legs, only remnants of which now remain. Unfortunately, like much of the Arnold collection, more detailed provenance is lacking for these carvings, apart from their attribution to The Bahamas.

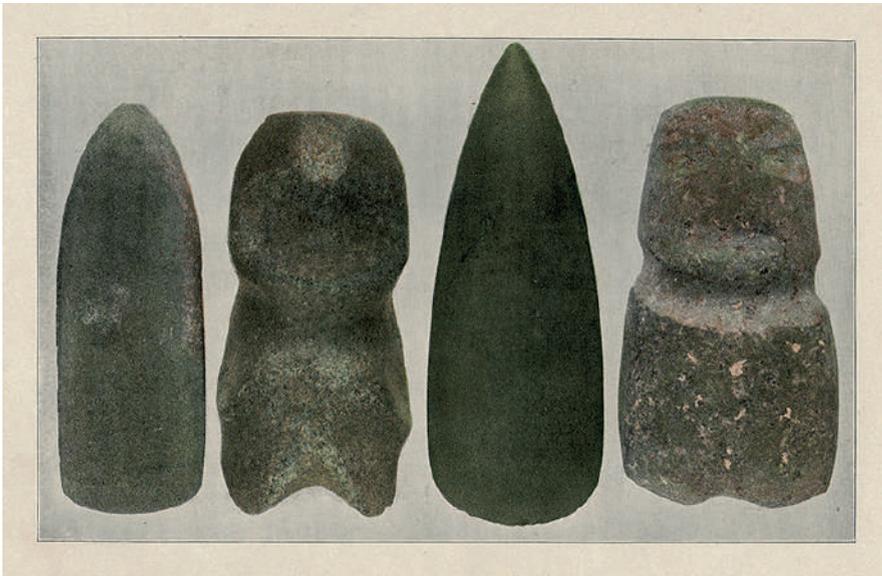


Figure 5. Frontispiece (Figure 223, S. i-ii) from Warren K. Moorehead’s (1910) *The Stone Age in North America*, with the caption “Two grooved effigies and two celts, from the Bahama Islands... [from the] B. W. Arnold collection, Albany, New York.”

One of the best known anthropomorphic celt examples from The Bahamas is that documented by de Booy, who secured it during his 1912 survey for the Heye Museum (Figure 2b). De Booy (1913:6) notes:

although in fragmentary condition, this object shows clearly what the original outlines must have been, and it may be included among the best examples of prehistoric stonework from the Bahamas.... [It] is petaloid and is made of a green, slate-like stone, possibly volcanic in origin. It was found by a... farmer in the bush in the vicinity of ‘Betsy Bay’ settlement on the west coast of [Mayaguana],

and was taken home by the finder. It seems to have reposed in his cabin for several years and... was finally given to his infant daughter as a toy, with the inevitable result that it was broken. With the aid of a few children the author was successful in discovering two of the fragments in the... yard. It is regretted that the remaining pieces could not be recovered.

The carving features coffee-bean shaped eyes, a slightly raised ridge for the triangular nose and rectangular mouth. The body, which appears to be in a seated position, is clearly depicted, from the circular shoulder blades and hip joints to the rounded elbows and knees to the hands, which come to rest below the chin. Clearly these elements were important for the carver to portray on this piece – unlike the “Rae” effigy celt discussed above, where the focus appears to be solely on the head. Fewkes (1922:183) agrees with de Booy that this is a ceremonial celt, “but it has certain features that impart to it an interest apart from its resemblance to an engraved petaloid. One of these features is the manner in which the hands are brought to the body, as the grooves representing fingers are longitudinal instead of horizontal.” Although he does not expand on this point, it is possible that he was considering the Mayaguana anthropomorphic celt as bearing similarities to the stone heads and masks recovered from the wider region (Fewkes, 1922:183-186); for example, he noted similarities between the Mayaguana celt and a Haitian carving in Paris’ Trocadero Museum (now in the Musée du quai Branly; presumably accession 71.1887.156.1; see Lovén 2010 [1935]:Plate XV, 1): “the outlines of the faces of both are similar and the details of the carving of the nose almost identical.” He provides no further details, and the assumption is that he may have considered the carving potentially Haitian in style. Other Haitian examples featuring a prominent triangular nose and coffee bean eyes are known from the wider literature (e.g., Mangonés and Maximilien 1941:Planche XIXc-d); this possible Haitian connection merits further evaluation.

In 1921, George Pepper, of the Heye Museum, was in correspondence with Great Inagua resident Charles Arthur Sargent (b., 1865, d. 1939) about ceramics from Salt Pond Hill, which the latter considered historic rather than prehistoric, when Sargent mentioned something much more valuable which was found on the North side of the Island in the neighborhood of a cave.” He continues, “...[it is] in the shape of an Idol, it’s carved out of the same hard stone that the Indian hatchets are made of, it’s about a foot [30.5cm] long and seem[s] to be perfect with the exception of a few chips around the edges. If you think this is of any value, possibl[y] I could get it to you through a friend of mine in [New York]” (Sargent to Pepper, 22 November 1921, Folder 8, Box OC 288, NAA).

The museum would come to acquire the piece in 1922. It would turn out to be the largest effigy celt recovered from the Lucayan archipelago. The features appear quite worn with only the raised ridges of the brows, nose and jawline evident on the face (Figure 2c). The right arm, bent sharply at the elbow, comes to rest on the chest and a ridge above the pointed base of the carving suggests a kneeling posture.



Figure 6. “Sword (of guayacan wood)” found together with an effigy celt in a cave near Enriquillo Lake, DR. According to Boyrie Moya’s notes, the celt is 26cm long, 9.5cm wide and the sculpted face is 7.6cm high and 7.6cm wide; the “sword” is 81cm long. See also Herrera Fritot (1964:Lam. XVIb) who attributes this to the Manuel de Moya Alonso collection, Santo Domingo, DR. Figure compiled by Joanna Ostapkowicz from archival images in the Herbert William Krieger papers, National Anthropology Archives, Smithsonian Institution.

Found as they were in the 19th and early 20th centuries prior to the emergence of archaeology as a discipline, any associated context information

for the anthropomorphic celts discussed above has been lost to us. However, some comparative insights can be gleaned from other examples recovered from the wider Caribbean more recently – though again, we must rely on archival documentation to flesh out these finds. An example from the Dominican Republic emerges from correspondence between Emile de Boyrie Moya (b. 1903; d. 1967), a prominent Dominican archaeologist and Director of the Instituto Dominicano de Investigaciones Antropológicas de la Universidad de Santo Domingo, and the Smithsonian’s Herbert Krieger. In a letter dated 5 July 1945, Boyrie Moya discusses the recovery of a “wooden sword (of guayacan wood) found in a cave near our Enriquillo Lake. It was found a few weeks ago by a countryman, side by side with a ceremonial stone ax (very beautiful green petaloid ax with an engraved face on one side)...” (Figure 6). This anthropomorphic celt was later described and illustrated in Herrera Fritot (1947:134-135; Lamina VI; 1964:Fig XVIb). Another anthropomorphic celt was reportedly recovered from “Cueva de Mulañé,” part of a cave complex located 14 km on the road from Cabrera (Abreu) to Rio San Juan (Veloz Maggiolo and Ortego 1980:28). Across the Caribbean, caves are centers for ritual and funerary deposits, including caches of important artifacts, from anthropomorphic and petaloid celts to monolithic axes (parallels can be drawn to the deposit that de Booy excavated at Juba Point, Providenciales, which yielded a monolithic axe together with burned wood and shells – see further details below).

In sum, seven anthropomorphic celts are known from the Lucayan archipelago – the northernmost example documented in New Providence (though likely from one of the neighboring “family” islands), the southernmost from Great Inagua (Figure 1). These span three styles: celts featuring 1/ a depiction restricted to an anthropomorphic head (Figure 2a; Figure 4a); 2/ a head and schematic body depicted on a slightly raised anterior surface (Figure 2b-d) and 3/ grooves to the sides of the celt outlining the body’s frame, but little facial or body details (Figure 5). These appear consistent with the stylistic range of anthropomorphic celts elsewhere in the circum-Caribbean, though elongated “blade” versions (Figure 7c) and the most complex form – that of the stone “baton” (as seen in Figure 7d; Figure 15), where the body is most fully developed and “fleshed,” – are not present in the Lucayan archipelago, at least based on the examples deposited in museums. With the exception of an unverified “jade or serpentine” example in the Rae Nassau collection (Ober, 1894:276), all anthropomorphic celts recovered from the archipelago are carved of softer rocks, including greywacke, meta-tuff, meta-basalt and mafic schist – all materials foreign to The Bahamas/TCI.



Figure 7. Anthropomorphic celts from Greater Antilles. a. Puerto Rico (?), L: 29cm; W: 11.1cm; D: 4.3cm, Musées royaux d'Art et d'Histoire, Brussels, A.Am 5615. b. St Thomas, L: 21cm; W: 7.5cm; D: 3.5cm, Ethnologisches Museum, Berlin, IV CB 30. c. "Amérique Centrale," L: 32cm; W: 7.5cm; D: 2.9cm, Musée des Confluences, Lyon, acquired 1916, MHNL.81001583. d. "St Domingo" [Hispaniola], L: 45cm; W: 9.2cm; D: 6.9cm, accessioned 1861, Nationalmuseet, Copenhagen, ODI.g5. Photos: Joanna Ostapkowicz, courtesy institutions listed.

Monolithic axes



Figure 8. Monolithic axes from the Lucayan archipelago. a. Monolithic axe, greenschist, Blue Hills, Providenciales, TCI, recovered May 1874, George Gibbs collection, L: 25cm; W: 11.9cm; D: 4.6cm, Division of Anthropology, American Museum of Natural History, 25/235. b. Monolithic axe with anthropomorphic finial, amphibolite, Conch Bar Caves, Middle Caicos, TCI, Lady Edith Blake collection via Murphy, L: 19.7cm; W: 8.7cm; D: 2.3cm, National Museum of the American Indian, 059138. c. Monolithic axe, meta-siltstone, Juba Point, Providenciales, TCI, Theodoor de Booy excavations, 1911, L: 19.1cm; W: 9.1cm; D: 2.3cm; National Museum of the American Indian, 031913. d. celt with wooden haft, impure omphacite-jadeite jade blade, North Caicos (?), TCI, Guaiacum sp., calAD 1032-1174 (95.4%, OXA-19172: 932 ± 26, recalibrated uses OxCal v4.4, IntCal20), handle L: 55.5cm; w: 6cm (max); celt (omphacite-jadeite jade) L: 15.2cm; W: 5.8cm, National Museum of the American Indian, 060000. Photos: Joanna Ostapkowicz, courtesy institutions listed.

Monolithic axes (also called “stone scepters” or “axe-scepters” in early writings – see Hamy 1906; discussion in Gendron, 2016:33) – comprise a celt hafted to a handle, carved as a single piece in stone. They are as rare as anthropomorphic celts, with only three documented in museum collections from the Lucayan archipelago, mainly provenanced to the Turks and Caicos Islands (Figure 8a-c). Reference to other examples, long since disappeared, do exist, however: Daniel McKinnen (1804:132-133), who toured The Bahamas

and TCI in 1802 and 1803, noted that “various traces of the aborigines... have been discovered at the Caicos [including] ... a hatchet of stone curiously embossed with a dolphin’s head.” It is likely that there were others, but these disappeared into private hands or entered museum collections without associated information (e.g., Lovén [2010 [1935]:155] attributes a monolithic axe in the collections of the British Museum to The Bahamas, though there is nothing in the records of that institution to support this link; it has been in the collections since 1830 [Saville, 1916:9]). But judging from relatively small numbers of these artifacts even from “source” islands – such as Hispaniola and Cuba (e.g., Saville, 1916 documents 13 examples; Herrera Fritot, 1938, 15 examples) – these were unlikely to have been significant quantities. Fewkes (1907:95-96; Plate XIV) illustrated only three from the Dominican Republic, acquired by the Smithsonian from the collection of Archbishop Meriño, and mentions that monolithic axes are “seldom found in existing collections.” A rare glimpse of other monolithic axes is provided in a manuscript containing illustrations of private collections, dating to ca. 1903, held at the National Anthropology Archives, Smithsonian Institution (Jesse Walter Fewkes papers 4408/107) (Figure 9).

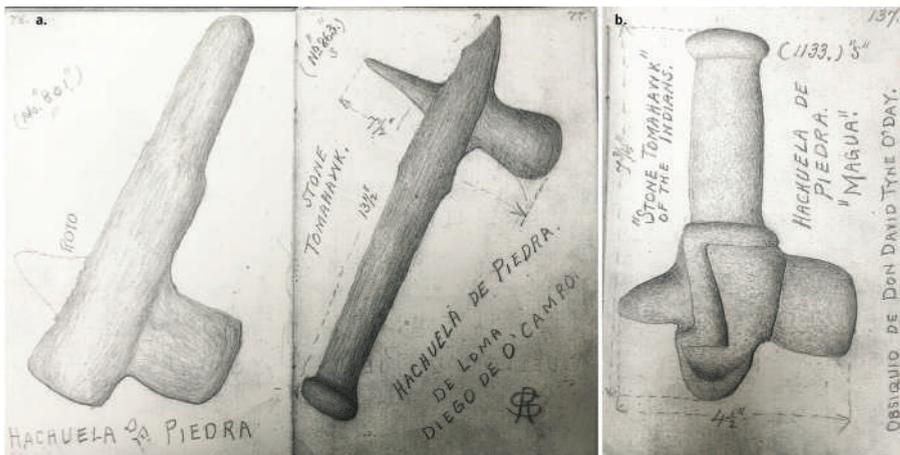


Figure 9. Monolithic axes from the Dominican Republic, as illustrated in a 1903 manuscript held in the Jesse Walter Fewkes papers, National Anthropology Archives, Smithsonian Institution, ms. 4408/107. a. pages 76 and 77 from the manuscript showing two monolithic axes, one attributed to Loma, Dominican Republic (center). b. page 137, showing a monolithic axe attributed to Magua, Dominican Republic. Photos: Joanna Ostapkowicz, courtesy National Anthropology Archives, Smithsonian Institution.



Figure 10. Correspondence related to the monolithic axe in the George J. Gibbs collection. a. copy of a letter dated 16 October 1875 Gibbs sent to John Evans, illustrating the monolithic axe that had recently (May 1875) been found at Blue Hills, Providenciales, National Anthropology Archives, Smithsonian Institution (Gibbs’ manuscript, MS 7173). b. monolithic axe, greenschist, L: 25cm; W: 11.9cm; D: 4.6cm, Division of Anthropology, American Museum of Natural History, 25/235. c. illustrations of Gibbs collection that accompanied the letter dated 2 February 1900 from Dr. Oliver Crosswell, Government Medical Officer on Grand Turk to the Curator, Peabody Museum of Archaeology and Ethnology, Boston (now in the AMNH archives, accession 1900-45), discussing the potential sale of the collection. The monolithic celt is described as “a unique specimen of a Carib stone handled celt of large size and of great value.” Photos: Joanna Ostapkowicz, courtesy institutions listed.

The earliest monolithic axe from the Lucayan archipelago to enter museum collections was acquired by Grand Turk Island resident, George J. Gibbs in the late 19th century (Figure 8a). He described it in his catalogue as “Indian handled celt, the blade and handle being in one solid piece, and all of stone, found at the Blue Hills Caicos [Providenciales] on the surface of the land in May 1874” (Gibbs ms 2:212) (Figure 10). In an extract from his 1874 journal (in Gibbs ms 2:38), he notes “March 29th... received a present of an Indian hatchet and a piece of broken pottery with a face on it” – this implies that it was acquired rather than excavated. Gibbs was known to undertake excavations – such as that at “Indian Camp,” Middle Caicos on 1 April 1874, with some 24

workmen from the neighboring Lorimers settlement.⁴ Note the discrepancy in Gibb's reference to the "find" date (May in his catalogue, March in his journal); the best that can be said is that the monolithic celt was acquired in 1874.

Word quickly spread of the find and of Gibb's wider collection, reaching the Smithsonian Institution; Otis Mason (1877b:373; see also 1877a:626) was the first to publish a brief description and illustration of it, calling it a most "interesting and precious relic... [representing] a celt in the handle, the whole being gracefully carved out of a single piece of jadeite [greenschist - see below]." Hamy (1906:154) called it the most beautiful example among the corpus of known monolithic axes. Joseph Henry, the Smithsonian's Secretary, got in touch with Gibb to enquire whether he would consider parting with his collection:

...you have in your possession a collection of very interesting stone implements from certain caves and elsewhere in the Bahamas, and I write to ascertain whether it may not be possible for us to obtain possession of them for the use of the National Museum. We are endeavoring to bring together a complete collection of objects of antiquity, and find in the series we have already... from the West Indies, specimens of the highest interest, and greatest importance. Such articles as stone implements in wooden handles are particularly desirable and... you have one in your possession, which has excited my interest strongly.
Henry to Gibb, 23 January 1877 (Gibb ms 2:8).

Gibb's declined to part with his pieces, noting that "relics of this kind possess a local interest particularly to a native of the island far superior to their intrinsic value. I have been collecting for about twenty years and have some celts that my deceased father obtained years before" (Gibb ms 2:10). He was also initially disinclined to Henry's request of a loan, noting that "as these articles are such that cannot be replaced, I am afraid to risk them on a voyage across the ocean and back (as you suggest to obtain plaster casts)" (Gibb ms 2:10).

⁴ "April 1st... having mustered the men and tools, started for the [Indian Camp] burial mounds at 8am, which we reached at 9:10am followed by twenty four of the inhabitants of the village at Lorimers. We dug about five or six feet drop on the summit of one of the smallest mounds, found therein almost free from stones, and every now and then came to spots of a different coloured earth, these patches were small in size and appeared to be of decomposed animal matter, we found in every instance in them, either fish, turtle or bird bones and some that we thought might be human small bones - no skulls or large bones; one [dog tooth], both roots of which were perforated artificially [accessioned AMNH 25/257; see Ostapkowicz 2023:Fig 4.30], also a piece of pearl oyster shell drilled similarly with two holes [AMNH 25/256]; these I think were bored to be used as a necklace or bracelets, the intermediate spaces being composed of briars or seeds, or other destructible matter, have in the course of time become decomposed..." (Gibb ms 2:43-46).

But Henry persisted, and eventually persuaded Gibbs to loan the monolithic axe (and Gibbs persuaded Jeremiah Murphy to loan his hafted celt with wooden handle – Figure 8d, see below), something that would bring the pieces to wider scholarly attention. Upon receipt at the museum, Henry confirmed the pieces were “exceedingly interesting... we have only to regret that the originals cannot remain in the National Museum” (Gibbs ms 2:78); they were studied, with illustrations made and casts taken, and then they were duly returned in July. But by late August, Gibbs’ fears regarding the safe transfer of the artifacts “across the ocean” had been realized: the precious cargo could not be found aboard the ship tasked with its safe delivery. There ensued anxious months of waiting for news, with correspondence between Gibbs and Henry turning to a valuation of the loaned artifacts, in anticipation of a claim against the shipper. Henry considered the monolithic axe and the hafted celt

entirely unique and [they] are of such character as to be valuable in a money point of view. This is estimated by persons connected with the Institution at the lowest figure at [US \$] 500 each and we are assured that were they offered for sale to the museums of Europe there would be a spirited competition for them at that price. To the best of our knowledge and belief no museum in the world possesses similar articles, and in the important bearing they have upon the aboriginal history of the West Indies their loss would be considered almost a calamity. Henry to Gibbs, 25 September 1877 (Gibbs ms 2:109-110).

Fortunately, the box turned up on 4 December 1877, over three months since it was secured as cargo for the return voyage from Washington to Grand Turk (Gibbs to Murphy, 4 December; Gibbs ms 2:133). But the scholarly attention the monolithic axe garnered during this time (not to mention the valuation – which exceeded by several magnitudes the values achieved by other significant artifacts from the Turks and Caicos that did enter the Smithsonian – see, for example, Ostapkowicz 2015) secured it as an iconic artifact from the region. It featured in the Jamaica Exhibition of 1891 (Pusey, 1897:89), and was consulted by visiting scholars such as Ober (1893:83), who illustrated it in his *In the Wake of Columbus* volume, noting that “The Spanish Consul at Grand Turk [Gibbs]... has a very rare thing in the shape of an Indian axe, in stone, the head and handle being of one piece.” Ober would later play an intermediary role in the American Museum of Natural History acquiring the Gibbs collection in 1900, shortly after Gibbs’ death (Saville, 1916:6).⁵

⁵ Three museums, through various intermediaries, appear to have been involved with discussions over the Gibbs acquisition: the Smithsonian, the Peabody Museum of Archaeology and Ethnology, and the American Museum of Natural History.

The carving material was first identified as jadeite by Mason (1877b:373), though Saville (1916:6) cautioned, “as no analysis has yet been made, the material is uncertain”; it has been reassessed as part of project SIBA (*Stone Interchanges in the Bahamian Archipelago*) as meta-volcanic greenschist (Ostapkowicz, Knaf and Davies, 2022).

In profile, the monolithic axe appears to show raised ridges around the depiction of the hafted celt, suggesting the efforts made to feature, in stone, the perishable binding that secured the celt to the haft. Notable is the protrusion at the extreme top of the haft, which echoes that seen in the complete axe with a wooden handle, though the latter is two-pronged (Figure 8d). Might this be an abstract allusion to the more anthropo/zoomorphic depictions seen at the tips of other monolithic axes (Hamy, 1906:154, who describes these as “crests”; see also Gendron 2016:34), and could this be a feature unique to the archipelago? None of the recovered wooden hafts from Los Buchillones, Cuba (Jardines Macías 2013:12) or La Aleta, Dominican Republic (Conrad *et al.* 2001:9) feature such details. The upper tip of the haft also bulges much wider than the base, perhaps a feature that weighed the balance of the axe heavier at the head, again echoing the functioning implement (compare with Figure 8d). The base of the haft is rounded with a slightly larger bulge to one side – a feature that appears in other, more elaborate monolithic axes (Herrera Fritot 1938:Figure 12, 15). These often have anthropo/zoomorphic imagery, and in some the base appears as a “foot” complete with the depiction of toes, the bulge forming the ankle bone. It is as if the hafted celt morphed into a creature, the celt emerging from the chest, the long legs the handle, the feet at the base. The Gibbs monolithic axe perhaps references these elements in a more abstract representation. A clearer depiction of this “anthropomorphization” is seen in the monolithic axe from Conch Bar Caves (Figure 8b, discussed in more detail below).

Shortly after Gibbs acquired the monolithic axe in 1874, his colleague, Jeremiah Denis Murphy, an entrepreneur also residing on Grand Turk, secured an equally unique artifact: a complete hafted celt with wooden handle (Figure 8d). It has frequently been used as a direct comparison to the monolithic axes, given that this was the functional “inspiration” for the stone skeuomorphs. Murphy, together with his commercial partner, Josiah A. Frith, worked the caves at Conch Bar, Middle Caicos in the extraction of guano, the “black gold” of the island in the mid- to late-19th century (Sadler, 1997:135; Dodge, 2020:75). It is perhaps here (rather than North Caicos, as suggested by museum records) that the hafted celt was found.⁶ Gibbs (ms 2:21-22), in describing Murphy’s find to

⁶ Museum records note that the hafted celt “was found by the late Mr. William Murphy in a Cave on North Caicos when prospecting for guano. Numerous other pre-Columbian specimens were found in this and in adjacent caves together with a quantity of skeletal remains. This was about 1882 and, according to local reports, Mr. Murphy preserved this specimen and presented the

Joseph Henry of the Smithsonian, notes that “this relic was found embedded in the bottom of a cave at the Caicos Island. The laborer who was removing the deposit therein (to be shipped abroad as a fertilizer of land) struck the handle of the celt with the spade or jack he was using unfortunately broke it.” Murphy’s own account, dated 28 April 1877, provides more detail:

The celt was found in a cave at the Caicos Islands which contains a large quantity of ‘Bat’s dung’ and which we are shipping to England and the United States as fertilizer. The deposit is in many places more than 8 feet [2.4m] deep – it is generally quite soft but in one or two places shows unmistakable signs of having been very much trampled by the Indians hiding from the Spaniards in the days of Columbus when they were much in demand for slaves in St. Domingo. We only commenced shipping the deposit late last year and had to discontinue it during the winter months owing to the nature of the labor. We hope to commence again next month and I am in hopes that as we get further with the cave we will find more.”

Jeremiah Murphy (in Gibbs ms1:24-25).

This would suggest that the hafted celt was recovered in 1876/early 1877, a time when Murphy was working in the Middle Caicos caves (Sadler, 1997:135). It was also at this time that the Smithsonian was in communication with Gibbs, and the latter convinced Murphy to loan the hafted celt to the Smithsonian alongside his own monolithic axe. In Gibbs’ (ms 2:21-22) own words “...it was some time before I could induce [Murphy] to... risk sending it across the ocean and back” and he no doubt debated the wisdom of having done so when the returned container of “Aboriginal Relics” was reported lost between August and December 1877. For their part, the Smithsonian made casts and commissioned an artist to carve a replica of Murphy’s hafted axe in wood, inserting a celt from the Latimer collection “so that after staining the wood we hope to have a very close resemblance to the original” (Henry to Gibbs, 2 July 1877). Resulting illustrations of the hafted celt, alongside

greater part of them to Lady Blake when she visited the Caicos Islands during the time her husband was Governor of Jamaica [1888-1897].” Herrera Fritot (1938:8), however, gives the provenance of this artifact as Middle Caicos, and Cundall (1894:plate between 68 and 69), who illustrates the hafted celt in his *The Story of the Life of Columbus and the Discovery of Jamaica*, notes that it was “found in a cave at a village in Middle Caicos, under some five feet of cave earth, and was broken by the labourer in digging it out. The accumulation of the cave earth is of very slow growth, and, possibly the hatchet is several hundreds of years old, especially when we remember that the native Indians were all removed by the Spaniards soon after their discovery of these islands” (Cundall, 1894:73). The plate is an illustration of “Native stone implements in the possession of Lady Blake”; it is clear that Cundall had direct access to her collection, and associated documentation. The description conforms to that provided by Gibbs and Murphy himself regarding the circumstances of the find and lends more credibility to the find spot being Middle, rather than North, Caicos.

Gibb's monolithic axe, first appeared in Mason (1877b:Figure 12), and he (Mason 1877a:626) considered both as providing excellent insights into a lost technology: "many archaeologists have been astonished at the beauty of form and the exquisite finish of the jadeite celts found in the West Indies, and have often wondered how they were hafted and put to use. The problem has been solved recently by two celts sent to the National Museum from the Turks' and Caicos islands, by Mr. George Gibbs. One of them is a light jadeite, oval-sectioned celt set in a mortised handle of hard wood...." The hafted celt has subsequently been illustrated and discussed widely, including by Cronau (1892:240), Cundall (1894), Ober (1893:83), Duerden (2008 [1897]:255), Saville (1916:Plate II, 4) and Herrera Fritot (1938:15).

Murphy's prized object was also loaned to the Jamaica International Exhibition of 1891 (Pusey, 1897:89), and at some point before 1894, when it was illustrated by Cundall (see footnote 6), entered the collections of Lady Edith Blake, the wife of Henry Arthur Blake, Governor of Jamaica (1888-1897), when the Turks and Caicos Islands were a dependency of Jamaica. Lady Blake facilitated access to her collection for researchers, both during her time in the region (e.g., Brooks, 1889; see Ostapkowicz, 2023:132) and later, after her return to Ireland, by continuing to provide information or photos.⁷ By 1916, however, with the First World War raging in Europe, the Blakes decided to sell the collection to the Heye Museum: Henry Blake wrote to Heye (5 September 1916, Archives of the National Museum of the American Indian) that "under the present circumstances in Ireland I approve of my wife's disposing of the collection, the acquisition of which brings back many happy memories."⁸ The hafted celt, together with other significant artifacts from The Bahamas, TCI and Jamaica, were accessioned into the Heye Foundation's Museum of the American Indian collections in 1917. It would be a highlight in future displays: a 1922 guidebook notes that in a display case dedicated to Bahamian archaeology, amidst the "amulets, some of [which] are better than any we have from Cuba, and an excellent series of typical wooden seats, or *duhos*... best of all is a fine petaloid celt with a wooden handle still intact" (Hodge, 1922:24). It remains the only complete example recovered from the Caribbean; the waterlogged sites of Los Buchillones, Cuba and La Aleta, Dominican Republic, have yielded wooden hafts, but are missing their celts (Jardines Macías *et al.*, 2013:12; Conrad *et al.*, 2001:8-9). The wooden handle has been radiocarbon dated to calAD 1032-1174 (95.4%, OxA-19172: 932±26 BP) (Ostapkowicz,

⁷ For example, her correspondence with Theodoor de Booy specifically mentions "the celt in the wooden handle and the small all stone axe were found in the Caicos Islands (the former in a cave)" (Blake to de Booy, 22 February, 1913, Archives of the National Museum of the American Indian) and she sent a photograph of the hafted celt to Saville for inclusion in his 1916 article (Saville, 1916:7).

⁸ The specific reference to Ireland was likely a reference to the Easter Rising of April 1916.

Ramsey *et al.*, 2012), and the celt has been identified as an omphacite-jadeite jade (Ostapkowicz, Knaf and Davies, 2022:107).



Figure 11. Detail of monolithic axe with anthropomorphic finial, Conch Bar Caves, Middle Caicos, Lady Edith Blake collection via Murphy, L; 19.7cm; W: 8.7cm; D: 2.3cm, National Museum of the American Indian, 059138. Photo: Joanna Ostapkowicz, courtesy National Museum of the American Indian.

Lady Blake's collection also held a monolithic axe provenanced to Conch Bar Caves, Middle Caicos (Figure 8b; Figure 11), another piece possibly acquired via Murphy given his work at the caves. There is less information about this piece than either of the Caicos finds discussed above, which is unfortunate, given that the iconography is the most complex of the monolithic axes recovered from the Lucayan archipelago. Carved of amphibolite (Ostapkowicz, Knaf and Davies, 2022), the axe features an anthropomorphic finial, best seen in profile (Figure 11). The domed head, complete with prominent nose and a raised ridge that encircles the forehead and chin, emerges from above the

celt. The bent arms frame the proximal (butt) end of the celt, their bulging appearance perhaps a reference to the perishable binding used to secure the stone to the wooden handle in the functioning tool. The hand comes to rest close to the pointed tip end of the hafted celt, adding emphasis and echoing the placement of the hands on the chest, belly button or phallus on larger-scale Taíno wood sculpture (e.g., Kerchache, 1994:114; 120; 133; 135). It is as if the celt pierces through the body of the figure – the raised ridge of its spine aligned with the celt blade and the butt end morphed into bulging belly button or phallus. These regions of the body appear to be foci in figural depictions in the wider archipelago (e.g., Kerchache, 1994:173; 175; 77; 179). They also appear to consistently feature in other anthropo/zoomorphic monolithic axes (e.g., Herrera Fritot 1938: Figure 7, 13-15).

The final monolithic axe was recovered by Theodoor de Booy in 1911 from a cave at Juba Point, Providenciales, Turks and Caicos Islands (Figure 8c), on the opposite side of the island to the Blue Hills area, where Gibbs' example was found in 1874. De Booy's excavations at the Juba Point cave yielded turtle and other bones, some fragments of ceramics (Meillacoid⁹ in style, ca. post-AD 800) and, below roughly 46cm of guano, the monolithic axe, associated with burned wood and three conch shells (de Booy 1912:91). Surprisingly little is made of this find in de Booy's (1912) publication – indeed, the ceramics are discussed at greater length than the stone axe. But at least we have this much: the other axes from the Lucayan region were chance finds, some made during guano mining operations, and so no further details about their context or association with other artifacts are available. This conforms to the situation in other regions: even the few monolithic axes recovered in the wider Caribbean – such as the find made by Paul Barker at the site of Balladé, Haiti in the 1950s, reportedly as part of an archaeological investigation (Barker, 1961:25, Figure 3) – are less well documented than de Booy's brief notes. Subsequent writers, such as Saville (1916:5-6; see also Herrera Fritot, 1938:13), would include the Juba Point example in their comparative studies of monolithic axes, and this wider context brings to light the schematic nature of this axe, namely the absence of ridges that in other monolithic axes echo the different materials

⁹ Meillacoid (named after the type-site of Meillac, Haiti) is a term for a distinctive type of ceramic, which emerged ca. AD 800 predominantly in northern Hispaniola, expanding to Jamaica, Cuba and The Bahamas/TCI. The nomenclature for ceramic styles is grounded in typologies established by Irving Rouse (1992, for most recent overview), though there is considerable on-going debate about its usage (for more detail see, Keegan *et al.* 2013:12-15; Keegan and Hofman, 2017:21). I opt here to use the widest, most general 'series' terms, ending in 'oid' – such as Meillacoid and Chicoid – rather than the sub-series designations, ending with 'an' because the latter assumes a direct descent between the styles (e.g., Meillacan Ostionoid – Meillacan is a direct stylistic descendant of the Ostionoid series/culture). Too little is currently known about the interconnections between the styles, particularly the influence of Archaic traditions (e.g., Keegan and Rodríguez Ramos, 2007), to assume a simple linear evolution.

brought together in functioning examples, the positioning of the celt in the wooden handle or the elaboration of carving at the distal (head) end of the shaft (Figure 12). This “shorthand” depiction is also seen in several examples from Cuba and Dominican Republic (Herrera Fritot, 1938:1-2, 4-6). While Saville (1916:6) identified the Juba Point piece as being carved from “serpentine (not jadeite),” subsequent research has identified it as jadeitized meta-siltstone (Ostapkowicz, Knaf and Davies, 2022:110).



Figure 12. Comparative monolithic axes from the wider Caribbean region. a. monolithic axe with upward angled celt, “Antilles”, L: 20.1cm; W: 10.2cm; D: 3.2cm, Musée des Confluences, Lyon, 2010.0.165. b. Anthropomorphic monolithic axe with “foot”, “Antilles”, L: 25.3cm; W: 13.3cm; D: 4.4cm, Musée des Confluences, Lyon, acquired 1916, MHNL.81001582. c. Siemian monolithic axe with upward angled celt, S. Tomas de Jánico, Dominican Republic, L: 23.5; W: 11cm; D: 4.5cm, Musée du Quai Branly, Paris, 71.1884.4.1. d. monolithic axe with downward angled celt, “Hispaniola,” L:14.6cm; W: 4.9cm; D: 2.6cm; National Museum of the American Indian, 143685. Photos: Joanna Ostapkowicz, courtesy institutions listed.

In sum, and as spartan as the corpus may be, the monolithic axes from the Lucayan archipelago feature both figural forms and those more abstract in nature. The celts are depicted perpendicular to the haft rather than angling up

or down as per Greater Antillean examples (Figure 12). The carving materials are greenschist, amphibolite and meta-siltstone.

Zoomorphic stone carvings

Gibbs' manuscript held at the Smithsonian's National Anthropology Archives (MS 7173) includes a partially illustrated catalogue of his collections, documenting other stone carvings recovered from the Lucayan archipelago. Among these is a bird-headed pestle that is provenanced to the vicinity of Bombarra, Middle Caicos, TCI (Figure 13a); Gibbs identifies this as "probably an idol or... pestle," and describes it in more detail in another part of the manuscript (Gibbs ms 2:23-24), noting "the two round rings in the diagram which I call eyes represent indentations, [and] are only on one side of the stone...; at a little distance, you can imagine that it is intended to represent an owl and at first I thought this article was... an idol but since then I have changed my opinion and conclude that it was intended as a pestle for grinding with and that the two indentations were made to secure the thumb and fore-finger to ensure a grip whilst using it."



Figure 13. a. Bird-headed stone pestle, H: 12.4cm; W: 8.9cm; D: 8.3cm, AMNH 25/238 and George J. Gibb's collection catalogue illustrating the pestle and listing it as "found at Bombarra, Caicos in 1864." b. Zoomorphic stone carving, L: 16cm; H: 5.4cm; W: 7cm, AMNH 25/239 and Gibb's catalogue illustrating the same, "found at Bombarra, in the Caicos Islands in December 1873." c. Bird-headed pestle, "Belle Vue," North Caicos, December 1889, H: 15.4; W: 8.9cm; D: 8.2cm, AMNH 25/240. Photos: Joanna Ostapkowicz, courtesy Division of Anthropology, American Museum of Natural History (artifacts) and National Anthropology Archives, Smithsonian Institution, (Gibbs' manuscript, MS 7173).

Another pestle, again with bird iconography, was "found on the surface of the land at Belle Vue [Bellevue] estate on the island of North Caicos in the month of December 1889" (Gibbs ms 1) (Figure 13c). Both these were

likely imported to the Caicos from neighboring Hispaniola, where bird-headed and other anthro/zoomorphic examples are not uncommon (García Arévalo, 2019:180; 222-223; Fewkes 1907:99-105; Plates XXIV-XXVII) (Figure 14). Indeed, bird-headed pestles predominate this artifact category (García Arévalo, 2019:221). Given the likelihood that these elaborately carved objects were used for the grinding of medicinal and/or hallucinogenic substances, it is perhaps not surprising that birds would be appropriate symbols for paraphernalia associated with spirit flights to other worlds. Fewkes (1907:99-100), who describes the variety of pestles, carefully avoiding over-interpretation on meaning, notes that “a considerable amount of speculation has been indulged by various writers to explain the significance of the carvings of these objects... [but] it seems unnecessary to consider these objects anything more than decorated pestles.... Their decorations undoubtedly represent certain mythic human or animal personages, but we can hardly believe that the objects served as idols.”¹⁰



Figure 14. Bird-headed pestles from the Dominican Republic. a. Bird-headed stone pestle as illustrated in Jesse Walter Fewkes field notes, 1902. Jesse Walter Fewkes papers, manuscript 4408/45a, National Anthropology Archives, Smithsonian Institution (see also Fewkes 1907:Plate XXVII). b. Stone pestle, H: 11.7cm; W: 6.8cm; D: 8.3cm, National Museum of Natural History, A220521. c. bird-headed pestle in the “Mr. Jas. Gracesqui” collection, labelled “Isabela” and ca. 15cm in height. Illustrated by an unknown hand and dated ca. 1903. Jesse Walter Fewkes papers, manuscript 4408/107, 1903, National Anthropology Archives, Smithsonian Institution. Photos: Joanna Ostapkowicz, courtesy institutions listed.

¹⁰ Just a few years previously, however, Fewkes (1903:119-120) made the following comment “The skill of the Antilleans in stone working is nowhere better shown than in the carvings on the handles of their pestles. These carvings are so well executed that the pestles are sometimes called idols, and it is indeed possible that some of them may have served as such.”

Bambarra was also the source of another sculptural carving which Gibbs' lists as an "Indian idol of a dark greenish stone, not polished, in the form of a Lizard or Crocodile, the head and tail is broken off, found... in December 1873" (Figure 13b). In other places, he also suggests it represent an "iguana" (Gibbs ms 2:23). This does not appear to be a pestle, but rather a sculpture fully in the round.

Discussion

The above presents a synopsis of a select group of stone carvings from the Lucayan archipelago. As far as current information allows us to judge, TCI appears to have the highest concentration of these rare objects, though it is also apparent from historical accounts that these artifacts also circulated more widely within The Bahamas (Figure 1). All are exotics in the region, carved of non-local hardstones – which begs the question of whether they were imported with migrants moving to settle the region, and so reflect traditions of the homeland, or if they were desired objects that were imported and integrated into Lucayan modes of value and prestige. It is, however, difficult to position these objects culturally and chronologically, as they were chance finds and – with the exception of the Juba Point monolithic axe – we have no context for them. This is, however, not unusual in the wider Caribbean. Most such artefacts are part of legacy collections, recovered well before the modern (post-1960s) archaeological standards required today. The assumption has been that these categories of artifacts emerged post-AD 800; elaborate examples marked the apogee of carving in the Greater Antilles, most often associated with the "Taíno" and constrained by researchers to post-AD 1200 (e.g., El Caribe Precolombino 2008:cat. 14, 27, 44; Walker, 1997:80; Rouse, 1992; see more detailed discussion below). The earliest dates for the proposed emergence of these artifacts align with evidence for the earliest settlements in the Lucayan region, starting from around AD 700 in the Turks and Caicos (seasonal procurement sites; Keegan and Hofman, 2017:171) and ca. AD 800 in the central Bahamas (permanent settlement sites; Berman and Pearsall 2000:225; see also Berman and Gnivecki 1993, 1995); this serves as a useful *terminus post quem*. These early settlements, however, were small in scale, and some only temporary – current understanding suggests that the region was sparsely populated until after ca. AD 1000 (Sinelli 2013:225, 226). Indeed, the earliest site currently known, Coralie, Grand Turk (caAD 700-1300), seems to have been a seasonally occupied site, targeting the island's maritime resources for export to the Hispaniolan homeland (Carlson 1999; Keegan and Hofman

2017). These Ostionoid¹¹ migrants brought with them only “the items they needed to sustain themselves for a period of time, but only the bare necessities” (Carlson 1999:209). Status or ceremonial items were unlikely to be among the limited supplies, though small, highly portable pieces, such as the nacre ornament from Coralie (see Ostapkowicz, 2023:Figure 2.23c), have been recovered. The expectation, therefore, is that the comparatively heavier, ceremonial stone artifacts here discussed were more likely to relate to later, larger, and more established settlements.

While permanent Lucayan settlements were emerging in the central Bahamas from AD 800 (Berman and Gnivecki, 1995), and a local ceramic style (Palmetto Ware) developed as settlers adapted to the local environment, exotic ceramics and other materials and artifacts continued to be imported, whether by new settlers or by Lucayans maintaining connections to the homeland. For example, more intensive colonization, particularly of the Turks and Caicos by northern Hispaniolan migrants bearing Meillacoid ceramic traditions, is in evidence from ca. AD 1100 (Sinelli, 2013:225-226). Settlements appear to have expanded, reflecting a broader range of domestic activities, and a degree of social stratification evidenced by the disparity of recovered cultural material between individual households (Sinelli, 2013:227); some sites, such as Middleton Cay, also featured plazas, considered one of the hallmarks of a socially organized and stratified societies. Trade between these northern settlements and Hispaniolan communities intensified, with local resources such as fish, conch and salt being used as export commodities against a return of material goods (Sinelli, 2013:228; see also Morsink, 2012). The expectation is that some of these imported items extended to ceremonial or status items, such as monolithic axes – as suggested by de Booy’s (1912:91) excavations at Juba Point cave, where both a monolithic axe as well as Meillacoid ceramics were recovered.¹²

Anthropomorphic celts, monolithic axes and zoomorphic pestles and carvings are most often ascribed to the Chicoids (“Taino”¹³) who, until recently,

¹¹ Ostionoid refers to a distinctive ceramic tradition – and the bearers of that tradition (see also footnote 9 for wider context). The thin red ceramic style extended through Hispaniola ca. AD 600-1200, eventually entering eastern Cuba, Jamaica and the Turks and Caicos Islands (Rouse, 1992:95).

¹² Granberry considers the Juba Point ceramics as “Carrier” (Chicoid) based on the image that appears in de Booy (1912:Figure 4). However, this appears to be an error in the publication, as the ceramic featured in de Booy’s Figure 4 is provenanced to Dead Man’s Skull Bluff, Conch Bar, Middle Caicos in museum records (NMAI 031943). The ceramic fragments provenanced to Juba Point are Meillacoid in style (NMAI 031928; 031944; 031954, 031961), featuring oblique lines and punctates.

¹³ Indeed, broadly speaking, the material culture studied here is most often attributed to the “Taino” of the Greater Antilles, falling within an estimated AD 1200-1500 time frame (Rouse’s Period Iva; Rouse 1992:Fig 26). As early as the 1920s, Harrington (1921:Fig 8, 9 and 24) identified pestles

were thought to have displaced the Meillacoids (Rouse, 1992), the latter “disappearing” by ca. AD 1300 – though this is increasingly being questioned (Keegan and Hofman, 2017:127; Sinelli 2013). According to Rouse (1992), the apogee of artistic expression within the Caribbean was reached by the “Classic Taíno,” associated with the Chican Ostionoid/Chicoid ceramic styles, namely the “Boca Chica” style of the Dominican Republic and what used to be called the “Carrier” style of Haiti (Rouse, 1992). It is perhaps for this reason that Rouse (1941:173-174) assigned both a monolithic axe and an anthropomorphic celt recovered as surface finds near Savanne Carrée, Haiti to the “Carrier,” rather than the “Meillac” (Meillacoid) cultures.¹⁴ However, as argued by Keegan and Hofman (2017:127; 135) and Sinelli (2013), some Meillacoid cultural practices paralleled those seen at Chicoid sites, and their connections and common ideas merged in what we currently understand as “Taíno” (see also Wilson 1997:55). Chicoid and Meillacoid communities co-existed in the wider Caribbean region, and there was a mixing of styles with a select adoption of ceramic techniques and motifs (Ulloa Hung in Keegan and Hofman, 2017:149). If ceramic styles could have intermingled, to a degree, could other forms of material culture (e.g., monolithic axes)? Petaloid celts, for example, occur at almost every Meillacoid and Chicoid site in Haiti (Rouse, 1941:94), with Rouse finding “no appreciable differences between [them].” Rouse notes that the Meillacoids also had religious ceremonialism and paraphernalia, including cemís, though these were “simpler” than among the “Taíno” (Rouse, 1948:514; 1992:98-99; Sullivan, 1981:400). On Jamaica, dominated as it is by Meillacoid (and notably no Chicoid) settlements, a possible monolithic

with carved finials and anthropomorphic celts from various Cuban sites as “Taíno” (as opposed to “Ciboney” which glossed stone age culture – see Keegan 1989 for a critique). These, alongside monolithic axes, have been featured in more recent catalogues of Taíno art (Brecht *et al.*, 1997:Fig 38; 40; 83, 96; García Arévalo, 2019:180; 222-223); sculpted petaloid celts and monolithic axes are among the “classes that may be said to represent the Tainan culture proper at its height of development” (Kay 1976:189), and some suggest that monolithic axes found in the Lesser Antilles may be “Taíno trade items” (Waldron, 2019:228). Taíno is a vague classification, much critiqued recently (e.g., Curet 2014; Keegan and Hofman 2017:115), and if it is used, works best in its fullest and broadest sense – encompassing a mosaic of cultures (Curet, 2003; Wilson, 2007). Indeed, as noted by Keegan and Hofman (2017:195) in their overview of Jamaica, complex carving (whether free-standing sculpture, personal ornaments, etc.) is “too often... explained by simply adding the adjective ‘Taíno.’ However, at least in Jamaica, there is no evidence for the Chicoid influence that mark the arrival of ‘Taíno’ elsewhere in the region. Detailed studies of ‘ceremonial’ objects are needed to better define their origins, distributions, associations, exchanges and especially their meanings.”

¹⁴ The anthropomorphic celt, 28.5cm long and carved of sandstone with concentric eyes and a nose at mid-section, suggests to Rouse (1941:173) a ceremonial object which was deposited in a cave rather than a refuse heap (and hence why comparable examples have not been found in excavations). The monolithic axe, also a surface find from the same township, is carved of dolerite and 22.2cm long, with two anthropomorphic heads emerging above the petaloid celt, and carving at the base of the handle suggestive of the digits of a foot. Rouse (1941:174) also considers this to be Chicoid in style.

axe fragment was recovered at Green Castle, a site dating ca. AD 1024-1645 (Allsworth-Jones and Wesler, 2012:189), stone pestles with figural finials have been documented on the island (Duerden, 2008 [1897]:259; Plate IV) and a fragment of an anthropomorphic head in sandstone was found at Harmony Hall (Allsworth-Jones, 2008:73; Fig 14.10). This simply goes to the point that our understanding of Meillacoid material culture is still nascent, particularly as regards artifacts such as monolithic axes and anthropomorphic celts that are rarely recovered from archaeological contexts. As Curet (2014:237) noted only a decade ago, the Meillacoid are “poorly studied and little is known about their social and political organization, settlement patterns and subsistence strategies.” We cannot, as yet, discount the possibility that these artifacts may have also been part of their repertoire.

No purely Chicoid sites are in evidence in the Lucayan archipelago (Keegan, 1997:38); rather, Chicoid ceramics are typically found associated with Palmetto Ware, indicating ongoing contacts with the Greater Antilles. For example, the site of Palmetto Junction, Providenciales, dating to AD 1280-1455, was dominated by Palmetto Ware (90%), with the remaining styles comprising both Chicoid and Meillacoid ceramics (Ciofalo and Graves, 2018). MC-12 (AD 1044-1406), on the northern coast of Middle Caicos, was settled by Lucayans who were involved in “intensive trade and visitation with Taino kin and trading partners” including those on northwestern Hispaniola bearing Chicoid ceramics influenced by Meillacoid motifs (Sullivan and Freimuth, 2017:34). And if ceramics were being imported at this and other sites, the assumption is that other objects – e.g., both raw and finished hard stone (e.g., jadeite celts, chert flakes) – were also imported at this time, reflecting an intensification of economic and political engagement with the Taino communities in the southern islands in, presumably, mutually beneficial exchange (Berman, Gnivecki and Pateman, 2013:268). The important site of MC-6, which Rouse included as part of the “Classic Taino” culture area on the basis of the plazas and other features (astronomical alignments and a road linking the settlement to a salt pond), had a high incidence of Palmetto Ware (92%; Sullivan, 1981:142), identifying it as a Lucayan site rather than a Taino outpost settlement. It also yielded a variety of Chicoid imports, including a “*cemi*” made of igneous stone recovered from Plaza II (Sullivan, 1981:143; 150). This site, dating to ca. AD 1400-1600, is considered an emerging Lucayan center consolidating both resources and power – an entrepôt through which goods circulated both north and south. Another stone “*cemi*” pendant fragment, featuring an anthropomorphic face, was recovered from CC-1 (West Beach site), Cotton Cay, a small island south of Grand Turk, along with Palmetto Ware ceramics (Keith and Davis 2018:1-2), again suggesting exotic stone *cemis* in the hands of Lucayans. Given the long-standing assumption that the stone artifacts under discussion sit late in the chronology of the region, aligning in

iconographic terms with “Taíno” material culture (viewed broadly), the most parsimonious expectation is that they were among the goods that circulated within interaction spheres linking the Lucayans with their southern neighbors. Different regions likely engaged within different interaction spheres – the central Bahamas with northern Cuba and Hispaniola while the Turks and Caicos with eastern Cuba and Hispaniola (Berman, Gnivecki and Pateman 2013:270) with the intensity of interaction likely affected by island propinquity (Berman, 2011:132). Yet we cannot discount the possibility that non-local stones were carved by local hands – that raw material was imported, and that the Lucayans (as opposed to Mellacoids or Chicoids) were creating some of these carvings; certainly, other elite artifacts, such as *duhos*, were being made locally (Ostapkowicz, 2015).

Could the style of the artifacts themselves hint at possible chronological placement? Fewkes conceived of a “development” of the petaloid celt into the anthropomorphic celt and finally into what he called the ceremonial baton (Figure 15a). This evolution progressed from an undecorated petaloid celt (Figure 15a, Fewkes’ number 1), through those featuring engraved and carved heads (2-3), to those depicting the schematic body within the confines of the celt (4) and finally to the body coming to the fore, and



Figure 15. a. Fewkes’ sketch charting the “development of the elaborate baton (ceremonial) from a simple petaloid” Jesse Walter Fewkes papers, manuscript 4408/59d, National Anthropology Archives, Smithsonian Institution. b. Two views of stone “baton,” L: 45cm; W: 9.2cm; D: 6.9cm, “St Domingo,” accessioned 1861, Nationalmuseet, Copenhagen, ODI.g5. c. Fewkes’ illustration of “stone figure,” made during his visit to the museum in October 1913. Jesse Walter Fewkes papers, manuscript 4408/59d, National Anthropology Archives, Smithsonian Institution. Photos: Joanna Ostapkowicz, courtesy institutions listed.

expanding beyond the petaloid form (5). His ultimate example was the stone carving in the collections of the National Museum of Copenhagen (Figure 15b-c). If perceived as an elaboration of a celt, this is among the largest examples currently known, measuring 45cm (see also Herrera Fritot 1964:Fig XIXa for another also measuring 45cm in length). This would have more of an appearance of a stone anthropomorph carving were it not for the celt blade that emerges from the head of the figure, conforming to the typical alignment of the body within the petaloid form (the head appears at the widest point, directly below the blade, with the proximal tip below the feet). Herrera Fritot (1964:62, Fig. VIIa) expands this evolution to include “stone daggers” – where the human figure essentially becomes the handle above an ovate “blade”; as the figure is not confined to the petaloid shape, the celt connection is not as obvious as in other examples. In any case, it is unlikely that this progression from simple to complex marks a strictly linear chronological development; all varieties are likely contemporary and, based on our current knowledge, spanned post-AD 800.

Aside from the question of an insular Caribbean “evolution” of anthropomorphic celts, discussions have recently returned to evaluating their possible deeper histories, proposing mainland sources for both anthropomorphic celts and monolithic axes. “Axe-gods” or “celtiforms” (Mora-Marín, 2021:60) – pendants carved as zoomorphic or anthropomorphic figures confined to a celt-like form – were not uncommon in the wider region, being particularly prominent in Costa Rica between 500 BC and AD 500, and even earlier, as evidenced by the votive axes among the Mesoamerican Olmec (ca. 1200-400 BC). There is a long history of assessing stylistic similarities between these anthropomorphic celtiforms (summarized in Mora-Marín 2021), with some proposing that they were a product of long-distance networks connecting Mesoamerica, southern Central America, northern Colombia, and the Antilles, through “indirect diffusion” (Mora-Marín, 2021:60) or “macro-regional interactions” (Rodríguez Ramos, 2010:38; 2011:150-151). This is not an entirely new argument for the Antilles: Lovén (2010 [1935]:164), writing in 1935, argued that the “pedigree of the figure-axe is of ancient origin in Mexico, wherefrom it radiated in different directions and even made its way to the Tainos.” More recently, Rodríguez Ramos (2010:38; 2011:150-151), in evaluating exotic jade and “social jade” artifacts featuring a celtiform in Huecoid and Saladoid contexts (ca. ~500 BC-AD 500/700), has argued for Isthmo-Colombian connections and influences spreading into the Caribbean, following on from a much deeper (pre-)history of connections that brought cultivars (e.g., maize, manioc, sweet potatoes) from the mainland ca. 2500 BC (e.g., Rodríguez Ramos 2010:28; Rodríguez Ramos and Pagan Jimenez 2007). The celtiform example used to illustrate this connection is a nephrite anthropomorphic pendant from Antigua, said to “echo stylistically” the anthropomorphic celtiform theme

common in Costa Rica (Rodríguez Ramos, 2011:152; 2013:164).¹⁵ This, together with the depiction of raptorial birds, curly-tailed animals, frog-shaped figures and winged pendants in select insular Caribbean contexts, alongside the practice of string sawing (a technique not documented in the Caribbean outside of Puerto Rico [Rodríguez Ramos 2010:30]), transverse drilling and Central American materials (e.g., jades), suggest an Isthmo-Colombian connection and a “package” of iconography (Rodríguez Ramos 2010:24-25; 33), one that “continued to be produced long after their heyday in Costa Rica..., depicted in... vomit spatulas... celts, and adzes” (Rodríguez Ramos and Hoopes, 2021:314).

According to Rodríguez Ramos (2010:44) the increasing use of local (Caribbean, as opposed to Central American) jade sources from ca. AD 1000 spurred “a tradition of celt making... that [in turn] emphasized the representation of axe gods” (Rodríguez Ramos, 2010:44). More substantive anthropomorphic celts emerged in Hispaniola, Cuba and Puerto Rico, though Rodríguez Ramos (2010:38) suggests that these are still reminiscent of the Costa Rican celtiforms. Even in these later years both “monolithic axes and decorated celts continue to show significant concomitances between the two regions” (Rodríguez Ramos, 2013:166). This implies long-term connections, or perhaps a local development of the style into large, hand-held implements, though other iconographic elements, such as raptorial bird pendants, were not scaled similarly, nor continued in a recognizable form. There are, however, notable differences among the Antillean anthropomorphic celts and the celtiforms of the mainland, including the Antillean examples having the facial features depicted towards the blade, or distal, end of the celt form¹⁶ (as opposed to the butt or proximal end, as common in Costa Rican examples) (e.g., Rodríguez Ramos, 2010:38). Nor are they perforated for suspension, split in half, or found in funerary contexts like their Costa Rican counterparts (Kuboyama-Haraikawa, 2023: 31). Further, jade was not the choice material for these artefacts: the Bahamian/TCI examples are carved of relatively soft imported stone (greywacke, meta-tuff, meta-basalt, mafic schist), as opposed to jades, nephrites or “social greenstones.”

¹⁵ The ca. 10cm pendant features a shallowly carved anthropomorphic body confined to an elongated oval shape of the stone, and is drilled transversely for suspension (Rodríguez Ramos, 2010:Fig 2a; 2011:Fig 1h) – though apart from these features, there are few concrete stylistic similarities to link it strongly with Costa Rican examples. In fact, Mora-Marín (2021:60) suggests that the “compositional scheme of the Antillean celtiform objects is more like the Mesoamerican examples than the Costa Rican examples” – though this is equally debatable. There are only so many ways one can depict an anthropomorphic body within the confines of a pendant or celt; an abbreviation is required, often limited to only salient features (head, arms, legs).

¹⁶ The only exception to this ‘rule’ is the anthropomorphic celt from the ‘Caicos’ Figure 2a, which features the head at the proximal end of the celt form.

A similar proposition is set forth for monolithic axes, another artifact class with a “heavy ideological load” and thought to resemble Isthmo-Colombian examples (Rodríguez Ramos, 2010:38). Alternative scenarios have also been proposed: Gendron (2016:39), basing his assessment on several monolithic axe “eccentrics” (flaked from flint and obsidian) recovered from Mesoamerican archaeological contexts, is of the opinion that monolithic axes first emerged among the Maya from ca. AD 600, spreading north to the southeastern US and south to circum-Caribbean cultures. In contrast, Lovén (2010 [1935]:161) suggested that monolithic axes first appeared among “the complex of the late cultures of higher development in the Southeastern States rather than among the Tainos,” as he considered the former to be “superior.” But while there may be broad similarities between the mainland examples and those of the Caribbean, such uni-directional influences (typically from the presumed “higher cultures” of the mainland) cannot be assumed; such arguments, where they are based mainly on subjective stylistic similarities, hinge largely on “abductive reasoning” (see Curet and Oliver, 2021:322-323; also Curet and Oliver, 2022:373-374) – i.e., best prediction based on incomplete observations. Broad stylistic similarities and island/mainland propinquity do not necessarily support long-term foreign influence/connection. For example, aside from the iconographic set highlighted by Rodríguez Ramos (2010:Figure 2; 2011:Figure 1) largely from La Hueca-Sorcé contexts, only rare, isolated finds of diagnostic Isthmo-Colombian artefacts in the Caribbean, and vice-versa, have been reported.¹⁷ And while there is the occasional convincing find, isolated artefacts do not a pattern make: whether and to what extent the contact that facilitated their circulation was sustained over longer periods is unclear.

While this broader view – towards the mainland and across the islands – is certainly thought-provoking, and while I fully agree with the call to “deinsularize” Caribbean archaeology, establishing these connections, and their scale and impact, must be evidence-based (Rodríguez Ramos and Pagan Jimenez, 2007; Curet and Oliver, 2021; 2022). Over the last decade,

¹⁷ Most of these stylistic comparables remain vague on details - Mora-Marín (2021:48), for example, mentions the “potential presence of Antillean-style jade pendants in Costa Rica,” though does not engage with what these are and how they are identified. There is a need for better-documented examples if such arguments are to be taken forward – e.g., Curet and Oliver (2022:376-377) point to two trigoliths recovered from sites in Colombia and Venezuela, providing references and illustrations. Further, with the exception of examples of good archaeological context (e.g., an imported *guanin* fragment found at Maisabel, Puerto Rico and dating to ca. AD 70-374 – as reported in Siegel and Severin, 1992:77), some pieces may have been transferred to the respective regions historically, whether by collectors (for legacy collections) or early colonial-period trade (e.g., the *guanin* bird-headed pendant associated with Burial 57 at El Chorro de Maita, Cuba, featuring iconography with strong stylistic parallels to Colombian examples, may have been acquired via colonial period Spanish sources, Martinon-Torres *et al.*, 2011:450; Valcárcel Rojas, 2016:215). Given this, it is necessary to have as thorough a background as possible on the artifact in question.

groundbreaking archaeobotanical, geochemical and petrological research have provided in-roads into assessing long-distance connections within the circum-Caribbean; from the introduction of domesticated plants to the circulation of jadeite materials, these studies have confirmed connections between the South and Central American mainland and islands going back some considerable time (e.g., Harlow *et al.*, 2006; Hofman *et al.*, 2007; 2010; 2011; Pagán-Jiménez, 2013; Rodríguez Ramos, 2010; 2011; Rodríguez Ramos and Pagán-Jiménez, 2007; Rodríguez Ramos, 2024). What we need is equally quantifiable investigations of the stylistic and iconographic connections based on tangible examples. If the proposed connections involving Caribbean “celtiforms”/anthropomorphic celts and monolithic axes are to be assessed, what is needed first and foremost is a thorough investigation of Caribbean examples as well as their mainland counterparts. Without this foundation or baseline, there is currently little understanding of the corpus as a whole and the stylistic variation within it, let alone what may have spurred the development of these artifact styles. As Saville (1916:13) noted over a century ago, the spread of stylistic influences via a definitive “route” from the mainland (whether Central or South American) seems impossible to establish conclusively: “we feel forced to... leave the matter undetermined until we know more of the archaeology of the Antilles, northern South America, and the Caribbean coast of Central America.” Despite the significant amount of research that has taken place in the region since the early 1900s, and the resurgence of interest in investigating stylistic links, this remains the case today.

In conclusion, and pending a much wider study of these artifact categories, chronologies of individual carvings must remain rather broad, and the cultural affiliation equally wide-ranging (e.g., Meillacoid, Chicoid). Whether certain stylistic features link some examples to a Haitian homeland (e.g., Figure 2b) or whether the “crests” at the top of hafts are abstractions of anthropo/zoomorphs that may be stylistically unique to the archipelago (e.g., Figure 8a, d), are aspects that need further investigation. Function and meaning remain equally elusive. The paradox is that these “tools” are essentially ineffectual as tools – neither a monolithic axe nor an anthropomorphic celt can be used for chopping or carving (figural pestles still have a functional capacity, however). In the case of monolithic axes and anthropomorphic celts, why was an essentially functional form turned into something that no longer functioned as originally intended? This would suggest a transition to the symbolic, where a shape or form comes to signify the original, and through it, the actions linked with it. Thus, a petaloid form, whether carved with an anthropomorph or incorporated into a monolithic axe, may have come to symbolize the undercurrent of actions that established its symbolic currency, e.g., a tool used to create the canoe that travelled the waters to facilitate the acquisition of more celts, or materials for their creation.

Over the years, these objects have been interpreted in a variety of ways, but consistently subsumed under the “ceremonial” (e.g., Fewkes, 1922:176; Herrera Fritot, 1938:9-10). Herrera Fritot (1938:9-10) noting their infrequency in the archaeological record (in comparison to petaloid celts), considered that their use was “limited to certain individuals of a certain social hierarchy... and probably only used by them at festivals or ceremonies, as a symbol of superiority or command.” Monolithic axes, for example, have sometimes been interpreted as weapons – but ones which were “probably intended primarily for ceremonial use” (Wilson 1997:52). Waldron (2019:227) notes that if used as weapons, “human bones would easily break under their assault” – yet, for all their potential force, they are fragile items, easily chipped or broken if swung against an immovable object, mishandled or dropped. If these are symbols of “prowess in war,” they were rather delicate symbols, requiring careful curation, handling and storage (cf. Waldron 2019:227-228; indeed, this is no different to other power objects elaborated from a functional form, such as a European king’s ceremonial mace). Waldron (2019:227, 228) further suggests that monolithic axes could be the accoutrements of *behiques*, used in healing or blessing ceremonies – though does not clarify on what this interpretation is based. This finds support more broadly, on the South American mainland, where monolithic axes have been used to channel supernatural forces: ancient Tairona monolithic axes have been used in current Kágaba (Kogi) solstice and equinox ceremonies, with green stone examples used specifically to call for rain (Reichel-Dolmatoff in Bray 2003:312).¹⁸ Anthropomorphic axes, according to Fewkes (1907:96), were carried in the hand (presumably on ceremonial occasions) rather than being hafted to a wooden handle, given that the latter would obscure their carving. Given their elaborate carving, many consider them to have been used as insignia of rank (Fewkes, 1922:176). Indeed, all these artifacts were “expensive” objects – from the labor involved in their manufacture to the time invested in their circulation via long-distant networks, which themselves took time and effort to maintain by those affluent enough to have the ambition and reach. Like the equally enigmatic stone collars and trigoliths, which still elude understanding despite nearly a century of study, it is argued (e.g., Oliver, 2009:129) that monolithic axes and anthropomorphic celts “functioned” in the ritual theatre of chiefly power and regalia.

Many consider the anthro/zoomorphic carvings on these artifacts to be representations of *cemis*, spirits or mythic beings. Fewkes (1922:176) notes that “the most highly ornamented [anthropomorphic celts] bear a morphological likeness to idols, and their forms imply more than the term ‘decorated celt’ would indicate.” Lovén (2010 [1935]:163) draws particular

¹⁸ They are carried by the *mamas*, who are not shamans per se, but part of an institutional priesthood (Reichel-Dolmatoff in Bray, 2003:320).

attention to the two depicted in Moorehead's volume (Figure 5), noting that these Bahamian examples "resemble engraved celts but are completely perfected idols, seeing that in place of a cutting-edge below there is a little notch so that two short legs appear." An intriguing variant within the anthropomorphic celt range is the mummiform carving recovered from the Caicos ca. 1860 (Figure 2a), featuring a head above a tightly bundled form. The absence of arms and legs evokes the impression of a wrapped body, echoing the "wrapped ancestor" imagery that spans the Caribbean – from pictographs at Cueva la Mora, Puerto Rico and petroglyphs at Hartford Cave, Rum Cay to shell ornaments from Baracoa, Cuba and Coralie, Grand Turk (Ostapkowicz, 2023:Figure 2.23). Given the prevalence of ancestral imagery and the practice of keeping ancestral remains close – whether skeletal remains bundled into gourds and hung from the house rafters, as documented by the early cronistas (Colón, 1992) or encased in cotton sculptures (Ostapkowicz and Newsom, 2012) – it is quite possible that ancestors were also channeled within these stone carvings, alongside the imagery of *cemís* and mythic beings. Waldron (2019:228) suggests that such depictions on pestles channel "spiritual forces" in the service of *behiques*. Petitjean Roget (1997:107) considers that certain monolithic axes may reference Hispaniolan myths: to him, those topped with a figure above the blade suggest a hunch back in profile, evoking the impregnated Deminan Caracaracol who bears a female turtle on his back which is born when his brothers use an axe to open the hump. These various interpretations highlight the seemingly ambivalent nature of these artifacts – part tool, part spiritual being.

At a basic level, petaloid celts are the core components of anthropomorphic celts and monolithic axes. They had a clear practical and symbolic resonance for Caribbean cultures. With these artifacts, canoes, houses and *duhos* could be carved and fields cleared of trees for horticulture – in other words, the physical and, arguably, spiritual supports of the community were constructed. It is perhaps in this capacity that the depiction of anthropomorphic celts and monolithic axes can be understood – they morphed the elegant petaloid shape of a clearly functional object into something that merged with the numinous, functioning in completely different realms of status and ceremony. Laboriously carved in stone, they lent even greater "weight" to the tasks (ceremonies, events) at hand. Such objects became symbols rather than tools, yet clearly still confined the "being" within the tool's form, suggesting a conceptual link and equivalency that will continue to challenge interpretations.

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The Jácana Site, PO-29: A Lightly Occupied, Heavily Utilized, Ceremonial Center in South-Central Puerto Rico, A.D. 1300-1500

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Abstract

Intensive archaeological investigations of the Jácana site yielded results that suggest although the site saw limited occupation in the late period, A.D. 1300-1500, there was evidence of intensive use of the site as a ceremonial destination, as an element of a broader landscape of cultural importance. The various lines of evidence from the multi-disciplinary study of Jácana are presented in this paper, as well as a discussion of the site's place in the extensive network of sites and landscapes.

Key words: South-Central Puerto Rico, A.D. 1300-1500, ceremonial destination, mythic landscape.

El sitio de Jácana, PO-29: un centro ceremonial poco ocupado y muy utilizado, centro ceremonial en el centro-sur de Puerto Rico, 1300-1500 D.C.

Resumen

Las investigaciones arqueológicas intensivas del sitio de Jácana arrojaron resultados que sugieren que aunque el sitio tuvo una ocupación limitada en el período Tardío, 1300-1500 D.C., hubo evidencia de un uso intensivo del

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sitio como destino ceremonial, como elemento de un paisaje más amplio de interés cultural. En este artículo se presentan las diversas líneas de evidencia del estudio multidisciplinario de Jácana, así como una discusión sobre el lugar del sitio en la extensa red de sitios y paisajes.

Palabras clave: *el centro-sur de Puerto Rico, 1300-1500 D.C., centro ceremonial, paisaje mítico.*

Le site de Jácana, PO-29: un centre cérémoniel légèrement occupé et fortement utilisé dans le centre-sud de Porto Rico, 1300-1500 après J.-C.

Résumé

Des recherches archéologiques intensives sur le site de Jácana ont donné des résultats qui suggèrent que, bien que le site ait connu une occupation limitée à la fin de la période, entre 1300 et 1500 après J.-C., il existait des preuves d'une utilisation intensive du site comme destination cérémonielle, en tant qu'élément d'un paysage culturel plus vaste importance. Les différentes sources de données issues de l'étude multidisciplinaire de Jácana sont présentées dans cet article, ainsi qu'une discussion sur la place du site dans le vaste réseau de sites et de paysages.

Mots clés: *Centre-sud Porto Rico, 1300-1500 après J.-C., centre cérémoniel, paysage mythique.*

Introduction

This article addresses the late period use of the Jácana site in south-central Puerto Rico, circa AD 1300-1500. The site and the broader settlement context of the region underline an apparent contrast. The site and region show relatively limited domestic occupation (i.e., low regional population) in this span, but the site saw major ceremonial use. A similar contrast has been noted for the Caguana/Utuado area in the late period (Oliver, 1998, 2005; Oliver and Rivera Fontán, 2004, 2005).

Such contrasts have been the basis for the hypothesis that the Jácana site and much of central Puerto Rico was a mythic landscape used for ceremonial purposes even after the bulk of Taíno population had moved elsewhere (Espenshade, 2014, 2020). The authors recognize the significance of the apparent contrast, and this article seeks to fully delineate the lines of evidence before revisiting an explanation that reconciles the two conditions, limited domestic occupation and extensive ceremonial use.

Context

The Jacana site is approximately nine acres along the floodplain of the Portugues River. Its major components were designated Jácana 2 (A.D. 650-900) and Jácana 4 (A.D. 1300-1500). The site underwent data recovery excavations in 2006 and 2007. New South Associates, Inc., issued a multi-part report on the study that included the following elements:

- Volume I, Synthesis (Espenshade, 2014).
- Volume II, Part 1, Introduction, Natural and Cultural Settings, and Methods (Espenshade, Young and Foss, 2014).
- Volume II, Part 2, Site Contexts and Feature Patterning (Young and Foss, 2014).
- Volume II, Part 3, Batey Borders/Rock Art (Loubser, Weng, Espenshade, Bustelo, and Diener, 2014).
- Volume II, Part 4, The Houses of Jácana (Kaplan, 2014).
- Volume II, Part 5, Human Remains from Jácana (de la Rosa, Matternes and Young, 2014).
- Volume II, Part 6, The Pottery of Jácana (Espenshade, Reber and Huie, 2014).
- Volume II, Part 7, Lithic Artifacts of Jácana (Kaplan, Patch and Mainieri, 2014).
- Volume II Part 8, Paleoethnobotany of Jácana (Newsom, Duncan, Pearsall and Jones, 2014).
- Volume II, Part 9, The Zooarchaeology of Jácana (DuChemin, Cannarozzi and deFrance, 2014).
- Volume II, Part 10, Site Stabilization and Preservation (Joseph, Mountjoy and Bustelo, 2014).

The pottery has been further addressed in two articles by Espenshade (2013, 2015), and the Jácana 4 site interpretations were addressed in Espenshade (2020).

To assist with flood control, the United States Army Corps of Engineers (USACE) proposed construction of a reservoir on the Portugues River. The proposed impoundment threatened to inundate the site during high flood periods, and the site location was also proposed for disposal of fill removed from the proposed dam location. USACE involvement then required compliance with Section 106 of the National Historic Preservation Act (NHPA). Prior to impoundment/construction, USACE determined that archaeological excavations (i.e., data recovery) were the best approach to resolving the adverse effects. The project evolved into an example of the flexibility built into the Section 106 process.

When the data recovery effort was approximately 90 percent complete, it became apparent that the archaeological data potential and heritage

significance of the site had exceeded all expectations. With the delineation of the large batey, the indications of possibly 400 burials beneath the batey floor, the exceptional gallery of rock art, and the healthy engagement of interest from many Puerto Ricans, the site became of transcendent importance. The USACE could have simply completed the data recovery effort as outlined in the Memorandum of Agreement, but they instead chose to preserve the site in place. Data recovery excavations were halted, the site was carefully backfilled, and another location was selected for the disposal of overburden soils from the dam construction site (Siegel *et al.*, 2009, Espenshade, 2014).

When excavations were halted, the planned data recovery effort was 90 percent complete, representing only six percent of the overall site. Although the data recovery was not completed, the investigations yielded important archaeological datasets. The interpretations presented here are based on the datasets that were collected. This means that much data potential remains at Jácana and that we lack the information needed to fully address certain questions.

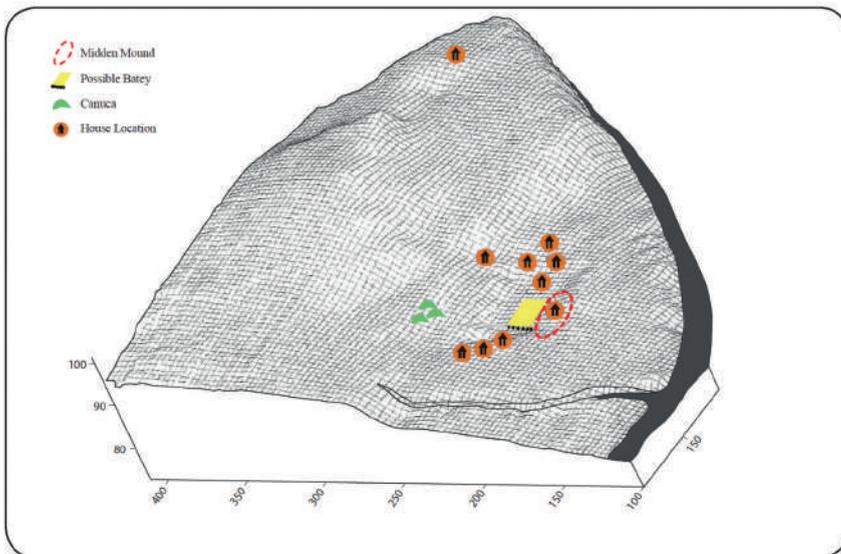


Figure 1. Jácana 2 Simplified Site Structure.

The fieldwork included a combination of geomorphological trenching (33 trenches); 71 hand-excavated units to sample the various site contexts (52 1x1-meter units, one 1.5x0.5-meter unit, and 16 0.5x0.5-meter units); machine-assisted excavation of feature exposure areas (FXs, totaling 1,790.5 square meters); exposure, analysis, and recordation of the four batey

borders; the hand excavation of 49 burial features, some containing multiple individuals, and the hand excavation of 157 non-burial features.

By combining geomorphological trenching, hand excavation, and machine-assisted exposure of living areas, the study was able to characterize with confidence the site structure during two major components. Although a large percentage of the site area was left unexcavated, enough work was conducted in each precinct of the site to date and characterize the midden and features. House patterns were exclusively found in association with midden deposits or the midden mound, making it unlikely that residential areas were missed in either component.

Two major pre-Columbian components were revealed at the site, with Jácana 4 stratigraphically above Jácana 2, or mixed with the uppermost portion of the Jácana-2 deposits. In the Jácana-2 span (A.D. 600-900), the site contained numerous houses, thick midden deposits, human burials in and below the middens, a small midden mound, and possibly a batey or plaza (Figure 1). The thickness of the domestic midden and the frequency of burials suggests a lengthy occupation by multiple, contemporary households. The associated pottery was a mix of materials fitting the expectations for late Cuevas and Early Ostionoid/Monserrate styles. The residents at the site ate a mixture of mammals (predominately hutia), fish, and shellfish, with minor contributions by birds and reptiles. There was a significant reliance on maritime faunal resources, relative to expectations for a site in the interior hills. Houses were oval forms, generally eight by six meters (Kaplan, 2014); Figures 2 and 3 present house patterns. It appears that the site served as a hamlet (perhaps 3-5 houses occupied coevally) and a part of a ritual landscape in Jácana 2 times (Espenshade, 2014).

In Jácana 4 times (circa A.D. 1300-1500), the site centered on a 40x50 meter batey, which was bordered on all four sides by rows of slabs and boulders (Figures 4-5). The north border of the batey featured a gallery of rock art, and other petroglyphs were also present in the other borders (Loubser et al. 2011). The midden mound was greatly expanded in this span, with most of the material derived from the earlier midden deposits. Only 2-4 structures were present (perhaps only a single house occupied at a time), and very little midden accumulated during the Jácana 4 occupation. The zooarchaeological record and the macrobotanical remains suggest the possibility that a garden of ritual and medicinal plants was maintained at the site, and guinea pigs may have been raised there as well (Newsom et al. 2014; DuChemin et al. 2014). The Jácana 4 diet saw an increase in guinea pig, the first use of pelagic fishes, and an increased use of sea turtles. These differences relative to the Jácana 2 pattern suggest that the Jácana 4 occupation was more heavily focused on ritual consumption. Neither component yielded seasonality indicators.

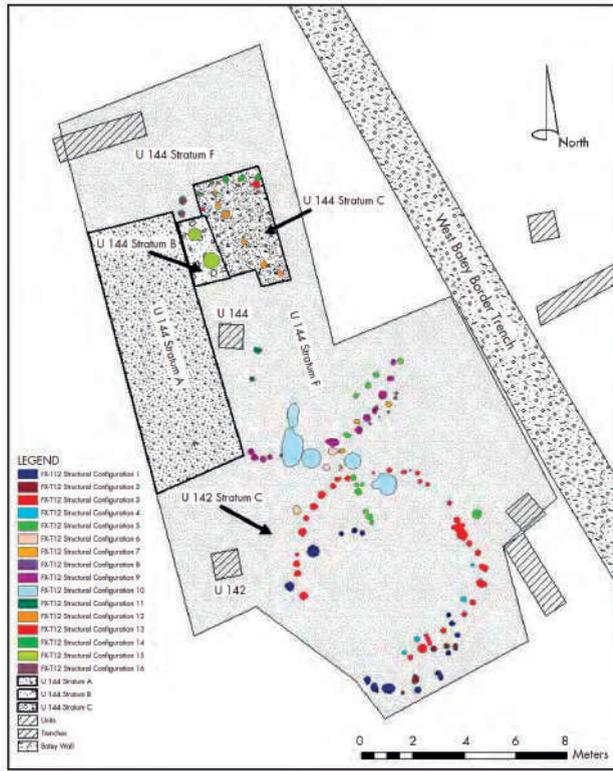


Figure 2. House Patterns West of Batey. Configuration 14 is Jácana 4, all others Jácana 2.

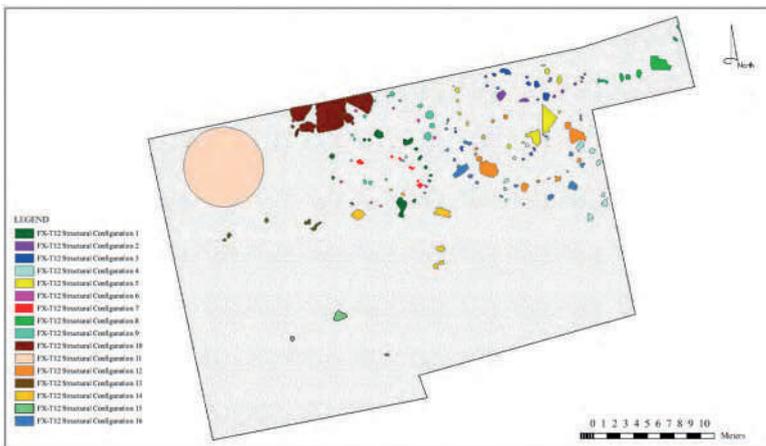


Figure 3. House Patterns East of Batey. Configurations 10 and 11 are Jácana 4, all others are Jácana 2.

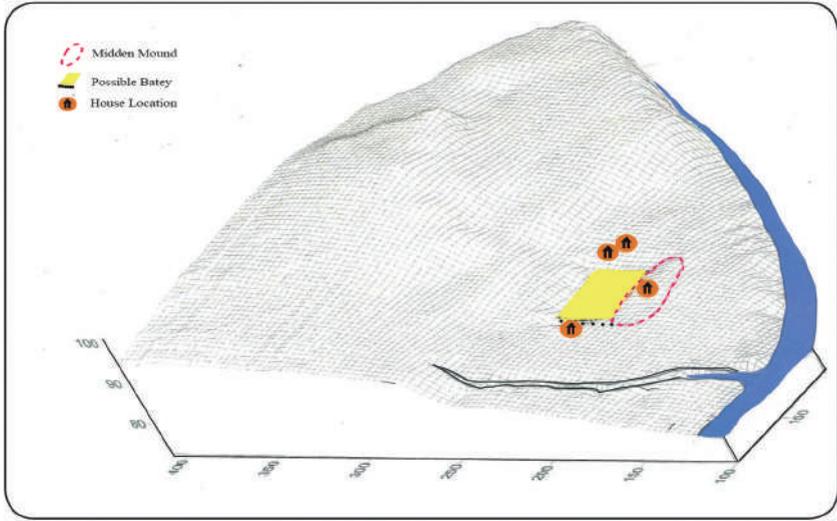


Figure 4. Jácana 4 Simplified Site Plan.

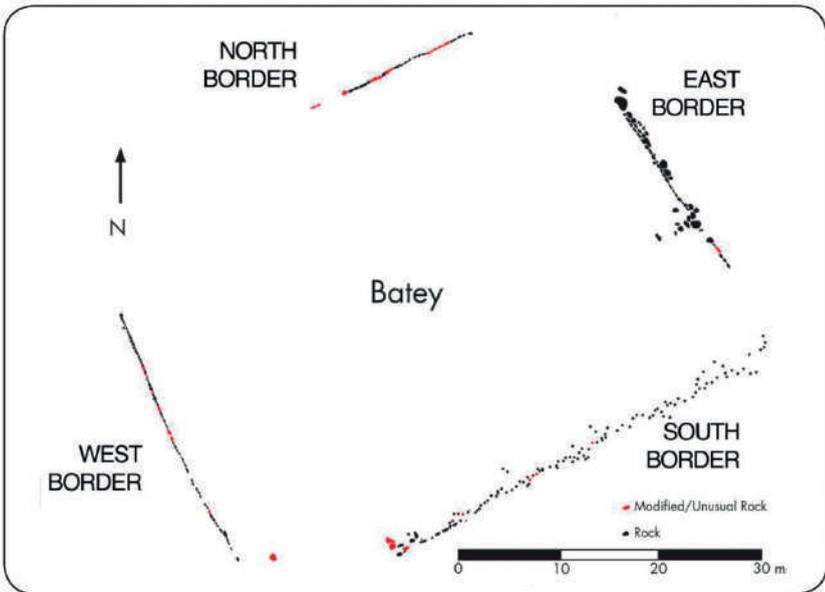


Figure 5. Jácana 4 Batey Plan.

Contrast

Many archaeologists naturally and implicitly expect that large ceremonial centers go hand-in-hand with large residential populations. In the Caribbean, this has led to settlement models that assume, absent extensive testing, that the largest residential sites must be intensively occupied villages (Siegel, 1992, 1995, 1996, 1999, 2004, 2010; Torres, 2010, 2012; Torres, DeChemin and Lugares, 2008).

Espenshade (2020) has argued there are two erroneous processes that may have resulted in these unfounded assumptions: Mississippianization and Hispaniolization. The first, Mississippianization, is the assumption that Taíno settlement can be modeled upon the systems in place in the Mississippian span in the southeastern United States. In classic Mississippian settlement systems, there is a site hierarchy of large villages with temple mounds and plazas, smaller villages, hamlets, and single-family farmsteads (Polhemus 1987). For many American archaeologists, Mississippian settlement patterns define the expectations for chiefdom-level societies (Hudson 1976; Smith 2000). The Mississippianization concept seems to be at play when settlement models for the Taíno in Puerto Rico assume that the largest sites were villages (Siegel, 1992, 1995, 1996, 1999, 2004, 2010; Torres, 2010, 2012; Torres, DeChemin and Lugares, 2008) despite a general lack of archaeological examinations of such sites.

The second process, Hispaniolization, assumes that the Taíno settlement systems seen on what became Haiti and the Dominican Republic had to be the same as Taíno settlement systems on Puerto Rico. Curet and Stringer (2010:4) identified this potential fallacy:

Considering that the great majority of the ethnohistorical information was collected from various groups on the island of Hispaniola, it is unclear how much the cultural and social reconstructions are applicable to other islands, or even to all parts of Hispaniola itself. There are strong reasons to doubt that all polities within Hispaniola and in the rest of the Caribbean were highly stratified and centralized societies.

Roe (1999) was an early opponent of Hispaniolization, noting significant and persistent differences between Taíno sites of Puerto Rico and Haiti/Dominican Republic. Roe emphasized that Puerto Rico generally lacked late village sites, while Hispaniola contained many, large, late habitation sites with deep midden deposits. Roe also pointed out the differences in scale in the ceremonial sites in Puerto Rico and Haiti/Dominican Republic. He suggested that much of the Taíno population departed Puerto Rico by AD 1200 for Haiti and the Dominican Republic.

Recognizing the false expectations that Mississippianization and Hispaniolization may have created, it is appropriate to reconsider the apparent contrast between light residential occupation and intensive ceremonial use.

Light Residential Occupation

Limited midden deposition

The Jácana 4 component showed very little evidence of midden accrual. To the west of the batey, where there was significant midden deposition in the Jácana 2 span, there was generally less than 10 centimeters of midden from Jácana 4 times. Likewise, the area east of the batey saw Jácana 4 materials only in the upper 10 centimeters, where they were mixed with Jácana 2 materials. There was no Jácana 4 midden in the Gully Top area.

Limited evidence of house construction

Unlike the Jácana 2 component that included many house patterns, the Jácana 4 component's structural remains were limited to a single massive post west of the batey and two possible houses east of the batey (Kaplan 2014). The house remains east of the batey were the only examples with large, rock-wedged posts and possible evidence of burning. Certain site areas that were used for houses in Jácana 2 times (e.g., Gully Top and east of batey) were abandoned in Jácana 4 times.

Heavily Ritual Utilization

Size of the batey

At 50 x 40 meters (0.2 ha), the batey is among the largest known on the island. Other major ceremonial centers (defined on size and count of bateys) included Tibes, Caguana, Viva Ariba, Tierras Nuevas, Bateyes de Ciales, Palo Hincado, Villón, and Bateyes de Trujillo Alto (Rodríguez Meléndez, 2007). The general premise in interpreting bateys is that the size of the ballcourt/plaza/dance-ground is related to the anticipated number of participants in the associated ceremonies. By this relatively straightforward argument, the Jácana site post-A.D. 1300 was one of the major ceremonial centers on Puerto Rico.

Expansion of midden mound

The effort that went into expanding the midden mound in early Jácana 4 times was significant. The source material for the expansion was apparently

Jácana 2 midden removed from the area that became the batey. This is an important point; the midden mound was not expanded by the natural accrual from domestic occupation during Jácana 4. The ceremonial importance of the midden mound demanded its expansion.

Prevalence of petroglyphs/iconography

The count and complexity of the rock art at Jácana is exceptional. The spiritual and artistic impact of the north border gallery of petroglyphs is rivalled only by Caguana (Oliver, 1998, 2005, 2009, 2019), another site interpreted as a major ceremonial center. In addition to having relatively simple and common motifs, Jácana features two highly detailed, mythical creatures of pan-Taíno importance.

The north border gallery also includes multiple examples showing evidence of ongoing modification after the petroglyphs had been installed. It is unclear how this post-installation alteration of petroglyphs was related to ceremonial activity.

Ceremonial Species in Jácana 4

Maize was indicated by starch residue on two pots and a large metate from Jácana 4 contexts. Newsom (2010) suggests that maize was a high-status food for the Taíno.

Although no cohoba remnants were recovered from the Jácana 4 contexts, several ceramic artifacts related to consuming cohoba were recovered.

One pottery vessel from Jácana 4 contexts and one pot from Jácana 2/4 contexts had residues suggestive of the heating of pine resin. Pines were not native to Puerto Rico, and this foreign material may have been imported for ceremonial use, like what was known ethnohistorically from Central and South America (e.g., Alcorn, 1984; Balsler, 1960).

The zooarchaeological analysis identified guinea pigs, the distribution of which showed an over-representation in the midden mound and batey. It is possible that guinea pigs were raised at the site. Hutia was the other major mammal.

Jácana 4 saw a significant increase in the use of sea turtles and the first use of pelagic fish species. It is argued that the greater effort involved in capturing these marine species reflected the bringing of foodstuffs for ceremonies rather than everyday consumption.

Another species of possible ritual significance is the porcupine fish. Twelve MNI were recovered from Jácana 2/4 or Jácana 4 contexts (DuChemin *et al.*, 2014). The toxins contained in this species (also in the related puffer fish) can cause hallucinations when ingested. Without proper treatment, eating this species can be fatal to humans. Keegan and Carlson (2008:114-115; see

also Keegan 2007:178) stated that the historical use of this species in the Caribbean (but not African) version of voodoo may suggest temporally deeper roots of the practice, possibly among the Taíno or other island groups. A Taíno effigy vessel featuring a porcupine fish, from circa A.D. 1300 contexts at the Governor Beach site on Grand Turk, strengthens the argument that the species was ritually charged (Keegan 2007:89). The proper methods for rendering this deadly fish may have been esoteric knowledge, shared only by shamans or behiques.

Ceramic Indicators

The ceramic analysis for Jácana included both sherd-based and sample vessel analysis. Detailed technological, stylistic, and formal analyses were completed for 489 sample vessels (Espenshade, Reber and Huie, 2014). Various aspects of the Jácana 2 (Espenshade, 2015) and Jácana 4 assemblages (Espenshade, 2013) were examined to help inform interpretations of site use. A key question for the Jácana 4 pottery was: is there the consistency expected from a limited community of practice, or are there indicators of potters of many communities contributing to the assemblage?

Table 1. Tentative Style Assignments, Jácana 4 Vessels

<i>Tentative Style</i>	<i>Basis for Assignment</i>	<i>Vessel Numbers</i>
Boca Chica	Presence of neck	367
Boca Chica	Incised line ends in punctuation	9, 362, 394, and 399
Boca Chica	Broad lines, widely spaced, complex motif	32, 33, 34, 116, 123, 153, 162, 166, 170, 173, 197, 200, 272, 281, 294, 301, 386, 387, 388, 389, 391, 397, 415, 428, 443, 459
Esperanza	Broad lines, simple motif	7, 8, 10, 137, 160, 191, 273, 308, 407, 414, 424
Capá	Narrow lines, tightly packed, complex motif	140, 154
Boca Chica or Esperanza	Broad lines, moderate complexity motif	304, 312, 371, 417
Boca Chica or Capá	Line width or spacing ambiguous, complex motif	30, 35, 138, 151, 174, 363, 400, 455, 467

The first ceramic trait examined was Rousean style assignment. Although there have been recent critiques of Rouse’s approach to pottery classification, there remains an expectation linking style –Capá, Boca Chica,

Attribute	Data
Vessels	
• Form C	7
• Form D	31
• Form G	1
• Form I	1
Shoulder Inflection	
• Count With	43 (91.5%)
• Count Without	4
Rim Forms	
• Round Direct	33
• Square Direct	13
• Interior Thickened	1
Rim Diameter	
• Range	12-42 cm
• Mean	26.4 cm
Thickness	
• Range	3.9-11.8 mm
• Mean	8.0 mm
Coil Break	
• Present or Possible	47.8%
• None	52.2%
Inferred Firing Position	
• Upright	36.8%
• Inverted	8.8%
• Indeterminate	54.4%
Core Retention	
• Range	0-100%
• Mean	42.0%
Major Paste Color	
• Dark Grey	40%
• Tan	15%
• Brown	15%
• Red	30%
Exterior Paste Colors	
• Dark Grey	29%
• Tan	21%
• Brown	2%
• Red	48%
Aplastic Type	
• White Quartz	58
• Dirty/Rusty Quartz	5
• Sandstone	1
• No Apparent Temper	1
• Metamorphic Rock	2
• Quartzite	1
Possibly Extralocal Pots	
• Including No Apparent Temper as Extralocal	6 (8.8%)
• Excluding No Apparent Temper as Extralocal	5 (7.3%)
Primary Aplastic Shape	
• No Apparent Temper	1
• Angular	56
• Sub-Angular	7
• Round	2
• Irregular	2
Aplastic Density	
• Range	0-35%
• Mean	17%
Use Abrasions	
• Present	11.8%
• Absent	88.2%
Fire Clouds	
• Present	33.8%
• Possible	7.4%
• Absent	58.8%

Figure 6. Attribute Data for Jacana 4 Vessels.

and Esperanza– to generalized homelands. In general, it is not expected that a simple domestic site in south-central Puerto Rico would display all three styles as well as possible hybrids mixing attributes of the three styles. Table 1 documents the co-occurrence and hybridization of the three styles in the Jácana 4 assemblage. The data indicate Boca Chica (31-43 vessels) is the prevalent style, with Esperanza (11-15 vessels) and Capá (2-11 vessels) less well represented. The findings suggest contributions from multiple communities of practice.

Stepping beyond stylistic assignments, it is pertinent to next examine the consistency of technological attributes. Within a community of pottery practice there is generally a well-entrenched technological tradition that reflects a successful adaptation to vessel needs, local clay and tempering resources, manufacturing trajectory, and firing approach. The technological tradition, as a proven solution to providing ceramic needs, is typically resistant to change.

Within a community of practice, there is also an expectation for consistency in the size classes and proportions of vessels. Using rim diameter as a proxy for vessel size, Figure 7 presents the rim diameter data for the Jácana 4 sample vessels. There is a generalized line from 10-50 centimeters in diameter, with no clear breaks for standardized size classes. The data instead suggest many potters contributing vessels beyond their home tradition.

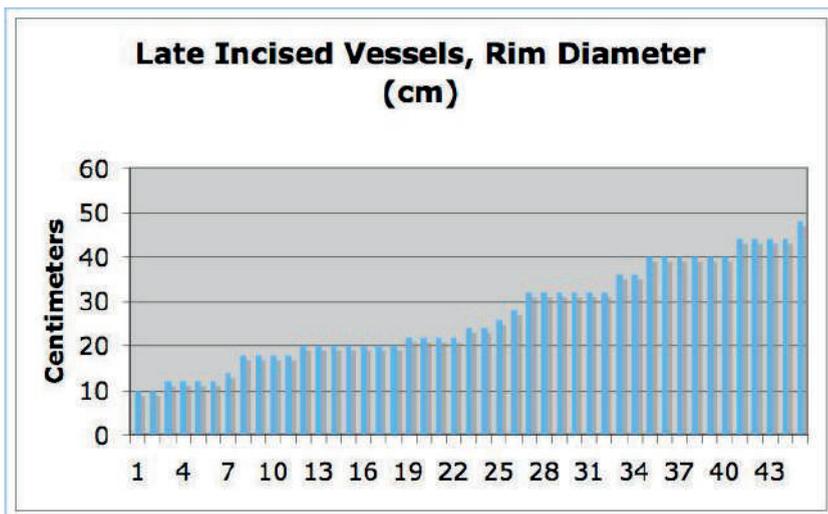


Figure 7. Rim Diameter for Jacana 4 Vessels (each bar represents a single vessel).

The relationship of vessel thickness (measured 3 cm below rim) and vessel size is expected to be consistent for a community of practice. The baseline relationship can be seen as the definition of what an accomplished potter

can do with these materials and the established approach. Even accepting that there will be changes in potting ability through time, suitability and acceptability are expected to be well defined among a small group of potters. Conversely, pots from many sources will not necessarily have been produced to the same standards. Figure 8 plots vessel thickness against rim diameter. There is no consistent relationship, and the data instead suggest many ideas on the appropriate relationship.

Another means of addressing proportion is to examine the relationship of neck width and rim diameter. The expectation again is that community of practice will have well-defined parameters of what that relationship should be. Figure 9 demonstrates for the Jácana 4 material, neck width and rim diameter do not track well. There is no consistent relationship, again arguing that multiple schools, traditions, or communities of practice of potting contributed to this site.

Highly decorated pots are often associated with public ceremonies. It is not possible to gauge the frequency of incised and plain pots for the Jácana 4 assemblage, as cluster analysis did not yield sufficiently robust groupings to place most undecorated vessels as Jácana 2 or 4. Several large, Jácana 4, incised pots showed severe interior damage suggestive of grinding. Espenshade (2014, 2013, 2020) suggests that this may have been ritually

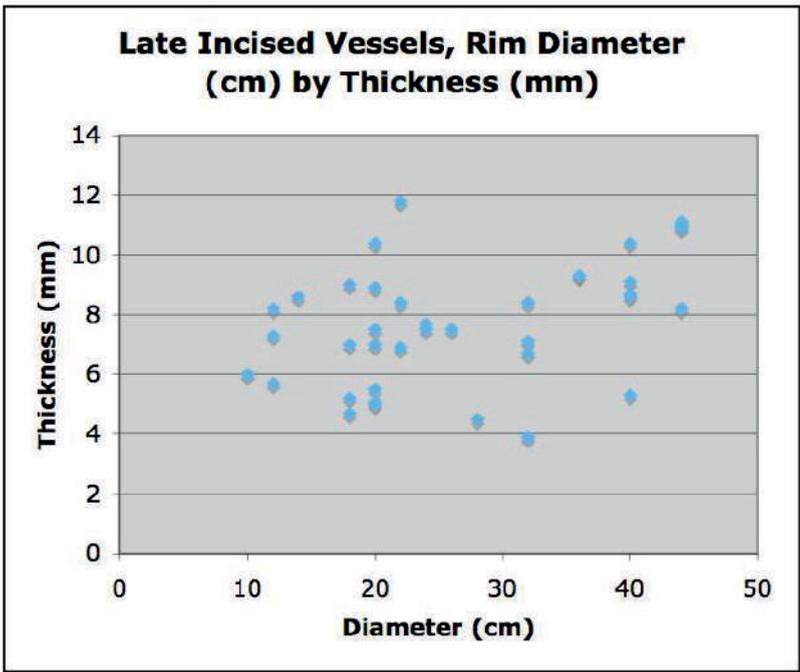


Figure 8. Thickness and Rim Diameter for Jacana 4 Vessels.

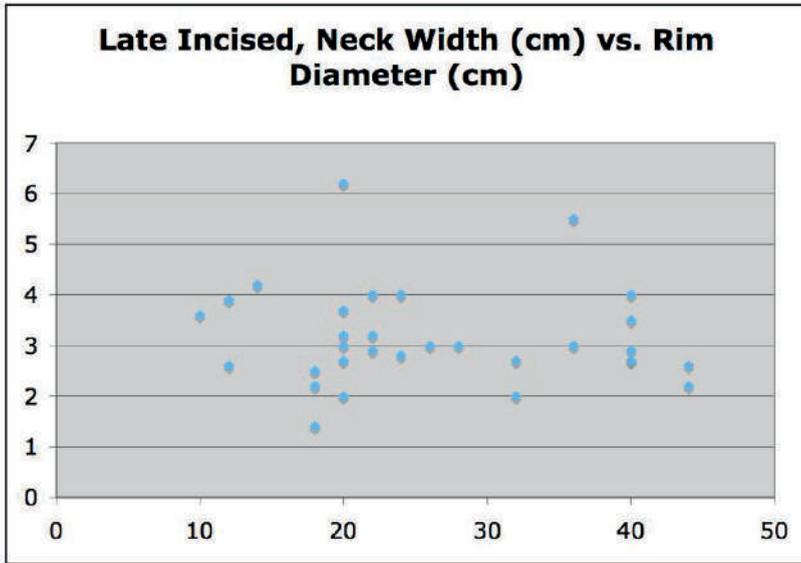


Figure 9. Neck width (1-7 cm) versus rim diameter (10-43 cm).

charged grinding, from either cohoba preparation or endocannibalism (grinding of human bones).

The count of late vessels is surprisingly high given the limited midden and few features assignable to the Jácana 4 span. Especially in comparison with Jácana 2, the Jácana 4 vessel population suggests an intensity of pottery use greater than common domestic activity.

There is a difference in burenas between Jácana 2 and 4 site uses. The pure Jácana 2 contexts yielded large, undecorated burenas, as are typical in residential sites. In contrast, mixed Jácana 2/4 contexts from the midden mound were the only proveniences that yielded decorated burenas. All six examples in the vessel sample were from mixed Jácana 2/4 contexts in the Midden Mound. None were recovered from pure Jácana 2 contexts anywhere on the site. It will be recalled that the midden mound lacked a pure Jácana 4 deposit; all the Jácana 4 material was mixed into the Jácana 2 midden that formed the bulk of the mound. The contextual data lean toward these incised burenas being of Jácana 4 origin.

The decoration of the burenas is also consistent with a Jácana 4 affiliation (Table 2). Incising is most common in the Jácana 4 stylistic palette, and Sample Vessels 9 and 12 have incisions ending in punctates, a treatment considered indicative of the Boca Chica style. Sample Vessel 7 varies from the typical burenas in its small size, having a diameter of only 12 centimeters (Dr. Joshua Torres, personal communication, 2020) feels that this small item may be a

Cohoba tray instead). Sample Vessel 12 has a design possibly representing an owl, a class of birds of significance to Taino beliefs (García Arévalo, 1991).

The decoration of all six burens, the diminutive size of Sample Vessel 7, and their exclusive association with the midden mound suggest that these burens were used in public ceremony rather than every day, domestic activities. It is generally the case that items used in public display are more heavily decorated than those used in domestic contexts (Schiffer and Miller 1999; Mills 2007; Budden and Sofaer 2009). The presence of incised burens only in the Midden Mound, and their likely Jácana 4 affiliation are consistent with the midden mound having served special ritual functions during batey-related events.

Table 2. Decorated Burens

<i>Sample Vessel</i>	<i>Description</i>
3	Upper surface decorated with incised line and punctates. The design is similar to variations of the Late Incised wave motif.
7	12 centimeters diameter. Upper face incised with two lines paralleling outer edge. Upper, exterior edge is also incised with a single line below and parallel to the rim.
8	Single incised line on upper face, apparently parallel to outer edge.
9	Two incised lines on upper face, approximately parallel to outer edge. One line ends in a punctate.
10	40 centimeters diameter. Upper face incised with two lines parallel to outer edge.
12	Upper face decorated with incisions and two punctuates, in a design suggestive of an owl. One of the lines ends in a punctate.

The last areas for examining ceramic variability are motif selection and the motor habits associated with creating those motifs. The majority of Jácana 4 incised pots had some variation of a wave motif. Figure 10 defines how the elements of these motifs were recorded. Table 3 demonstrates a significant diversity in how the wave motif was created on Jácana 4 vessels. These data suggest a generalized approach with much freedom for variation, rather than a single community of practice. The analytical scheme of recording separate elements of the motif proved effective in substantiating the general feeling upon looking at the sample vessels.

Lastly, when potters were attempting to illustrate the same element of a motif, were their methods similar? In this case, the analysis questioned if there was an acceptable way to depict an eye. For example, if a potter uses an incised line to border an eye on one adorno, the potter is expected to generally use that trait on all adornos. Of the face-bearing adornos, the

following variations can be observed: shallow punctuates alone; incised line around the exterior of the eye, with a central punctate; incised line around the eye exterior without a central punctate; eyes represented by simple, small punctates; eyes represented by puck-shaped appliqués with a center punctate; and puck-shaped appliqués with horizontal incisions for pupils. The adorno variability supports many potters contributing to the Jácana 4 assemblage.

Overall, the ceramic technology, morphology, and style show a significantly higher level of variability than expected from a single domestic community. Instead, the Jácana 4 pottery indicates contributions from multiple communities of practice, from groups of potters not in routine contact with one another. Such an assemblage is expected from a regionally important ceremonial center.

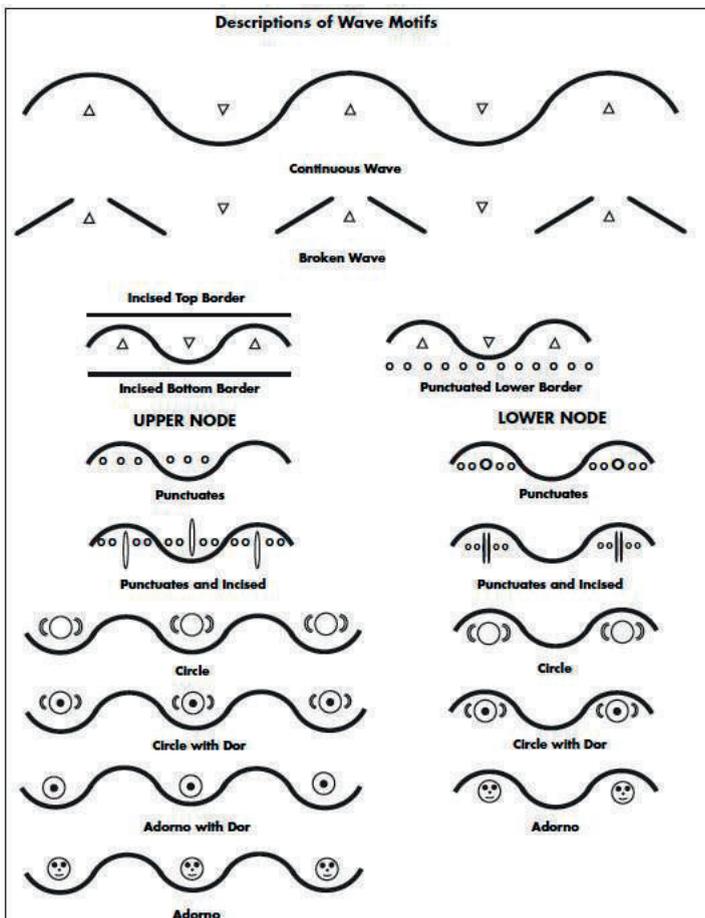


Figure 10. Coding Scheme for Wave Motif.

Table 3. Variability in Modes Used in Wave Motif

<i>Mode</i>	<i>State</i>	<i>Count</i>
Wave Structure	Continuous	17
	Broken	27
	Unknown	5
Lower Node	Punctates	16
	Punctates and Incising	2
	None (Herringbone)	2
	Incised	3
	Incised Circle with Center Dot	8
	Incised Circle	2
	3-Dimensional Adorno	5
	Triangle	1
	Unknown	10
Upper Node	Punctates	16
	Hemispherical Adorno with Circle and Dot/Punctate	1
	3-Dimensional Adorno	4
	None (Herringbone)	1
	Incised	2
	Triangle	1
	Punctate and Incised	3
	Incised Circle with Center Dot	2
	Incised Circle	4
Unknown	15	
Lower Border	None	28
	Incised	8
	Punctates	1
Upper Border	None	9
	Incised	36
	Punctates	0
	Unknown	4

Estimated burial population beneath batey floor

One of the late discoveries that led to the ultimate preservation of the site was the apparent density of burials beneath the batey floor. The cleaning of a small portion, 11 x 11 meters of the batey floor revealed 24 burials, none of which were excavated. If this density is representative of the entire batey area, there would have been more than 400 burials beneath the floor.

Absent excavation, why do we assume that these are late period burials? To the east of the batey, Jacana 2 burials were found in pits within thick organic midden deposits. If, as suspected, the Jacana 2 midden once extended over what became the Jácana 4 batey floor, the burials would have been removed with the midden that was relocated to the midden mound. The presence of sub-batey burials in soil that lacked organic midden suggests that these burials were placed after the batey had been cleared of midden.

The observed and inferred burial counts beneath the batey floor are inconsistent with expectations from a limited domestic occupation. However, reburial of remains from far afield as part of ritual behavior could account for many graves and would be consistent with an important ceremonial center. Secondary burial was known among the Taíno.

Reconciliation

A strong case has been made that late period (AD 1300-1500) residential use of Jácana was extremely limited, and that there was a general lack of major residential sites in the valley. A similarly strong case has been offered that Jácana was the site of significant, well-attended ceremonial functions in the same span. Rodríguez (2015) suggests at least certain ceremonies at Jácana were related to astronomical events. The reconciliation of those two conditions demands reconsideration of simple arguments of large ceremonial centers always occurring in conjunction with large residential sites.

It needs to be acknowledged that there is increasing evidence from various parts of the world that significant ceremonial sites occurred in the absence of a major local population. For example, Renfrew (2001) defined the concept of Location of High Devotional Expression (LHDE) to explain the role of Chaco Canyon in the American Southwest, A.D. 900-1130. Renfrew (2001) states that LHDEs were places of extreme significance to the identity of a culture. His LHDEs have small, permanent populations, but saw many pilgrims or visitors on certain holidays (see also Malville and Malville 2001). Hohokam ballcourts in the American Southwest (Abbott *et al.*, 2007) and Stonehenge in England (Darville *et al.*, 2012) are other well-known examples of LHDE.

Stepping Away from a Site-Driven Perspective

Espenshade (2014, 2020) has argued that the focus on archaeological sites rather than broader landscapes has severely hindered our understanding of Taíno lifeways. When focused on sites, archaeologists look for competition and replacement at the site level rather than elaboration at the landscape level.

Although the Portugués Valley has been subjected to intensive survey and site testing efforts (Pantel, 1978; Solís Magaña, 1985; Oakley and Solís Magaña, 1990; Torres *et al.*, 2008; Torres, 2012), the largest residential sites discovered seem to be more on the scale of hamlets than villages. The Jácana-2 component at the Jácana site, and the earlier residences at Tibes were not large villages.

Likewise, there was not a single, dominant ballcourt. Tibes offered a ballcourt complex in Elenoid times, but there were also three small sites, each with a ballcourt, elsewhere in the lower valley (Torres *et al.*, 2008; Torres, 2012). A site focus leads to misdirected questions of abandonment and replacement, rather than considering the possibility of elaboration through time of a landscape of ritual importance.

Espenshade (2020) argues “When we remove the blinders of a site-perspective and when we consider the true nature of the supposed abandonment of bateys in the Portugués Valley, a new possibility can be entertained.”

Abandonment Processes of Ceremonial Landscape Elements

Espenshade (2020) has argued that the major bateys and related ceremonial sites were not abandoned as abandonment is commonly perceived. Espenshade (2020) states “The pattern of abandonment at the late period, Puerto Rican, batey sites seems to have been to simply walk away from the site.” At Tibes, Jácana, Utuado, and other major ceremonial centers, abandonment is defined by the loss of a domestic function (i.e., loss of a residential area), while the bateys and associated petroglyphs were left in place. There was no theft or damage of petroglyphs. Furthermore, a striking trait of many of the ceremonial centers is continued use even after the site is no longer a population center.

Espenshade argues that the leaving of petroglyphs in place when residential use of the sites waned indicates a continued ceremonial use. This is also evidenced by the recovery of pottery that post-dates the use of these sites as residential areas. So, although there were residential shifts in the valley the baseline ceremonial places remained in use even when there were no on-site domestic areas.

Landscape Evolution as an Additive Process

If the reader accepts the reality that ceremonial site use did not end with residential shifts and that landscape history was not driven by competition between sites, the landscape of southern-central Puerto Rico can be recast as an additive landscape. Ceremonial sites of various types were added through time, rendering the landscape more complex and more powerful. As a result, the landscape became more inviting to those immersing themselves in Taíno culture, folklore, and ceremony. Espenshade (2020) argued “the Portugués Valley was a major portion of a ritual landscape that had mythic and cultural importance to possibly all the Taíno.” As such, the landscape was a touchstone, a source of knowledge, and a source of identity for the Taíno. The Portugués valley is unique in several regards:

- It has a significantly high number of bateys, including some of the earliest on the island.
- It includes Tibes, arguably the largest ceremonial center on the island for the period AD 900-1200.
- It includes the large batey at Jácana, AD 1300-1500.
- It is on a natural route linking the southern coast to multiple large ceremonial centers, including Utuado, which was modeled on Tibes (Figure 11). Major ceremonial centers are not randomly distributed on the island, and almost all of them could be visited via a sojourn starting up the Portugués valley.



Figure 11. Major Ceremonial Centers.

Why Create and Maintain a Mythic Landscape?

In the end, the question becomes why would there be a mythic landscape maintained when the valley was only lightly occupied? Who would have been served by the landscape if the valley had only a limited population?

All Taíno would have been served. Whether or not an individual sojourned to the valley, visited the key sites, and learned the oral history of each stop, the landscape remained as a touchstone to cultural identity. The Portugues valley represented the source of pre-Taíno culture in the Caribbean. By this argument, the mythic landscape was maintained as a means to celebrate and teach the oral history of how Taíno came to be.

The ceremonial landscape of the valley was additive, with elaboration gained through the establishment of new locations of ritual importance. Each stop or way station -- whether a major ceremonial center, a small batey, a cave, or a riverside petroglyph -- provided knowledge on what it meant to be Taíno. An aspiring shaman might spend months learning in the valley, and others might only choose to visit specific sites on specific days of celebration. Except for visitors, the valley was lightly populated.

Where Were the Local Villages?

The lack of a major residential component at the Jácana site in Jácana 4 times is a major theme of this article. Not only was there no village at Jácana in the late period, there was no evidence of major villages anywhere in the valley. Siegel (2010) and Torres (2005, 2010, 2012) included villages as categories in their reconstructions of late settlement, but this was based on the assumption that the largest sites must have been villages (see Mississippianization of Puerto Rico above). The analysis of the Jácana 4 component demonstrates that a large late site can lack any significant residential component.

This situation is similar to that seen around Caguana, with a large ceremonial center but no related villages (Oliver and Fontán 2004, 2005; Rivera-Fontán and Oliver 2006; Oliver 2019). In 1999, Roe (1999:279) noted the extreme differences between Taíno sites in Puerto Rico and the Dominican Republic:

... in the Dominican Republic, a vast number of Chicano Ostionoid sites contain deep and rich middens with enormous quantities of pottery. . . Could there have been a massive population displacement from Puerto Rico to the Eastern Hispaniola in late prehistoric times as resident populations outgrew the local resources on their much smaller island?

Roe is explicit in his belief that the largest late communities in Puerto Rico were in a different league than those in Hispaniola. Roe based his

argument on site size, midden volume, batey size and complexity, and ceramic complexity. Roe's findings are supportive of the contention that large, late villages were rare or absent in Puerto Rico.

Why might we expect a valley to take on mythic importance to a far-spread culture? Espenshade (2020) notes that preliminary DNA studies by Martínez-Cruzado (2010:70) suggest that the Portugués valley has the highest density of DNA indicative of the earliest migration to the island (Figure 12). It is suggested here that the valley was culturally recognized as a place of initial settlement in Puerto Rico, the spiritual homeland of those who became Taíno.

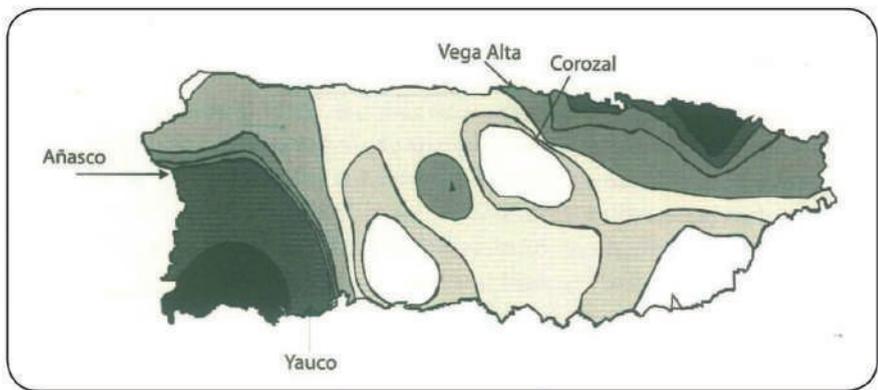


Figure 12. Density Map of Ancient DNA Groupings. White areas have highest density of DNA indicative of earliest migration to island (from Martínez-Cruzado 2010:70).

It is also instructive to consider that to the Taíno, a place or object held an important spirit even before the Taíno settled there or modified the object. A slab that ultimately became a petroglyph was destined to be that petroglyph by its inherent spirit. By such a world view, the valley may have chosen to be settled, rather than the Taíno choosing to settle. Espenshade (2020) suggests “by this logic, the lands first settled were always of cultural importance, and that is why they were first settled. The Taíno, over centuries, elaborated and commemorated this landscape to mark its mythic importance to their culture.”

Conclusions

It has been demonstrated that in Jácana 4 times (AD 1300-1500), the Jácana site was probably occupied by only a caretaker behique. However, in this same span, the site saw intensive ceremonial use. This seeming contrast is suggested as the key to understanding Jácana and the broader valley.

Espenshade (2020) has argued that site size is not a direct indicator of the residential population, and that a lightly occupied site can play an important ceremonial role.

This model of a mythic landscape of cultural importance to the Taíno, existing in a region of low population density, is far from conclusively proven. The model calls for further regional survey and for examination of late sites identified as potential villages by Torres and Siegel. The past decade of research in Puerto Rico resulted in the questioning of many givens, things we thought we knew to be true. With this model, we question the assumption that villages must have been present (or the largest known sites must have been villages) in late Puerto Rico, and we question the contention that bateys predominately served in cacique-level aggrandizement. The authors suggest that from Ponce Beach to Caguana, there was a landscape of ceremonial locations, and that landscape played a vital role in reinforcing the cultural identity of the Taíno. Development of this landscape may have begun as early as AD 400, and it was elaborated through time through the addition of ceremonial locations.

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Sección II



Otras contribuciones

The Archaeology of Rituals: Middle Horizon Shattered Ceramics and the Acari Valley, Peru

Lidio M. Valdez¹

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Abstract

Ever since the discovery made back in 1926 at the site of Pacheco of the Nazca Valley, on the south coast of Peru, it is known that an important aspect of the ritual celebrations staged by the Wari state consisted on the deliberate smashing of large-sized and finely painted ceramic vessels that afterwards were buried in the ground. Subsequent research has shown that this tradition was initiated by the Wari and the earliest known purposely shattered vessels are found in the Ayacucho Valley, heartland of the Wari state. As Wari expanded, similar celebrations were performed elsewhere in the recently annexed regions, as the finding of analogous ceramic deposits indicate. One such deposit has been found in the Acari Valley of the south coast of Peru. The finding from Acari is described here, and it is argued that the act of shattering the vessels marked the culmination of a complex ritual celebration probably performed to spread Wari religion and Wari deities, as well as to befriend the locals, which ultimately helped to legitimize Wari's intrusive presence in the region.

Key words: Wari state; Rituals; Ceramic Deposit; Offering; Acari Valley.

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La Arqueología de los Rituales: Cerámica Destrozada del Horizonte Medio y el Valle de Acari, Perú

Resumen

Desde el descubrimiento hecho en 1926 en el sitio de Pacheco del valle de Nazca, de la costa sur del Perú, se conoce que un aspecto importante de las celebraciones rituales organizadas por el estado Wari consistió en la intencional destrucción de vasijas de cerámica de tamaños grandes y finamente pintados que posteriormente fueron enterrados. Investigaciones posteriores han demostrado que esta tradición fue iniciada por el estado Wari y que los más tempranos ejemplos de vasijas intencionalmente sacrificadas provienen precisamente del valle de Ayacucho, el centro de origen del estado Wari. Con la expansión Wari, celebraciones similares se organizaron en los territorios anexados, tal como indica la presencia de depósitos de cerámica fragmentada. Uno de tales depósitos fue encontrado en el valle de Acari de la costa sur del Perú. Aquí se describe el hallazgo, y se sostiene que el acto de sacrificar las vasijas posiblemente marcó la culminación de una celebración ceremonial compleja al parecer organizada para dispersar la religión Wari y las deidades Wari, así como para hacer de la población local aliados de los Wari, y que en última instancia permitió legitimar la presencia Wari en la región.

Palabras clave: *Estado Wari; Rituales; Depósito de Cerámica; Ofrenda; Valle de Acari.*

Arqueologia dos Rituais: Cerâmica Quebrada do Horizonte Médio e Vale do Acari, Peru

Resumo

Desde a descoberta feita em 1926 no sitio de Pacheco do Vale de Nazca, na costa sul do Peru, sabese que um aspecto importante das celebrações rituais encenadas pelo estado Wari consistia no esmagamento deliberado de grandes e vasos de cerâmica finamente pintados que depois foram enterrados so solo. Pesquisas subsequentes mostraram que essa tradição foi iniciada pelos Wari e os primeiros navios que foram destruídos propositalmente foram encontrados no Vale Ayacucho, coração do estado Wari. À medida que Wari se expandia, celebrações semelhantes eran realizadas em outras partes das regiões recentemente anexadas, como indicam os achados de depósitos de cerâmica análogos. Um desses depósitos foi encontrado no Vale Acari, na costa sul do Peru. A descoberta de Acari é descrita aqui, e argumenta-se que o ato de quebrar os vasos marcou o culminar de uma complexa celebração ritual realizada provavelmente para espalhar a religião Wari e divindades Wari, bem como para fazer amizade com os locais, o que acabou ajudando a legitimar a presença intrusiva de Wari na região.

Palavras-chave: *Wari state; Rituais; Depósito de cerâmica; Oferta; Vale de Acari.*

L'archéologie des rituels : la céramique brisée de l'horizon moyen et la vallée d'Acari, Pérou

Résumé

Depuis la découverte faite en 1926 sur le site de Pacheco de la vallée de Nazca, sur la côte sud du Pérou, on sait qu'un aspect important des célébrations rituelles organisées par l'État Wari consistait en l'écrasement délibéré de et des récipients en céramique finement peints qui ont ensuite été enterrés dans le sol. Des recherches ultérieures ont montré que cette tradition a été initiée par les Wari et que les premiers navires volontairement brisés connus se trouvent dans la vallée d'Ayacucho, au cœur de l'État Wari. Au fur et à mesure de l'expansion de Wari, des célébrations similaires ont été organisées ailleurs dans les régions récemment annexées, comme l'indique la découverte de gisements de céramique analogues. Un de ces gisements a été trouvé dans la vallée d'Acari sur la côte sud du Pérou. La découverte d'Acari est décrite ici, et il est soutenu que l'acte de briser les vaisseaux a marqué le point culminant d'une célébration rituelle complexe probablement réalisée pour répandre la religion Wari et les divinités Wari, ainsi que pour se lier d'amitié avec les habitants, ce qui a finalement contribué à légitimer la présence intrusive de Wari dans la région.

Mots-clés: *État Wari; Rituels; Dépôt de céramique; Offre; Vallée d'Acari.*

Introduction

Ancient political powers employed different strategies to expand their frontiers. For the Inka state, for example, diplomacy was a common formula for establishing *Tawantinsuyu*, but the use of coercive force was also a viable alternative (D'Altroy, 2003, p. 205; Covey, 2015, p. 86). Regardless of which strategy may have been used, the intrusive presence of a foreign power in a recently annexed territory probably disturbed existing — perhaps centuries old — socio-cultural conditions. Expansive foreign powers, such as the Inka state, understood that to exercise control over the recently conquered peoples, it was essential to normalize the newly created abnormal condition and maintain a reciprocal, friendly relationship with the newly seized subjects. A strategy regularly employed by the Inka to befriend conquered peoples encompassed ceremonies involving reciprocal interactions and acts of generosity, such as gift giving and feasting (Morris, 1982, pp. 165-166; Goldstein, 2003, p. 147). Befriending the locals also entailed complex negotiations with local and regional huacas as well as tolerance of local religion (Chase, 2018, pp. 519-520). In this sense, conquest was not merely about annexing peoples and their lands; it also often involved complex dealings with the supernatural entities to ensure smooth relations.

Acknowledgement of the supernatural entities was derived from the strong belief of the peoples of the Andes that the cosmos was filled with the “animate dead, the gods, and the spirits of the landscape” (D’Altroy, 2003, p. 142; see also Hastorf, 2007) and that the deities controlled the weather as well as the success of crops and herds, and they augured the future (Reinhard and Ceruti, 2010, p. 5). These were ample reasons to establish and maintain a good relationship with the supernatural entities (Cobo, 1979, pp. 215-216). The Inka asserted that their imperial expansion was driven by a divine order, which was to spread the religion of their deities (D’Altroy, 2003, p. 221; Eeckhout and López-Hurtado, 2018, pp. 191). At the same time, the Inka were aware that the deities of the conquered peoples were as powerful as their own deities (Chase, 2018, p. 526; Rosenfeld and Bautista, 2017, p. 8). The Inka, nonetheless, were convinced that it was possible to establish meaningful relationships with the sacred deities to negotiate, for instance, forgiveness for their intrusive presence.

Rituals (Rappaport, 1991; Marcus, 2007) were the mechanisms that enabled the establishment of significant links between the deities and the peoples (Hastorf, 2007, p. 78), where the Inka staged ceremonies and made offerings to the supernatural entities as special gifts and expected the deities to reciprocate. To the Inka, interactions had to be reciprocal, an idea that also applied to the supernatural entities. These special Inka offerings were of various kinds and included objects, also believed to be animate (Benson, 2001, p. 1). In this manner, rituals, accompanied by offerings of various kinds, enabled the Inka to normalize the abnormal condition they created and ultimately allowed them to legitimize their intrusive presence.

Several centuries prior to the rise of the Inka state, most of present-day Peru was dominated by the Wari state (ca. AD 600-1000). Wari was an expansive political power centered in the Peruvian central highland valley of Ayacucho (Cook and Glowacki, 2003; Isbell and Cook, 1987, 2002; Isbell, 1997, 2010; McEwan, 1996; Menzel, 1964, 1977; Schreiber, 1992; Valdez and Valdez, 2020). The Wari expansion was accompanied by the introduction of Wari-style artifacts and standardized architectural complexes, identified as provincial administrative centers. In the provinces, the Wari state invested valuable resources establishing labor-demanding agricultural terraces and irrigation canals (McEwan and Williams, 2012). As with the Inka state, the presence of the Wari state and the changes it generated in the annexed territories likely alienated the existing socio-cultural conditions. One may ask, how did the Wari overcome the uneasiness their intrusive presence provoked? What were the strategies employed by the Wari to befriend the recently conquered peoples and to normalize the altered condition?

My goal here is to discuss the approaches employed by the Wari state to annex the Acari Valley of the south coast of Peru. Specifically, how was the

Acari Valley annexed into Wari control? And, what did Wari do in the Acari Valley to legitimize its presence? At the core of this discussion is the deposit of shattered ceramics found at the La Oroya site in the Acari Valley. The ceramic deposit offering strongly suggests that Wari envoys were engaged in what appears to have been elaborate ritual celebrations. I argue that the shattered vessels marked the culmination of a long and complex ritual gathering that was seemingly deliberately staged by Wari officials to engage local leaders in commensal hospitality, intended to create and maintain friendly social relations.

The archaeological evidence indicates that late in the Early Intermediate Period (AD 1–600), there were several small settlements scattered along the course of the Acari River. Chaviña was the single largest settlement found near the mouth of the river (Valdez, 1994). At the time Wari officials marched into the Acari Valley, they found small communities, whose numbers must have made resistance seem futile. The most likely scenario is that the local population was annexed peacefully. Upon establishing themselves in Acari, it appears that the Wari officials proceeded establishing amicable relationships with the locals. As further discussed below, Wari initiatives likely included acts of generosity such as sharing of food and drinks that enabled cementing and maintaining political loyalty. To familiarize the reader, first, some background information is briefly put forward.

The Wari State

The Wari state emerged in the Peruvian central highland valley of Ayacucho and sometime after AD 600 expanded over most of present-day Peru. The Peruvian south coast was one of the regions that was incorporated into Wari control (Menzel, 1964; Conlee, 2010; Schreiber, 2000; Edward and Schreiber, 2014). Several generations before the Wari expansion into the south coast, the inhabitants of these two regions maintained close ties; just prior to the emergence of the Wari state, the interaction appears to have intensified as suggested by the appearance of late Nasca designs and late Nasca vessel forms in the Ayacucho Valley ceramics (Lumbreras, 1959, p. 78, 1960, p. 200, 1975, p. 116; Menzel, 1964, pp. 3-4, 8-9, 1977, p. 52; Isbell, 2010, p. 236; Knobloch, 1991, p. 248, 2000a, p. 71, 2012, p. 125; Schreiber, 2012, p. 38; Valdez and Valdez, 2016, p. 99). The close ties between the two regions is further manifested in the incorporation of Nasca religious art into the newly established Wari religious art (Menzel, 1977, p. 52). Thus, it is plausible that the early Wari expansion into the south coast was the outcome of the long-standing contact between the two regions that not only granted Nasca a “special privileged position” within the Wari state (Menzel, 1964, p. 68), but also made of the Nazca Drainage a “natural stronghold” of the Wari state and Wari religion (Menzel, 1977, p. 52).

Acari is the valley found immediately south of the Nazca Drainage and is often recognized as the southern boundary of the Peruvian south coast. From the Chíncha Valley to the north to the Acari Valley to the south, the south coast is a cultural unit where its ancient inhabitants coexisted and shared many cultural features over long period of time (Menzel, 1977, p. 51). It is unknown whether the ancient inhabitants of the valleys of Acari and Ayacucho maintained direct contact. However, it is recognized that the inhabitants of the Initial Period site of Hacha in the Acari Valley (Riddell and Valdez, 1987) accessed obsidian from sources found just south of the Ayacucho Valley (Burger and Asaro, 1977, pp. 310-311; Burger and Glascock, 2000). Furthermore, ceramics manufactured by the inhabitants of Hacha and the highland settlement of Waywaka (Grossman, 1972a, 1972b) exhibit strong similarities indicating that the ancient residents of the Acari Valley already maintained a wide sphere of interaction. Thus, the possibility that the people of Acari also were in contact with the Ayacucho Valley cannot easily be ruled out.

While significant progress has been made explaining the Wari presence on the south coast (Conlee, 2010; Conlee and Schreiber, 2006; Edwards and Schreiber, 2014; Edwards, 2017; Schreiber, 1989, 2000), questions remain with regards to the strategies employed by the Wari state to annex the various valleys of the region and about the nature of Wari occupation in each of those valleys (Conlee, 2010, p. 98). Likewise, it is still little explored the specific socio-economic situations encountered by Wari envoys in each of the valleys of the south coast, as well as the local responses to the Wari intrusion, and what the Wari did in each of the valleys of the region. It is known that the Wari expansion from the Ayacucho Valley manifests itself differently in different regions (Glowacki and Malpass, 2003, p. 434), perhaps an indication of the different strategies employed by the Wari state due to specific local situations encountered in the recently conquered territories. On occasion, perhaps, the Wari state adjusted itself to existing local conditions. Thus, it is possible that peoples with whom the Ayacucho Valley inhabitants already had a history of close interaction may have been annexed differently from peoples with whom there was no previous interaction or from peoples who resisted the Wari.

While there are no written accounts for the Wari state, researchers have long argued that "religion formed the nucleus of the expansion movement" of the Wari state (Menzel, 1977, p. 56; see also Glowacki and Malpass, 2003, p. 434). Indeed, archaeological research shows that the Wari state staged intricate rituals that consisted of elaborate offerings; in some instances, the rituals were performed inside centrally located D-shaped buildings (Cook, 2001) and involved the purposeful shattering –or sacrifice– of beautifully painted large-sized urns and jars (Menzel, 1964, p. 24; Glowacki, 2012; Isbell 2000, pp. 36-43; Isbell and Cook, 1987; Isbell and Groleau, 2010, pp. 198-199; Ochatoma and Cabrera, 2000, p. 458). The act of deliberately smashing the

vessels, according to Cook (2001, p. 132), constitutes an unprecedented ritual practice for the entire central Andes. The earliest evidence for such ritual behavior is found in the Ayacucho Valley and dates to the Middle Horizon 1A (Menzel 1977, p. 53). The most important image depicted on the shattered vessels is of the solitary male deity, believed to represent the Thunder deity (Menzel, 1964, p. 19, 1977, p. 55).

Following the Wari expansion, similar celebrations were performed elsewhere in the provinces and attest that “sacred religious offerings played a powerful part in the operations” of the Wari state (Menzel, 1977, p. 53). One such example comes from the site of Pacheco in the Nazca Valley (Menzel, 1964, pp. 26-30; Glowacki, 2012, pp. 146-147), which dates to the Middle Horizon 1B (Menzel, 1968, p. 49) and marks the “first appearance of a goddess” represented alongside a male deity (Menzel, 1964, p. 19, 1977, p. 54). The divine couple (see Glowacki, 2012, Figure 132) is interpreted to represent the Sun and the Moon. It appears that as the Wari expanded to the south coast and began preaching about the Thunder deity and their religion, they came to realize that the single Thunder god was unimpressive to the coastal peoples since thunder rarely, if ever, occurs in the dry coastal region. This realization may have been the reason for naming the Sun and the Moon as new primary Wari deities. Because of the strong association of the goddess with cultivated plants, Menzel (1977, p. 55) asserted that the goddess embodied fertility in Wari religion.

It has long been established that the intentionally shattered ceramics are offerings of religious significance (Menzel, 1964, p. 19, 21, 1968, p. 49) and that the ceramic deposits represented special gifts (offerings) to supernatural entities (Cook, 2001), perhaps with the “expectation of a favor to be received from the deities in return” (Schwartz, 2017, p. 225). It has also been argued that the oversized vessels were not just offerings, but “involved in hosting, brewing, and feasting” (Isbell and Groleau, 2010, p. 199) before being smashed. For the specific case of Conchopata, it is stated that eating and drinking played a key role in the establishment and maintenance of power. Beyond the Ayacucho Valley Wari heartland, deposits of purposely shattered vessels have also been found and they more likely constitute the material manifestations of Wari rituals commemorated in the provinces. However, what were the aims of such celebrations remains to be discussed. Taking into consideration that ritual celebrations constitute a complex sequence of actions (Marcus, 2007, p. 48; Rappaport, 1999, p. 94; Richards and Thomas, 1984, p. 191) and include humming, chanting, singing, playing music, dancing, eating, and drinking, it becomes apparent that the physical destruction of the vessels marked only a small segment of a long chain of important actions. For expansive political powers, such as the Wari state, it is possible that rituals were purposely performed not only for spreading religious ideologies, but also to establish a new social order. For the Inka state, for example, Morris (1982, p. 166) pointed

out that the drinking ceremonies celebrated in the provinces “were at least nominally religious” but enabled cementing lasting social obligations. In this way, besides their notable religious associations, rituals played a key role in the “negotiation and the creation of political subjects” (Swenson, 2008, p. 238). I return to discuss these ideas after describing and discussing the ceramic offering deposit from Acari.

Archaeological Research in the Acari Valley

As part of the Inca Royal Highway Project directed by Victor W. von Hagen and the University of California Explorations directed by John H. Rowe, in 1954 Dorothy Menzel and Francis A. Riddell carried out the first archaeological research at the Inca provincial center of Tambo Viejo on the Peruvian south coastal valley of Acari (Rowe, 1956, p. 137; Valdez, 2018, p. 114). While working at Tambo Viejo, Menzel and Riddell also surveyed the middle and lower sections of the valley, recording a total of 25 archaeological sites. The assessment of diagnostic ceramic sherds collected from the surface of the recorded sites demonstrated a continuous human occupation of the valley that began as early as the Initial Period. In their report, which became available many years later, Menzel and Riddell (1986, p. 2) stated,

The Acari Valley is rich in archaeological remains. Sites noted in a surface survey of the valley between Huarato and Chaviña cover a very large segment of Peruvian history, from early Nasca times on, and perhaps even earlier, down to the Spanish conquest and present times (some 2000 years). Surface sherds indicated that in this time span successive peoples were in close touch with the coastal area to the north, notably the Nazca region, its next-door neighbor. There are indications that the Acari Valley was the southernmost one to participate so fully in the history of the south coast.

Several of the recorded sites of Acari were assessed as representing a Wari occupation (Menzel and Riddell, 1986, pp. 117-118). The sites of La Banda and La Oroya, both found immediately north of the contemporary town of Acari, on the right bank of the Acari River (Menzel and Riddell, 1986), were two of them. It is worth mentioning that when discussing Wari ceramics and Wari expansion, Menzel (1964, pp. 25-26) noted having recorded in Acari “imitation Chakipampa B pottery similar to that of Pacheco at several sites.” The archaeological survey of the Acari Valley inaugurated in 1954 was resumed after a long hiatus in the 1980s, during which, sites initially recorded by Menzel and Riddell were revisited. For the specific cases of La Banda and La Oroya sites, the new evidence confirmed the assessment made in 1954, that both were associated with Middle Horizon Period Wari ceramics. New surface findings also suggest that the La Banda and La Oroya sites were initially

established sometime during the late Early Intermediate Period and they may have been part of a single site.

The general picture that emerges for the Acari valley is that at the end of the Early Intermediate Period, there were several settlements established along the course of the Acari River (Figure 1). The largest of all was Chaviña (Lothrop and Mahler, 1957), a site originally built at the beginning of the Early Intermediate Period and found near the mouth of the Acari River. An important distinguishing feature of these settlements is the presence of wattle-and-daub structures. Gentilar is the single late Early Intermediate Period site in the valley that has been partially investigated (Valdez, 1994). Although the site is found about 20 km from the sea, the entire surface of Gentilar is covered with shellfish remains and suggests that marine resources, especially mollusks (*Mesodesma donacium*), had become important for the

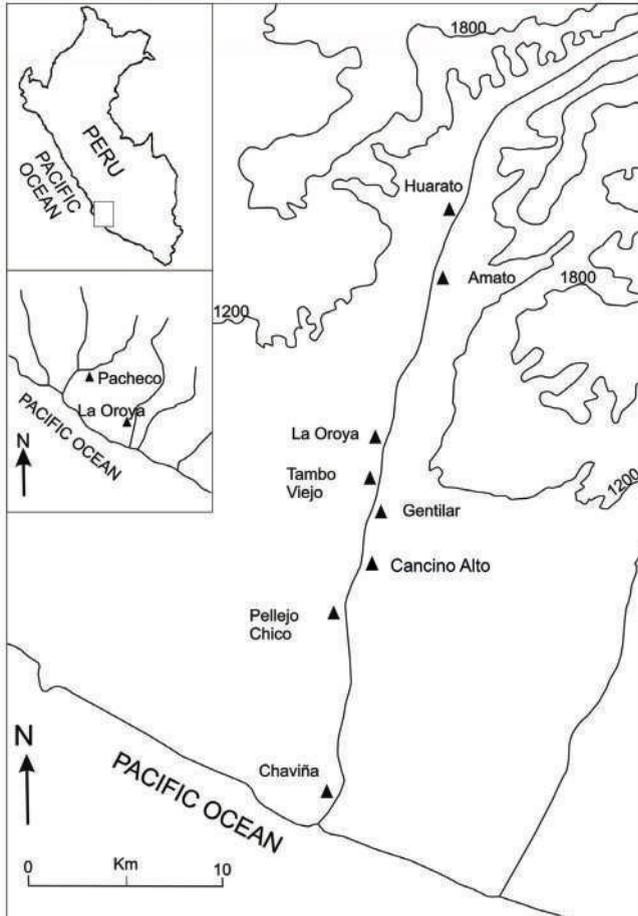


Figure 1. Location of the late Early Intermediate Period sites of the Acari Valley, Peru.

local subsistence (Valdez, 1994, p. 357). At the same time, some plants present at other earlier sites are absent at Gentilar and suggest that a severe drought may have affected the region; Schreiber (2000, p. 439) has made a similar observation for the Nazca Drainage. A single radiocarbon date secured for Gentilar (UCIAMS-125631 ULA-4157) produced a ^{14}C age of 1550 ± 15 BP (95.4% probability 427 (65.5%) 499 Cal AD and 504 (29.9%) 559 Cal AD). The case of Gentilar is a good instance of the situation encountered by the Wari envoys upon their arrival in the Acari Valley; several small communities scattered along the course of the river relying on marine resources.

At the time Gentilar was occupied, the inhabitants of Acari had intensified their ties with their neighbours of the valleys further to the north. Ceramics manufactured in the Acari Valley resembled Nasca 7 ceramics (Valdez, 1994, p. 355). Considering that the inhabitants of the Nazca Drainage were also in contact with the residents of the Ayacucho Valley, it is possible that the people of Acari had at least an indirect link with the Ayacucho Valley. At some of the settlements of Acari that were occupied about this time, there is a new ceramic style that consists of unique tall face vases, with a modelled nose and painted face (Figure 2). Rye (1981, Fig. 3b) was the first to publish a picture of such a vase with its provenience as the “coast of Peru.” Since the vases are unknown elsewhere outside the Acari Valley, the one published by Rye must be from Acari. In the collection of Loro ceramics studied by Spivak (2015, Figure 5.33), the only face vase included also comes from the Acari Valley.

While the Acari face vases share some features with the Loro style from the valleys immediately to the north (Spivak, 2015, 2016), there are important distinguishing elements, the most obvious being the shape of the vessels from Acari, which are predominantly vases. Due to their uniqueness, the Acari vases have been identified as the Chaviña style (Valdez, 2009, p. 202). The Acari vases have been found as burial offerings as well as in middens. Chronologically, the vases have been assessed as belonging to Middle Horizon 1 (Kent and Kowta, 1994), which indicates that some of the settlements established late in the Early Intermediate Period continued being occupied during the following Middle Horizon Period.

At the time Menzel and Riddell carried out the first field research in Acari in 1954, the town of Acari was very small and found about 3 km north of Tambo Viejo (Menzel and Riddell, 1986, p. 2). La Banda and La Oroya were likely found at least one km north of the town. However, during the last four decades the small town of Acari has expanded substantially reaching as far south as to Tambo Viejo (Valdez, 2014, p. 206; Valdez *et al.* 2020, p. 204) and as far north as to the northern limits of the La Oroya site. As a result, the site of La Banda has disappeared in its totality, while a small but severely looted mound found next to the football stadium of Acari is all that is left of the La Oroya site. About 200 m south of this mound, there was a small undeveloped

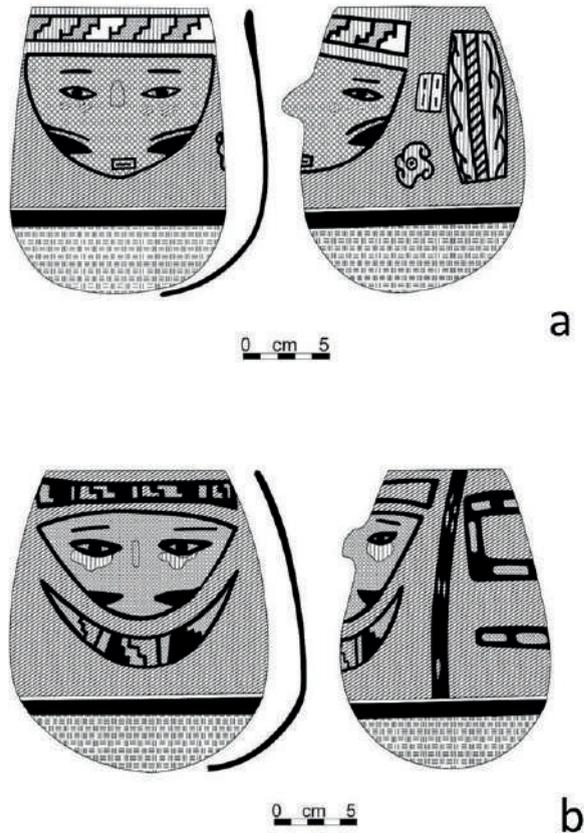


Figure 2. Face-neck vases from Tambo Viejo.

area found at the edge of the river. In the mid 1990s the Municipality of Acari took the initiative to develop the vacant area to build a small park (Óvalo de Acari). While digging the trenches to establish the foundation of the park, workers unearthed quantities of archaeological artifacts, including complete face-neck vases (Figure 3), identical to the vases uncovered from a cemetery found on the southern edge of Tambo Viejo (Kent and Kowta, 1994). Furthermore, neighbours from the northern section of Acari reported finding similar artifacts on their properties. This strongly suggests that the entire northern section of the contemporary town of Acari was established over an archaeological site.

As originally recorded in 1954, the sites of La Banda and La Oroya are close to each other. Ceramic sherds found on the surface of both sites are identical, suggesting that these sites may have constituted a single large settlement. The location must have been of some importance because this was where the Wari envoys established themselves. Before the establishment

of La Banda and La Oroya, this location appears to have already been of importance as indicated by an earlier large fortified settlement found a short distance to the south (Valdez, 2014). Several centuries after the Wari, the Inka state also established its main center in the valley only a short distance to the south, at Tambo Viejo (Menzel 1959; Valdez, *et al.* 2020). Therefore, besides its proximity to one of the agriculturally most fertile sections of valley and where the foothills of the Andes dip into the desert plain, this location probably had some additional advantages.



Figure 3. Face-neck vase from La Oroya.

The Ceramic Deposit of La Oroya

In 2005 the Municipality of Acari and the Red Cross carried out a joined project to establish the sewer system for the rapidly expanding town of Acari. The work started on the northern section of the town and consisted of the excavation of long trenches in the middle of the streets to place the sewage pipes. Two blocks west from the newly built óvalo, one of the trenches cut through one side of a cache of ceramic sherds that had been buried in a round pit (Figure 4). The cut exposed a single deposit, mainly of large-sized ceramic vessels that had been deliberately shattered. Subsequent assessment of the motives depicted on the sherds indicated that the smashed vessels dated to the Middle Horizon (Valdez, 2009, pp. 196-197).

Deposits of purposely smashed vessels are exceptional finds associated with the Wari state and have been recorded at several Wari sites



Figure 4. View of the excavated trench and the ceramic deposit.



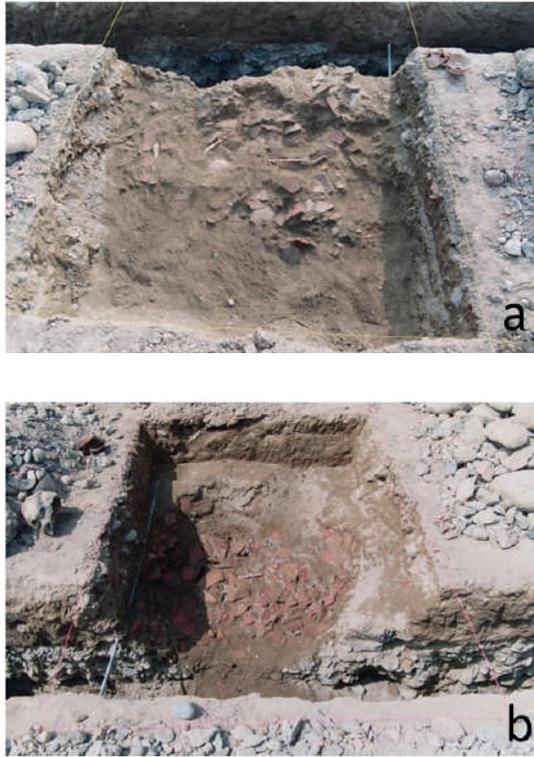
Figure 5. Wari face-neck depiction from the La Oroya ceramic deposit.

(Menzel, 1968; Glowacki, 2012). Considering the uniqueness of the deposit, a decision was made to carry out an emergency excavation to record the finding and rescue all the sherds that were in danger of being lost (Valdez, 2009). The first task of the rescue operation was to collect all the sherds already

removed from the pit. Subsequently, a 2x2 m excavation unit was established to uncover the deposit and collect its contents.

This rescue excavation provided important information about the ceramic deposit. A compact soil layer sealing the deposit was found on the uppermost level. On the northern section of the excavation unit the compacted layer was already cut by a previous trench excavated to install a water pipe. Fortunately, the earlier excavation did not disturb the deposit. Underneath the compacted layer there was an accumulation of fine and clean sand that did not expand beyond the opening of the deposit, thus indicating that the sand was purposely poured to cover the ceramic deposit. Once the sand layer was removed, the ceramic deposit was fully exposed (Figure 6). This revealed that the sherds had been placed mostly in a horizontal position, suggesting that this was a carefully performed act. Overall, the shape of the pit was almost circular in plan, about a meter in diameter and 1.10 m. deep. At the surface level the opening is wider, but narrower at the bottom. Halfway through the deposit, it was noted that the walls of the pit and the sherds had been exposed to fire, while at the bottom of the pit, there was the obvious presence of burned soil and ash, confirming that there was fire inside the pit before the sherds were deposited and that some sherds were deposited while fire was still burning. In a ritual context, fire has a purifying effect (Kaliff, 2011) and this appears to have been the case here; perhaps to emphasize the sacred aspect of the offering, the excavated pit needed to be purified. Sherds recovered from the bottom of the pit were found totally glued one to another and it was impossible to separate them even after soaking the sherds in water for several days. It appears that some material was burned there at a high temperature. Samples of the compacted material were collected and sent for radiocarbon dating but unfortunately did not produce any date. There can be little doubt that the pit was dug up exclusively for the burial of the shattered ceramics and that the deposit represents a single event. As pointed out, in the Ayacucho Valley ritually smashed vessels have been found inside special D-shaped buildings (Cook, 2001); whether the La Oroya deposit was also placed inside a structure or not could not be verified.

This shattered ceramic deposit is part of what Menzel (1968, p. 48) recognizes as the Middle Horizon offering tradition. The first such finding was made back in 1927 at the site of Pacheco (Figure 7) in the Nazca Valley (Menzel, 1964, pp. 21, 24-28; Glowacki, 2012, p. 146). Since then, similar deposits have been found at several Wari sites, such as Conchopata (Menzel, 1964; Cook, 1987; Isbell and Cook, 1987), Ayapata (Ravines, 1977), Maymi (Anders, 1990), Pataraya (Edwards, 2017), and Pikillaqta, among others (see Glowacki, 2012, p. 153). The La Oroya deposit belongs to this important tradition.



Figures 6. View of the excavation to rescue the ceramic deposit.

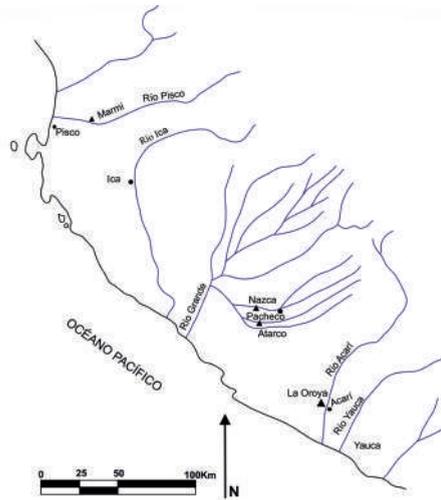


Figure 7. Location of La Oroya in relationship with the other Wari sites of Pacheco and Maymi.

The Vessels from the La Oroya Deposit

Recently an attempt was made to restore the broken vessels from the La Oroya deposit to determine their original size and shape. An additional aim was to reconstruct the motifs depicted on the vessels to further assess the stylistic association of the cache. Considering that the vessels had been intentionally smashed and that during the rescue excavation an effort was made to collect all the sherds, there was the possibility of restoring the broken vessels. To this end, the several thousand sherds were laid down on a large surface for the purposes of classification (Figure 8). The criteria used for classification included: _ i) surface finishing, ii) paste, iii) thickness, iv) color base, and v) decorative designs. In addition, rims and bases were separately classified. Once the sherds were grouped following the above criteria, restoration was initiated.



Figure 8. Classification of the ceramic sherds from La Oroya.

As work progressed, it became evident that a significant number of sherds were missing. A total of 15 bases mainly of large sized vessels were partially restored; likewise, a total of 13 rims of large sized jars were partially restored, while there were many other rim sherds that belong to medium size jars. This accounts for a minimum of 15 large sized vessels that had been intentionally broken and the sherds buried in the pit. There also are sherds that belong to dishes (plates, cups, bowls), making the actual number of smashed ceramics even greater.

The absence of a significant number of sherds does not seem to be accounted for by the possibility that they had been removed by the workers

soon after the deposit was found. As already noted, the trench cut only an edge of the deposit and the pit was still almost full of its original content when the rescue excavation began. Prior to and during the salvage excavation, an effort was made to collect all the sherds, including those removed soon after the pit was found. Therefore, there is the possibility that the excavated cache was one of several, perhaps similar, pits. Indeed, it appears that the excavated pit may not have been large enough for the shattered pieces of so many vessels. Thus, it seems that as vessels were smashed, the sherds were deposited into several pits, and this may be the reason for the absence of some vessel parts from the studied collection. If this observation is correct, the other possible pits perhaps are still buried nearby, if not already destroyed. As already pointed out, local people mentioned finding ceramics at the time of construction of their houses. In addition, neighbours have collected fragments of face-neck jars, a type of vessel not found in the excavated pit. Unfortunately, once the sewage system was established, the street where the ceramic deposit was found was paved, making it difficult to verify the above possibility. Isbell (2000, p. 43) has observed that a broken vessel can rarely be fully restored because not all the sherds are present. Thus, he suggests that the vessels perhaps were shattered elsewhere within the site and then transported to a different location for burial. This is an additional possibility to keep in mind.

Most of the sherds found in the deposit belong to thick-walled, large and medium sized vessels (Valdez, 2009, p. 196), while only a few fragments belong to dishes. Although not a single vessel was fully restored, it was possible to determine that all the large and medium sized vessels were narrow-necked jars, a good number of them lobed immediately below the neck (Figure 9). There was some variation in the neck of the jars, some being short necked and others large necked. For the unlobed jars, the shoulder section of the jars is broad but narrower closer to the base. For the lobed jars, the middle section of the body is broad and the lower section also narrower. Without exception, the bases were flat and thick (Figure 10), some with scratches, suggesting that some of jars were not newly made. Functionally, the jars may have been useful for storing and transporting beverages, including fermented types.

Most of the exterior surface of the large and medium sized jars was smoothed (never polished) and painted, often with dark red slip. The interior surface of the neck was also smoothed and painted with the same color as the exterior surface (Figure 11). A broad horizontal black line separates the neck from the rest of the vessel's body. (1) Without exception, the decorated section of the jars is precisely the area immediately below the broad black line, which was often lobed. The color base of the decorated section was either white or cream. In the lower section of the lobed part there is a second broad horizontal black line. In some cases, just below the lower black horizontal line there is a second broad white line with black outline. Only in one instance was it

possible to determine the occurrence of designs on the exterior surface of unlobed jars. In this case, the designs were depicted in the upper and middle section of vessel's body.

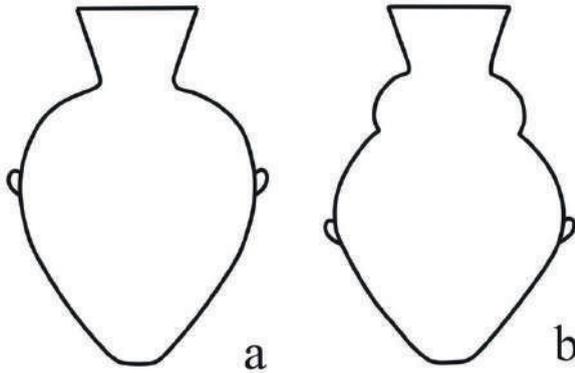


Figure 9. Forms of the medium and large sized narrow necked jars from La Oroya.

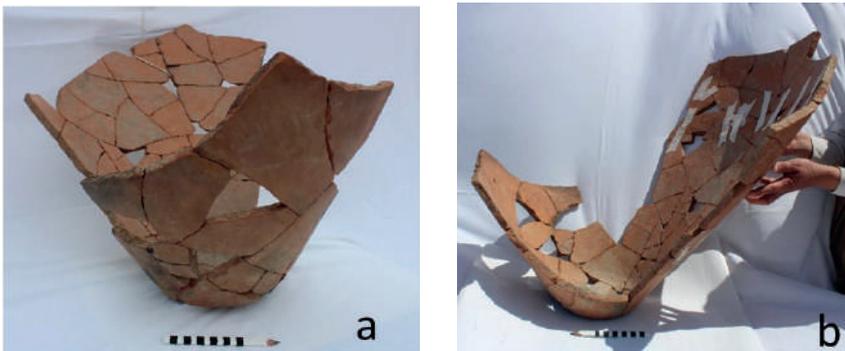


Figure 10. Base of the shattered jars from La Oroya.

The single most recurrent design depicted on both medium and large-sized lobed jars is the “Ayacucho Serpent” (Figure 12) that following Menzel (1964, p. 15) is representative of the Chakipampa 1B style (Knobloch 2012, Figure 98) and dates to Middle Horizon 1B (Knobloch, 1991, p. 249). In all the cases, the motif is depicted in black outline, on a white or cream surface, but on occasion also on a light red surface. Furthermore, in all the observed cases, the motif was depicted on the lobed section of the jars and between two broad black lines. As pointed out by Menzel (1964, p. 15), the Ayacucho Serpent “consists of two serpent-like animals with a toothed, whiskered head” shown on both ends of the body. The body consists “of a chain of circular segments

with ray appendages.” Knobloch (2012, p. 126) describes the motif as “a legless centipede-like creature with a multilobed body, two eyes, open mouth, and whiskers.” The number of the circular segments that form the body varies from just three to as many as seven. In each vessel, two such motifs were depicted, “separated by a pair of vertical bands divided into squares which contain small, radially symmetrical ray designs” (Menzel, 1964, p. 15) (Figure 13).



Figure 11. The narrow necks of the jars of La Oroya.



Figure 12. Depictions of the “Ayacucho Serpent”.

The second most recurrent motifs occur mainly on the medium-sized lobed jars and consist of a variety of symmetrical and asymmetrical ray designs painted with black outline (Figure 14). Just like the Ayacucho Serpent, the ray designs were also depicted on the lobed section of the jars and between two broad black lines. A set of about eight of such motifs were depicted in a vessel. A few of the designs are single-bodied and painted red and purple in an alternating manner. However, most of them are double-bodied and depicted in a manner that they are overlapping. In the latter case, each body was painted with different colors, to emphasize the presence of two separate bodies. In most cases, each ray design has three asymmetrical long and wavy stems, but



Figure 13. Designs that separate de “Ayacucho Serpent” motifs.

there are examples with four wavy stems as well. Menzel (1964, p. 13) asserts that the rays and their stems derived from Huarpa antecedents. Around the ray designs, there are also rings of black outline that enclose a black dot. Some of the rings enclose an additional ring; the number of such rings varies. Finally, between the ray designs there are also additional rings of black outline that enclose a black dot. While such rings are not always present, when they occur, they vary in number, from two, three or four. For the large size jars, additional motifs were represented below the white band with black outline (Figure 13 A); the specific details of the motifs are difficult to determine. For the medium size jars, it appears that no additional designs were depicted below the lower black line of the lobed section.

Less recurrent but present in the La Oroya ceramic collection is an S-shaped design of the so-called "Serpentine Figure" (Menzel, 1964, Plate III, Figure 8) (Figure 15). Unfortunately, only a section of the design was found, and it consists of one end of the figure that includes the head in profile of the Serpentine, while the body is painted in black with ray appendages. The Serpentine shows a black outline and is depicted over a red glossy surface. It appears that a pair of the Serpentine figures decorated the jar and each figure was enclosed inside a rectangle of broad white band outlined with black. This is the single example of an unlobed jar that was decorated.

In addition to the narrow-necked jars, a few sherds of bowls, plates and cups were found in the deposit. A salient image depicted on the exterior surface of one of the bowl fragments is the "Humped Animal" (Menzel, 1964, p. 15; Knobloch, 2012, Figure 97) with profile head and ray appendages (Figure 16). As in the previous cases, it appears that a couple of the Humped Animal designs were depicted on the bowl. The sherd where the Humped Animal is represented is thin, with red slip paint on both surfaces. As discussed by Knobloch (2005, p. 112), the earliest version of the Humped Animal is the Nasca 7 monkey, which was transferred to the highland Wari.

Finally, the ceramic collection from the La Oroya deposit includes sherds in the distinguishable Cajamarca style (Figure 17). While some these sherds had been already removed before the salvage excavation, more sherds were found with the excavation. A minimum of two similar plates appears to have been included in the deposit. While no samples of other local ceramic styles have been found in the ceramic collection discussed here, the occurrence of the unique Cajamarca plates suggests that they were highly regarded.

In addition to the purposely smashed vessels, the rescue excavation at La Oroya resulted in the finding of some tools used in the production of ceramics (Figure 18). The tools include a potter's plate, and scrapers used to smooth the surface of the vessels. The finding of such artifacts indicates that ceramics were produced at the site, and this probably included the smashed vessels. At the Wari site of Maymi in the Pisco Valley, there is evidence for

both, ritually smashed vessels and the production of ceramics. Likewise, for Pacheco, Menzel (1964) mentions that the smashed vessels were locally made. This appears to have also been the case at La Oroya. The fact that the site is now under new buildings and paved streets it makes it difficult to carry out further excavation to verify this possibility.

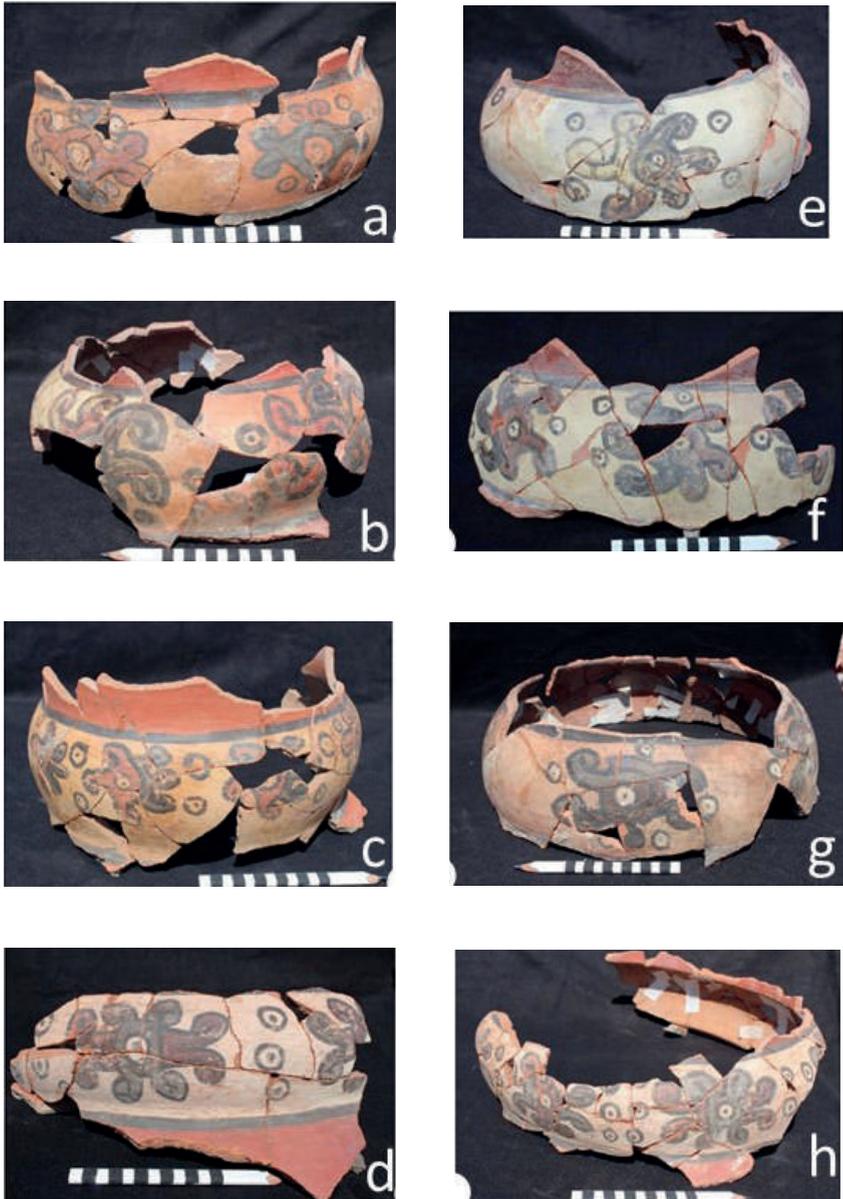


Figure 14. Depictions of the Ray designs.



Figure 15. Representation of the Serpentine Figure.



Figure 16. Representation of the Humped Animal.



Figure 17. Cajamarca style ceramic from La Oroya.



Figure 18. Tools used in the production of ceramic vessels from La Oroya.

The La Oroya and the Middle Horizon Offering Tradition

A salient feature of the Wari state was the purposeful placement of dedicatory offerings (Arriola Tuni and Tesar, 2011; Cook, 1992; Cuba Muñiz and Amachi Flores, 2019), including ritually sacrificing beautifully decorated large-sized ceramic vessels that afterwards were buried in the ground (Cook, 1987, 2001, p. 137; Isbell, 2000; Isbell and Cook, 1987; Glowacki, 2012, p. 145; Menzel, 1964, 1968; Ochatoma and Cabrera, 2000). Menzel (1977, p. 52) asserts that these ritual celebrations are associated with the emergence of the Wari state and a new religion in the Ayacucho Valley, while its presence elsewhere in the central Andes signals the presence of the Wari state. The shattered ceramic vessels from the La Oroya site in the Acari Valley belongs to this religion

tradition (Valdez, 2009). Although the smashed vessels described above are not as impressive as those found at Pacheco, for example, the basic concept is the same. With a very few exceptions, most of the partially restored vessels from the La Oroya site are large and medium sized narrow necked jars that, functionally, may have been ideal for fermenting and transporting beverages. Researchers assert that the rituals that involved the purposeful shattering of ceramic vessels were associated with the conspicuous consumption of food and chicha beer (Cook, 2004, p. 156; Cook and Glowacki, 2003; Glowacki, 2002, p. 276, 279, 2012, p. 146; Isbell and Cook, 1987, p. 28; Isbell and Groleau, 2010, p. 191; Knobloch 2000b, p. 398; Ochatoma and Cabrera, 2002, p. 236), fermented beverage often made from maize (Valdez 2006). If so, the smashed vessels from La Oroya perhaps were full of beverages at the start of the rituals and finally shattered at the conclusion of the celebration. Thus, it is possible that in the provinces this type of Wari rituals were purposely staged for eating and drinking together as tactics that enabled establishing and maintaining lasting social bonds.

The association of the La Oroya ceramic deposit with the Wari state is manifested in the occurrence of important Wari motifs, such as the Ayacucho Serpent (Knobloch, 2012, p. 126), the Serpentine Figure, and the Humped-Animal, all of them representative of the Middle Horizon epoch 1B (Menzel, 1964, p. 15). The Humped-Animal, according to Menzel (1968, p. 62), also occurs during the Middle Horizon 2A, but the significant difference is that “the tail is drawn as a separate arc from the body,” while the “corresponding epoch 1B bodies and tails are usually, though not invariably, drawn together in a single curve.” The single Humped-Animal motif from La Oroya (Figure 16) corresponds to the design type of Middle Horizon 1B. Thus, in the absence of any radiocarbon dates for the pit, it can be concluded that the ceramic deposit from the La Oroya site likely belongs to the Middle Horizon 1B.

However, the La Oroya deposit also includes plates in the Cajamarca style (Valdez, 2009, p. 197). Menzel (1964, p. 72) notes that the Cajamarca style is more recurrent in contexts that date to the Middle Horizon Epoch 2B. Following the finding of the La Oroya ceramic deposit, pictures and drawings of the most representative motifs of La Oroya were sent to Menzel, who kindly replied noting that the deposit likely dates to the Middle Horizon 2A and that the motifs of Ayacucho Serpent and the Humped-Animal, for example, appear to be derived from Chakipampa 1B.

According to Menzel (1977, p. 53), the most impressive and sacred Wari deities were depicted during the Middle Horizon 1A, before the Wari expansion, and during the Middle Horizon 1B, at the beginning of the expansion movement. In contrast, during the Middle Horizon 2A, “non-religious objects began to play a significant part in sacred offerings,” and during the Middle Horizon 2B the “offerings appear to have become even less

impressive.” These changes suggest that at the beginning Wari expansion was more religious in character, then became more secular, as indicated by the widespread occurrence of Chakipampa ceramics (Menzel, 1964, p. 68). Therefore, the absence of depictions of the most sacred Wari deities in the La Oroya deposit appears to confirm that the ceramic deposit discussed here occurred some time at the end of Middle Horizon 1B or early during the Middle Horizon 2A.

This possible date for the La Oroya ceramic offering does not indicate that the Acari Valley was annexed late compared to the Nazca Valley. It only means that the ritual that resulted in the deposit discussed here was conducted relatively late compared to Pacheco. Having said that, it is possible that other similar rituals were carried out much earlier, but the material evidence is still to be found. The presence of sherds belonging to face-necked jars at the site strongly suggests that the offering deposit discussed here was not the only one. Considering that rituals are staged repetitively (Marcus, 2007, p. 46) and that similar actions are performed over a considerable time, the possibility that there were other ceramic deposits at the site is even greater. It must be stressed, nonetheless, that Menzel (1964, p. 25) had already found “imitation Chakipampa B pottery” in Acari and those finds enabled her (1964, p. 67) to assert that during the Middle Horizon 1B the Wari state had expanded from Acari to Chancay along the coast and as far north as Huaraz along the highlands. More recent research has demonstrated that Wari expansion during Middle Horizon 1B extended farther south to the Moquegua Valley (McEwan and Williams, 2012).

Discussion and Conclusion

And so, making the people joyful and giving their solemn banquets and drinking feasts, great taquis, and other celebrations such as they use, completely different from ours, in which the Incas show their splendor, and all the feasting is at their expense... (Cieza de León, 1959, p. 191).

Then the lords of Cuzco came out very well dressed in their finest garments, and the Inca came along with them. The caciques also came wearing the garments that the Inca had given them. Then many large jugs of chicha were brought out on the square. Next came the ladies, both the wives of the Inca and those of the other important men. The ladies spread out a variety of delicacies, and then everyone sat down to eat. After eating, they started to drink (Betanzos, 1996, p. 56).

The two above quotations with reference to the rituals celebrated by the Inka describe lively gatherings, full of actors dressed for the occasion and actively participating in singing, dancing, eating, and drinking. Betanzos (1996,

p. 56) adds that Inka rituals lasted for about six days, which perhaps indicates that the celebrations were of a grand scale. Unfortunately, most of these actions do not result in tangible evidence and thus are difficult to observe archaeologically. However, Inka rituals made use of material objects (Moore 2017, p. 296). For example, historical documents mention that the Inka used various treasured goods, such as cloth, llamas, guinea pigs, ceramics, feathers, coca leaves, maize, in addition to food and beverages as valuable offerings to the sacred entities (Calancha, 1975, pp. 850-851; de Arriaga, 1968, p. 42, 210; de Acosta, 1962, pp. 206-207; Cobo, 1990, p. 113). Archaeological research has confirmed the actual physical presence of such offerings (Reinhard and Ceruti, 2010; Valdez, 2019; Valdez *et al.*, 2020).

Of course, the Inka were late comers to the Andean stage, and it is likely that much of the ritual performances and paraphernalia they used followed long established Andean customs. Indeed, as summarized by Benson (2001, pp. 1-2), there is a long tradition of placing offerings across the central Andes, strongly suggesting that centuries prior to the Inka, most of the above listed products already constituted valuable goods that could be offered to the gods. This was the case with coca leaves, for instance, a highly esteemed good by the Inka and frequently given as an offering to important shrines (Cobo, 1990, pp. 63-64); several centuries before the Inka, the Wari already used coca leaves for similar purposes (Valdez *et al.*, 2015).

In contrast to the Inka state, there are no written accounts for the rituals staged by the Wari state. Thus, any discussion about Wari ritual performances must rely in the scant material evidence. As pointed out in the previous sections, the Wari state invested valuable time manufacturing oversized vessels “for ritual use” (Menzel, 1964, p. 22) that, subsequently, were “broken by deliberately placed blows” (Menzel, 1964, p. 24; see also Isbell, 2000, p. 50; Isbell and Groleau, 2020, p. 191; Ochatoma and Cabrera, 2000, p. 456). As in the case of the La Oroya site discussed above, the shattered ceramics were buried in the ground, likely as a sacrificial offering to supernatural deities (Insoll, 2011, p. 153; Schwartz, 2017, p. 225). Such deposits have been interpreted as “an expression of great religious devotion and elaborate ceremonial” (Menzel, 1968, p. 49). However, beyond this, the Wari ceramic deposits found in the provinces have been largely discussed as if the intent of the ritual was just to sacrifice the vessels, leaving unaddressed the circumstances under which and the purpose for which the rituals were organized and performed. In the existing narratives, the central actors and the audience that probably came to witness the celebrations are also absent.

Isbell (2000, p. 51) has made a cautious suggestion for the smashed vessels from Conchopata, that may have occurred during celebrations staged for power transfer from one deceased ruler to another. The suggestion is appealing, especially for the case of Conchopata. Then, what about the

shattered vessels from the provinces? Were these also linked with the power transfer celebrations that took place in the Wari heartland? While that is a possibility, there is also the prospect that the smashed vessels such as those from La Oroya may be the materialized evidence for rituals staged to befriend the local lords that ultimately helped the Wari state to assert its dominium over the provinces. It is conceivable that Wari envoys did not just walk into a foreign territory and proceed to smash their elegantly painted ceramic vessels that afterwards were buried. Instead, the ritual must have been more complex and likely also more costly. The shattered ceramic deposits probably represent only a small segment of a longer and more intricate ritual process –the aftermath of the ritual (Rowley-Conwy, 2018). At the heart of the rituals probably were theatrical performers, who following a carefully drafted official script, addressed the local audience. Performances such as this probably had “critical implications and consequences for the development of centralized polities” (Inomata and Coben, 2006, p. 11) as well as for the establishment of reciprocal obligations.

Ritual performances are formal and solemn acts conducted outside quotidian activities, carried out by specialists, usually a person of religious and political power (Inomata and Coben, 2006, p. 12; Marcus 2007, p. 45; Rappaport, 1999, p. 24). Rituals also have a purpose, and it is the purpose that ultimately serves to guide the ceremony (Coben, 2006, p. 223). Rituals can be, for instance, for the shaping of beliefs and ideologies (Kyriakidis, 2007, 2), to assist creating culturally specific domains of the sacred (Swenson, 2015, p. 331), to invoke of a greater power (Rosenfeld and Bautista, 2017, p. 8). Rituals often require the physical presence of an audience (Inomata and Coben 2006, p. 14-15) and thus are the ideal settings to establish communication (Swenson 2008, p. 240). The collective participation of a large audience probably also resulted in new experiences and shared memories (Whitehouse and Lanman, 2014, p. 678). In the case of Wari, the rituals perhaps were enacted for spreading Wari religion and Wari deities, expanding Wari hierarchy, and legitimizing Wari’s presence in the provinces. Hence, the rituals performed at La Oroya must have been deliberately staged for the local audience to convey to them the “good” intentions of the Wari. In the sequence of several events that rituals encompass, the act of sacrificing the vessels probably marked the culmination of a long process of socialization that enabled participants to affirm their loyalty as a sign of friendship. Perhaps, the individuals who were granted with the privilege to smash the vessels were important local leaders, who by smashing the vessels expressed their loyalty to the Wari deities and the Wari state.

Anthropological research demonstrates that feasting is an important component of ritual celebrations (Dietler, 1996, 2001, 2011, p. 179; Wiessner, 2001, p. 116). When the staged rituals require the presence of large audience,

which may have been the case at La Oroya, the best strategy to bring peoples together is precisely providing food and drink (Krögel, 2011, p. 2). More importantly, perhaps, collective rituals that enable eating and drinking together have the capacity to bind groups together creating the sense of belonging (Meigs, 1997, p. 95; Whitehouse and Lanman, 2014, p. 674) and cementing trust and loyalty. It is known, for example, that eating and drinking together in ceremonial settings played a key role in the consolidation of power of the Inka state (Costin and Earle, 1989; Morris, 1982; Murra, 1960), and it appears that the Inka understood well the political advantages of commensal hospitality that allowed them to establish and maintain social relations.

Whether the Inka learned independently the political advantages of commensal hospitality is open to debate. However, it is important to point out that other political forces in the region long before the Inka appear to have also known that eating and drinking together were an effective means to create friendship (Cook and Glowacki, 2003; Isbell and Groleau, 2010). Nash (2020, p. 84; Nash and deFrance 2019) reports that elaborate Wari feasting ritual was celebrated at Cerro Baúl; this instance demonstrates that the Wari were familiar with feasting and probably also with the advantages of hosting a feast (Cook and Glowacki, 2003, p. 180-182). Indeed, Isbell and Groleau (2010, p. 198) argue that “feasting of subordinates was a Wari administrative strategy” and practiced long before the rise of the Inka state. For an expanding state, such as the Wari, feasting may have been an effective approach not only to establish communication (Whitehouse and Lanman, 2014, p. 678), but also to establish, maintain and renegotiate power relations. Eating and drinking together in a ritualized context likely enabled building trust and friendship, especially in a situation where locals and foreigners found themselves side-by-side. At the end, this perhaps was the scheme employed by the Wari to normalize the abnormal situation they generated in the newly annexed regions and thus to legitimize their presence.

Feasting is a costly activity in terms of time and invested effort (Whitehouse and Lanman, 2014, p. 675). However, hosting a feast shows one's resourcefulness and generosity, and thus it has an empowering effect (Dietler, 2001). At the same time, the political advantages of hosting a feast are enormous, especially in a situation where an expansive political force, such as the Wari state, was aiming to gain access to local resources and local labor. In this situation, throwing a grandiose banquet to gain the loyalty of the local people must have been an investment that brought massive return.

Available archaeological evidence strongly suggests that the ritual ceremonies staged by Wari religious leaders were planned well in advance. In the case of coastal valleys such as Acari, the celebrations perhaps marked the start of the rainy season in the highlands, which annually results in coastal rivers carrying water again and thus marks the beginning of the planting season.

Therefore, timing would have been significant, if indeed Wari deities were associated with crop fertility (Menzel, 1977). Moreover, all the paraphernalia needed for the rituals, such as the ceramic vessels, had to be made ready, and food and fermented beverages for the feasting also had to be prepared.

To conclude, Wari ceramic offerings are the materialized remains of the ritual performances staged by the Wari state. The rituals encompass a chain of actions that often include singing, dancing, eating, and drinking. In the context of expansive political organizations aiming to annex new peoples and lands, rituals probably played a key role in the process of negotiation of political alliances. Unfortunately, most of the aspects of a ritual performances do not leave behind tangible evidence, and the one available for the rituals staged by the Wari state, the shattered vessels, appear to represent only a small segment of the ceremony. The shattering of the vessels does not look to have been the foremost purpose of the ritual; the aim seems to have been to create an ideal setting for eating and drinking together that ultimately enabled building reciprocal obligations. In this manner, by means of commensal hospitality, the Wari managed to legitimize its intrusive presence and consolidate its power.

Note: The finding of sherds belonging to face-neck jars (see Figure 5) leaves open the possibility that such vessels were also smashed and buried at the site.

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Arqueología forense y prácticas genocidas del Cono Sur americano: reflexionando desde los confines

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Resumen

Las formas particulares que adquirieron los sistemas represivos de las últimas dictaduras en el Cono Sur se basaron en redes de centros clandestinos a través de las cuales se ejecutaron prácticas de secuestro, tortura, violaciones y desaparición forzada. Durante las transiciones democráticas y por demanda de los organismos de derechos humanos, se conformaron equipos de antropología forense que orientaron su práctica disciplinar principalmente hacia la búsqueda de inhumaciones clandestinas. Con el paso de los años se hizo evidente que el resto de materialidades que posibilitaron los delitos perpetrados han quedado en un segundo plano dentro de las medidas requeridas por los procesos de investigación judicial. A partir de la exposición

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de proyectos desarrollados en Argentina, Chile y Uruguay, examinaremos el potencial de una praxis de arqueología forense ampliada, que contribuya a efectivizar los derechos a la justicia, a la verdad y a la reparación previstos por el derecho penal internacional.

Palabras clave: *Arqueología forense, Cono Sur, centros clandestinos de detención, prueba judicial, dictaduras.*

Forensic archeology and genocidal practices in the Southern Cone of America: thoughts from the borders

Abstract

The repressive systems deployed by the Southern Cone dictatorships, were based on networks of clandestine centers through which practices of kidnapping, torture, rape and forced disappearance were carried out. At the request of human rights organizations, several forensic anthropology teams were established during the democratic transitions, which focused their disciplinary practice mainly towards the search for clandestine burials. Over the years, it became clear that the rest of the materialities that made those crimes possible were overlooked by the judicial investigation procedures. Based on the presentation of projects carried out in Argentina, Chile and Uruguay, we argue for a comprehensive forensic archeology practice, one that contributes to making the rights to justice, truth and reparation effective.

Key words: *Forensic archeology, Southern Cone, clandestine detention centers, judicial evidence, dictatorships.*

Archéologie médico-légale et pratiques génocidaires dans le Cône Sud: réflexions depuis les bords

Résumé

Les configurations spécifiques des systèmes répressifs des dernières dictatures du Cône Sud étaient basées sur des réseaux de centres clandestins à travers lesquels les pratiques d'enlèvement, de torture, de viol et de disparition forcée étaient commises. Dans le cadre des transitions démocratiques et à la demande des organisations de défense des droits humains, des équipes d'anthropologie médico-légale ont été constituées, orientant leur pratique disciplinaire principalement vers la recherche des enterrements clandestins. Au fil des années, il est devenu évident que tout le reste des matérialités qui ont rendu possible les crimes perpétrés avait été relégué à un rôle secondaire parmi les dispositions prévues dans les procédures d'enquête judiciaire. A la lumière des projets développés en Argentine, au Chili et en Uruguay, nous examinerons le potentiel d'une praxis élargie de l'archéologie légale qui

puisse participer au rétablissement des droits à la justice, à la vérité et à la réparation prévus par le droit pénal international.

Mots clés: *Archéologie médico-légale, Cône Sud, centres clandestins de détention, preuve judiciaire, dictatures.*

Arqueologia forense e práticas genocidas no Cone Sul-americano: refletindo a partir das margens

Resumo

As formas particulares adotadas pelos sistemas repressivos das últimas ditaduras do Cone Sul foram baseadas em redes de centros clandestinos através dos quais foram realizadas práticas de sequestro, tortura, violações sexuais e desaparecimento forçado. Durante as transições democráticas e a pedido das organizações de direitos humanos, foram criadas equipes de antropologia forense que orientaram sua prática disciplinar especialmente para a busca de valas clandestinas. Ao longo dos anos, tornou-se evidente que, as outras materialidades que tornaram possível os crimes perpetrados, tinham sido relegadas a um papel secundário nas medidas exigidas pelos processos de investigação judicial. Com base na apresentação de projetos desenvolvidos na Argentina, Chile e Uruguai, analisaremos o potencial de uma práxis ampla de arqueologia forense que contribua para a efetivação dos direitos à justiça, à verdade e à reparação previstos pelo direito penal internacional.

Palavras-chave: *Arqueologia forense, Cone Sul, centros clandestinos de detenção, provas judiciais, ditaduras.*

Introducción

Desde mediados de la década de 1980, en los países del Cono Sur de América se iniciaron investigaciones judiciales sobre las masivas violaciones a los derechos humanos (DDHH) perpetradas durante la década anterior por los regímenes militares que gobernaron Argentina, Chile y Uruguay. Como un emergente de estas experiencias históricas, el desarrollo y dinamismo de la antropología forense en estos países se encontró estrechamente vinculado con las particularidades de los crímenes perpetrados por las Fuerzas Armadas (FFAA), de Seguridad y sus cómplices civiles.

A una escala supranacional, desde la década de 1990 se conformaron tribunales para condenar los delitos en la ex Yugoslavia, Ruanda y Sierra Leona; mientras la Corte Penal Internacional (CPI) reafirmaba la obligatoriedad de investigación y no prescripción de los crímenes de guerra, de genocidio y de *lesa humanidad* (CPI, 1998). Por su parte, una de las respuestas de la Organización de las Naciones Unidas (ONU) a la impunidad en distintos países

—como los involucrados en el Plan Cóndor diseñado en Sudamérica— fue el *Informe Joinet*, documento que estableció el trípede de principios que deben regir la administración de justicia para las víctimas: derecho a saber, derecho a la justicia y derecho a la reparación (ONU, 1997). Es también por estos años que comienza a promoverse la estandarización de las prácticas forenses con los protocolos de Minnesota y Estambul (Oficina de Derechos Humanos de las Naciones Unidas —OHCHR, 1991, 1999).

En el Cono Sur la movilización de agrupaciones de familiares y organismos de DDHH abrió el campo para que la antropología forense “hiciera hablar a los huesos”. Esta disciplina asumió la responsabilidad de realizar la investigación, recuperación e identificación de aquellos restos esqueletizados, fragmentados, momificados o carbonizados que excedían la competencia de la medicina forense (Somigliana, 2012). Ahora bien, la diversidad de delitos definidos en el *Estatuto de Roma* (CPI, 1998), las investigaciones recomendadas en el Protocolo de Estambul o los *Principios fundamentales para las políticas públicas sobre sitios de memoria* (Instituto de Políticas Públicas en Derechos Humanos —IPPDH Mercado Común del Sur —MERCOSUR, 2012), que vincula la preservación de los sitios donde se cometieron crímenes de lesa humanidad en su doble faceta como lugares de memoria y prueba judicial, abren notablemente las posibilidades de investigación desde la antropología y arqueología forense. Sin embargo, en los tres países las demandas del sistema judicial se centraron casi exclusivamente en la recuperación e identificación de personas desaparecidas. Como contraparte, la investigación de los soportes materiales de estos mismos delitos representa más bien un conjunto limitado de experiencias antes que una práctica consolidada y estandarizada en el ámbito judicial.

En este texto analizamos el surgimiento y evolución de la antropología y arqueología forense del Cono Sur, así como sus vínculos con la justicia a fines de exponer su potencialidad en términos de producir información probatoria acerca de una variada nómina de delitos de *lesa humanidad*. No es nuestra intención profundizar en el papel determinante que han sostenido grupos como el Equipo Argentino de Antropología Forense (EAAF), sobre el cual existe una amplia bibliografía (por ejemplo, Buriano Castro, 2017; Cohen Salama, 1992; Dutrénit Bielous, 2017a; CLACSO, 2019), sino ampliar la perspectiva respecto del trabajo y trayectoria disciplinar con foco en las experiencias de Argentina, Chile y Uruguay sobre la materialidad relativa al fenómeno de las dictaduras y su violencia política. Subrayamos la urgencia de abordar integralmente las materialidades como una práctica necesaria tanto para la investigación pericial como para generar nuevas interpretaciones sobre las modalidades represivas, así como para contribuir con los procesos de recuperación de estos lugares como sitios de memoria.

Antropología y Arqueología Forense en el Cono Sur

El desarrollo de la antropología forense en cada uno de estos países estuvo mediado por la capacidad de lucha de los movimientos de DDHH, las trayectorias disciplinares nacionales, la mayor o menor institucionalización e independencia de los propios equipos profesionales y la determinación de los contextos de impunidad respecto a los crímenes de *lesa humanidad* (Dutrénit Bielous, 2017a). A la vez, la naturaleza de cada proceso de transición democrática fue determinante en la capacidad de los regímenes salientes de pactar un marco político-jurídico para la impunidad (Garretón, 1997). No es casual que sea Argentina el país donde se produjeron los mayores avances en materia de investigación y un temprano desarrollo de la antropología forense hacia mediados de la década de 1980. A diferencia de Chile y Uruguay, donde los regímenes cívico-militares conservaron una amplia capacidad de maniobra durante toda la postdictadura, la deslegitimación y acelerada salida del gobierno de facto argentino tras la Guerra de Malvinas (1982), y el decisivo peso político de las organizaciones de DDHH, terminaron configurando un particular escenario para la conformación del campo antropológico forense, que además sirvió de modelo para otros países latinoamericanos.

Entre el Nunca más y la impunidad: el caso argentino

Con la restauración democrática en diciembre de 1983, y ante el reclamo generalizado de los organismos de DDHH, el gobierno impulsó la conformación de la Comisión Nacional sobre la Desaparición de Personas (CONADEP). A diferencia de otras comisiones por la verdad latinoamericanas, los resultados de su trabajo fueron incorporados como fundamento probatorio para procesar a los integrantes de las tres primeras Juntas Militares como responsables de un plan sistemático de exterminio. Además de recibir y sistematizar miles de denuncias por asesinatos, torturas y desapariciones, esta investigación supuso el primer reconocimiento oficial de la materialidad del sistema represivo, en tanto se efectuaron procedimientos de inspección en 43 de los más de 340 centros clandestinos de detención (CCD) denunciados hasta entonces (CONADEP, 1984).

En esos primeros años la justicia ordenó decenas de exhumaciones en cementerios, las que fueron realizadas por personal no idóneo (médicos forenses, sepultureros, policías, bomberos, entre otros), despertando la desconfianza de familiares de las víctimas, ya que muchos de aquellos habían integrado las estructuras burocráticas a través de las cuales los cuerpos habían sido “legalmente” inhumados (Somigliana y Olmo, 2002). Ante la multiplicación de exhumaciones efectuadas con maquinarias pesadas —y la consiguiente pérdida y destrucción de evidencias— los organismos de DDHH solicitaron la colaboración de especialistas. Así, en 1984 y bajo la tutela del

antropólogo norteamericano Clyde Snow, se conformó el Equipo Argentino de Antropología Forense (EAAF) (Cohen Salama, 1992).

En el Juicio a las Juntas (1985) la acusación de los fiscales se basó en las denuncias y testimonios de la CONADEP, seleccionando 709 casos ejemplares con los que se alegó un plan sistemático de exterminio desplegado por todo el territorio nacional. También fue la primera vez que se incorporó evidencia antropológica-forense producida por los trabajos de Snow y el EAAF. Sin embargo, una vez lograda la condena a los máximos responsables, la investigación por vía judicial fue rápidamente obturada con la promulgación de las leyes de Punto final (1986) y Obediencia debida (1987), seguidas de los indultos durante la primera presidencia de Carlos S. Menem (1989-1995). Si bien este nuevo marco de impunidad eliminaba la posibilidad de perseguir penalmente a los perpetradores, la búsqueda e identificación de víctimas de la desaparición continuaron durante toda la década. A lo largo de este período se verificó un notable crecimiento del trabajo del EAAF, consolidándose internacionalmente un nuevo campo de saber jurídico-científico en el que la antropología forense logró instalarse como un punto de paso obligado en la investigación de crímenes de *lesa humanidad* por los tribunales supranacionales (Buriano Castro, 2017).

Hacia inicios del tercer milenio comenzaron a constituirse nuevos equipos que ampliaron la nómina de materialidades de las prácticas sociales genocidas (*sensu* Feierstein, 2007) susceptibles de ser investigadas desde la arqueología. A partir del año 2000 en Tucumán, y concretado formalmente en el 2002 cuando empieza la investigación en el Pozo de Vargas, se conforma el Grupo Interdisciplinario de Arqueología y Antropología de Tucumán (GIAAT) (Arenas *et al.*, 2005). De este derivaron, una década después, el Laboratorio de Investigaciones del GIAAT (LIGIAAT) y el Colectivo de Arqueología, Memoria e Identidad de Tucumán (CAMIT) (Ataliva *et al.*, 2019), el primero con asiento en la universidad local, el segundo bajo la figura de ONG. En ese 2002 el equipo del Proyecto Antropológico Arqueológico Mansión Seré, iniciaba sus actividades en el ex CCD Atila (Morón, Buenos Aires) (Bozzuto *et al.*, 2004), mientras que en la Ciudad Autónoma de Buenos Aires ya había comenzado la intervención arqueológica del Proyecto de Recuperación de la Memoria del CCD y Tortura Club Atlético (Weissel *et al.*, 2002), y en Rosario se constituía el Equipo de Investigación por la Memoria Político Cultural para abordar el CCD El Pozo (Bianchi, 2008). Estas tempranas experiencias de investigación y gestión abrieron el campo para una variedad de proyectos arqueológicos que se multiplicaron desde entonces (Biasatti, 2007; Duguine *et al.*, 2013; Gastaldi, 2014; Chaparro & Curtoni, 2019; entre otros).

La derogación de las llamadas leyes de impunidad (es decir, Punto final y Obediencia debida) en el año 2003, posibilitó que las investigaciones judiciales volviesen a tener consecuencias penales. Dada la creciente

demanda, el EAAF abrió sedes en Córdoba y Rosario, mientras otros equipos iniciaban sus indagaciones, como el Centro de Estudios e Investigaciones en Antropología y Arqueología (CEIAA) de San Juan (Jofré, 2019a) y el Centro de Estudios e Investigaciones en Antropología, Arqueología y Memoria (CEAM) de Rosario. En general se trata de equipos que adoptaron distintas modalidades como asociaciones civiles o bien dentro de universidades públicas, lo que permitió mantener su independencia respecto del gobierno. Estos equipos aportaron nuevas improntas a los estudios de las materialidades del exterminio, con el abordaje arqueológico, por ejemplo, de los ex CCD. También se configuraron espacios de investigación en el marco de políticas públicas del Estado nacional, como la Unidad de Antropología Forense (UDAF) del Banco Nacional de Datos Genéticos (Miranda de Zela *et al.*, 2019), o provincial, como la Unidad de Búsqueda del Destino Final de las Personas Desaparecidas Vinculadas a la Provincia del Chaco, que articuló trabajos con el EAAF y el CAMIT en Chaco y Corrientes (Goya *et al.*, 2019).

Demandas tempranas para una justicia tardía: el caso chileno

La posdictadura chilena se enfrentó parcialmente a las demandas de verdad y justicia con el desarrollo de comisiones de verdad, entre las que destacan, entre 1990-1991, la Comisión Nacional de Verdad y Reconciliación o *Informe Rettig* (Comisión Nacional de Verdad y Reconciliación, 1996) y, entre 2003-2004, la Comisión Nacional sobre Prisión Política y Tortura o *Informe Valech* (Comisión Nacional sobre la Prisión Política y Tortura, 2005). La primera investigó específicamente la desaparición forzada, ejecuciones y torturas con resultado de muerte, describiendo el funcionamiento represivo de los principales organismos de inteligencia y los espacios involucrados; la segunda se orientó a investigar las detenciones y torturas. En ambas se estableció una versión consensuada de los hechos que situó como preocupación principal la reconciliación y una justicia restaurativa, no punitiva. Ello implicó —entre otras consecuencias— resguardar bajo secreto por 50 años los archivos y el acceso a los nombres de los perpetradores de los crímenes, así como medidas reparatorias limitadas para las víctimas (Jara, 2018).

Bajo ese marco hasta fines de la década de 1970 la policía realizaba las exhumaciones y el Instituto Médico Legal los análisis de los restos. Esta situación comenzó a cambiar a partir de 1978, con la participación de arqueólogos en la exhumación de cuerpos en el caso de Hornos de Lonquén y, en 1985, con la de Cuesta Barriga (Cáceres, 2011). En 1989, la Agrupación de Familiares de Detenidos Desaparecidos, Clyde Snow y Morris V. Tidball, director del EAAF, contribuyeron a la conformación del Grupo Chileno de Antropología Forense (GAF) (Padilla & Reveco, 2004). En paralelo, existieron

otras colaboraciones con organismos de DDHH, como las realizadas por Olaff Olmos en las inhumaciones de Pisagua en 1990 (Núñez, 2006).

Hasta su disolución en 1994 el GAF participó en diversos peritajes de relevancia (Padilla & Reveco, 2014; Rosenblatt, 2019). Algunos de sus ex integrantes continuaron como peritos *ad hoc*, mientras que otros derivaron, en continuidad de su ejercicio, al Servicio Médico Legal (SML) (1994-2002). La crisis generada en el SML tras los errores de las identificaciones del Patio 29 implicó su completa intervención (Torres, 2014). En paralelo se creó el Programa de Derechos Humanos (2007-2010) que fortaleció al equipo pericial, con carácter interdisciplinario, constituyéndose la Unidad Especial de Identificación Forense que realiza las investigaciones por desaparición forzada (Garrido & Itriago, 2012).

La inserción de la arqueología en el ámbito forense estimuló el potencial de la disciplina para el abordaje de las materialidades. No obstante, existe una tradición institucional que prima sobre opciones autónomas de actuación. Por ello, tras la disolución del GAF, los profesionales se volcaron al reforzamiento de las entidades estatales, particularmente a restaurar la legitimidad perdida. Fuera de este ámbito de actuación forense se desarrollaron, durante las últimas dos décadas, trabajos arqueológicos en los ex CCD, acompañando los procesos de memoria de estos lugares (Fuentes *et al.*, 2009; Fuenzalida, 2011, 2017; Fuenzalida *et al.*, 2020). Si bien existen antecedentes de investigaciones judiciales en estos espacios, las pericias y análisis recaen en la policía. A ello se deben sumar las continuidades institucionales de los poderes del Estado durante la postdictadura. Así, la omisión del estudio forense de las materialidades de los ex CCD y la ausencia de investigaciones independientes generaron que muchos de los sitios que se conservaban fueran remodelados, destruidos, demolidos, mientras que otros continúan con usos policiales, militares y/o represivos.

La memoria no caduca: el caso uruguayo

Una salida pactada entre las FFAA y los principales partidos políticos amparó un relato hegemónico basado en la “teoría de los dos demonios” (Demasi, 2004) y en la ausencia de desaparecidos (López Mazz, 2017). Ante el riesgo de denuncias, el primer gobierno de la postdictadura uruguaya aceleró la aprobación de la Ley 15.848/1986 de Caducidad de la Pretensión Punitiva del Estado, que declaraba la prescripción de los delitos cometidos en dictadura por las FFAA y la policía. Paradójicamente el artículo 4 de esta ley de impunidad habilitaba a investigar el paradero de las personas desaparecidas, como así también identificar a los responsables, aunque éstos no pudieran ser juzgados (Lessa, 2014).

En el año 2000 se creó desde el gobierno la Comisión para la Paz (COMPAZ), con representantes de partidos políticos y el arzobispado de Montevideo (Allier Montagno, 2010; Bresciano, 2009). Su trabajo fue insuficiente y asumió como cierta la versión castrense según la cual los restos de personas desaparecidas habían sido exhumados, quemados y arrojados al Río de la Plata. Entre el abanico de delitos, la COMPAZ trató exclusivamente el de desaparición forzada, aunque también se reconocieron otros –torturas, prisión política– y algunos de los CCD donde fueron cometidos (COMPAZ, 2003).

Con la llegada de un frente de centro-izquierda al gobierno en 2005 se activó desde el Ejecutivo el artículo 4 de la Ley de Caducidad, ante las demandas de la sociedad civil organizada, en especial de la asociación Madres y Familiares de Uruguayos Detenidos Desaparecidos. Se dio la orden para que la Universidad de la República (UdelaR) formase dos equipos: el Grupo de Investigación en Antropología Forense (GIAF) y otro de investigación histórica, que nunca trabajaron de forma coordinada. Durante los primeros años el EAAF asesoró y tuteló al equipo uruguayo. La relativa independencia que le otorgaba al GIAF su inserción institucional en una universidad pública se fue perdiendo paulatinamente. En 2016 pasó al ámbito de la Secretaría de DDHH para el Pasado Reciente, dependiente de la Presidencia de la República. Poco antes del retorno de un gobierno conservador (2019), se consiguió que el GIAF pasara a la Secretaría de DDHH y Defensoría del Pueblo como forma de garantizar la continuidad de las investigaciones.

La recuperación de las primeras evidencias óseas por el GIAF fue realizada al margen de causas judiciales, en un periodo marcado por la impunidad. Las cinco identificaciones nominales permitieron sustentar sobre bases irrefutables la existencia de detenidos desaparecidos, reconstruir los últimos momentos de estas víctimas y un acercamiento novedoso al sistema represivo que durante tanto tiempo fuera negado. También corroboraron ciertas informaciones que aludían a la remoción de cuerpos por parte de las FFAA en la denominada Operación Zanahoria, es decir, una doble desaparición y un nuevo crimen en los primeros momentos posdictadura (López Mazz, 2019). Pero como fuera denunciado al poco de comenzar los trabajos (SERPAJ, 2007), el rastro material de otros crímenes por los que destacó Uruguay en el marco del Plan Cóndor –secuestros, torturas, red de CCD y cárceles políticas– quedaron fuera de los cometidos asignados al GIAF y al equipo de historiadoras, en una clara omisión de los deberes del Estado. La ausencia de investigación de la red de espacios represivos está en consonancia con el tratamiento dado a estos lugares durante la posdictadura, ya que la mayoría siguieron en manos militares o fueron reutilizados como espacios punitivos, para adultos y menores, incluso por parte de los mismos gobiernos que impulsaron las investigaciones (Marín Suárez, 2016).

Los vínculos de los peritajes del GIAF con la justicia se fueron desarrollando de manera gradual, en particular por la obligatoriedad de aplicar la sentencia “Gelman vs. Uruguay” de la Corte Interamericana de Derechos Humanos (CIDH) (Buriano Castro, 2017). En el 2011 el presidente ordenó reactivar las investigaciones para aplicar dicho fallo, que en la práctica se comporta como el recurso legal por el que se continúa investigando en predios militares y privados, así como el asidero legal para evitar la impunidad (Lessa, 2014).

La antropología forense uruguaya se configuró como una práctica centrada en la investigación de la desaparición forzada que fue transitando un camino desde lo científico-técnico a uno técnico-pericial para la justicia. A lo largo de este proceso el rasgo principal ha sido su progresiva institucionalización en una red cada vez más burocrática, compleja y rígida, diseñada para ejercer un férreo control sobre lo que se investiga. Desde su nacimiento el GIAF tuvo que amoldar sus prácticas a lo exigido por las instituciones en las que se encuadra, financian sus intervenciones o demandan los peritajes (Marín Suárez, 2016). No es de extrañar que la ausencia de un enfoque interdisciplinar, y el control político, hayan motivado que en una escala comparativa sobre los equipos forenses de América Latina se sostenga que Uruguay y México sean los países que menos posibilitan un trabajo efectivo de los equipos independientes (Dutrénit Bielous, 2017b).

Experiencias de la arqueología forense del Cono Sur

En el apartado anterior realizamos una síntesis de los itinerarios de la antropología forense en el Cono Sur en vinculación al desarrollo de la justicia. En el marco de los procesos locales las intervenciones de la antropología y arqueología, solicitadas por agrupaciones de familiares y al amparo de los órganos judiciales, giraron casi exclusivamente en torno a la búsqueda y recuperación de los restos de personas desaparecidas. De esta manera, el campo disciplinar con los años, tras la fiscalización y empuje de los organismos de DDHH, y con procesos de aprendizaje entre los aparatos ejecutivos, judiciales y profesionales, logró estandarizarse y consolidarse como un punto de paso obligado para la producción de evidencia en el esclarecimiento de los crímenes de *lesa humanidad* perpetrados en la región. Sin embargo, la investigación de aquellas pruebas materiales que posibilitaron el exterminio no generó en los estrados judiciales el mismo interés. Como consecuencia, muchos de los espacios comprometidos con graves delitos como el secuestro, tortura y/o exterminio bajo las dictaduras, fueron abandonados, destruidos, transformados o remodelados en las últimas décadas, incluso en los períodos en los que se recuperó el carácter penal de las investigaciones. A continuación, presentamos un conjunto de experiencias que permiten evaluar el potencial de la arqueología para la producción de información probatoria

en la reconstrucción judicial de lo ocurrido, así como para la investigación histórica del periodo y el aporte a los procesos de memoria en Argentina, Chile y Uruguay.

Antes de iniciar este somero recorrido por el Cono Sur, es necesario advertir que existe un amplio debate sobre la pertinencia de utilizar la categoría de CCD para los lugares clandestinos y/o secretos utilizados en las dictaduras del Plan Cóndor (para una síntesis general sobre la coordinadora represiva internacional que supuso tal proyecto, remitimos a McSherry, 2009). En algunos casos se especifican sus características como centros de tortura y reunión de información, su orientación al exterminio de colectivos políticos y grupos sociales, mientras que otros estudios aluden a la necesidad de modificaciones edilicias ex profeso para que puedan ser considerados como tales. Pese a las particularidades y funcionalidades que tuvieron en cada uno de los países analizados –como así también la variedad de categorías que podrían dar cuenta de las realidades locales hacia el interior de cada nación–, hemos optado por el concepto de CCD en la medida que es la naturaleza clandestina de la reclusión el rasgo que permite reunir y exponer la diversidad de dinámicas y configuraciones represivas, espaciales y arquitectónicas que abordamos en este trabajo.

Argentina: de las profundidades del piedemonte tucumano a la precordillera sanjuanina

Escapando de los abordajes tradicionales en Argentina –casi siempre centrados en su capital y Buenos Aires–, exponemos dos casos que involucran a Tucumán y San Juan (provincias del norte y oeste del territorio nacional, respectivamente), ejemplos que posibilitan, sostenemos, reflexionar sobre los aportes de la arqueología en estos contextos.

A partir de una denuncia informal sobre la existencia de una inhumación en un predio privado en la periferia de la Capital tucumana, a fines de 2001 docentes, graduados y estudiantes de la carrera de Arqueología de la Facultad de Ciencias Naturales de la Universidad, local realizaron una inspección ocular y un informe que fundamentó una denuncia judicial. Por tanto, desde el comienzo de la causa estuvo involucrada la praxis arqueológica, ya que el informe preliminar posibilitó la denuncia y apertura de la investigación forense el 24 de abril del 2002.

En función del testimonio del dueño de la finca –interesado en evitar cualquier tipo de hallazgo– la justicia determinó un primer sector de prospección arqueológica. Ante la ausencia de evidencias de alteraciones antrópicas en la estratigrafía, la intervención se concentró en una somera depresión en el terreno. Es allí donde se detectó, a dos metros de profundidad, una construcción subterránea. Tras el hallazgo, las prioridades del equipo

se centraron en tres aspectos para garantizar: a) condiciones adecuadas del trabajo; b) conservación de las potenciales evidencias; y c) continuidad de la intervención en el interior del pozo. Es relevante señalar que al tratarse de un espacio confinado se presentaron complejidades técnicas que acompañaron toda la excavación a medida que se descendía. Por ejemplo, a partir de los 10 metros la construcción comenzó a cumplir nuevamente con su rol: acumular agua. En atención a ello, se procuró una estrategia integral y multidisciplinaria, considerando aspectos referidos a ingeniería estructural, hidrogeología, emergentología, etc., donde la arqueología mantuvo siempre un papel central dado por su especificidad. Esto es, en su pertinencia y experticia para la recuperación y registro de evidencias, interpretación contextual y análisis de los procesos depositacionales y postdepositacionales (Leiva, 2016; Ataliva *et al.*, 2019). Cabe mencionar que, por entonces, y hasta fines del 2009, no existían partidas presupuestarias para esta causa, por lo que casi todos los recursos tuvieron origen en proyectos gestionados por el equipo.

A dos años del inicio de la intervención se detectaron evidencias óseas humanas y a mediados de 2006 los primeros segmentos articulados. Por tanto, fue la interpretación del contexto lo que permitió sostener la investigación durante esos primeros años y demostrar —a partir de las materialidades o la ausencia de éstas— que la desproporcionada energía invertida para destruir y soterrar toda evidencia superficial constituía un claro indicio de la intencionalidad de ocultar cualquier rastro de la existencia de una construcción subterránea (y de otras edificaciones aledañas que también fueron destruidas). Más allá del requerimiento explícito de la justicia, que solicitaba “encontrar huesos” —palabras textuales del primer juez de la causa—, la arqueología otorgó nuevos argumentos investigativos a la causa.

Ahora bien, un indeseado receso —desde mediados de 2006 y por tres años— por la ausencia de recursos económicos para dar soluciones a los problemas técnicos referidos a la sobresaturación de los arqueosedimentos a partir de los 20 metros de profundidad, impidió el avance de la intervención arqueológica, que fue reiniciada por el CAMIT hacia fines de 2009 y que continúa vigente (Figura 1). Durante la última década se ha producido la etapa de recuperación sistemática de segmentos óseos humanos y las evidencias asociadas a éstos, como proyectiles, ropa, calzado, objetos personales y una diversidad de elementos que remiten a los tratos inhumanos durante sus experiencias concentracionarias y las condiciones del asesinato, tales como textiles empleados para inmovilizar y segar la visión (Gerónimo & Zurita, 2016; Romano, 2020). Asimismo, en el año 2012 se inició el proceso de identificación nominal vía análisis genéticos, trabajo a cargo de la Iniciativa Latinoamericana para la Identificación de Personas Desaparecidas (ILID). Hasta mediados de 2021, y a partir de los 149 perfiles genéticos determinados para el Pozo de Vargas, fueron identificadas nominalmente 114 personas (21

mujeres y 93 hombres). Durante el último quinquenio los restos de algunas de las personas identificadas comenzaron a retornar al núcleo familiar y social a partir del proceso de restitución.



Figura 1. Pozo de Vargas (Tucumán). En el centro, la construcción subterránea.
Registro: Adrián Lugones. Fuente: Archivo CAMIT.

Por lo expuesto, la intervención arqueológica co-posibilitó la apertura de una causa; detectó la construcción a la que aludían los testimonios; determinó que efectivamente se trataba de una inhumación clandestina –según Somigliana & Olmo (2002) hasta el año 2002 todavía no se había hallado ninguna en la Argentina– en un espacio privado (remitiendo con ello a la complicidad civil); recuperó las evidencias del exterminio y relevó aquellas acciones para destruirlas/ocultarlas. De hecho, las materialidades recuperadas durante casi dos décadas de investigación (artefactos de metal, vidrio, loza, madera, etc.), posibilitaron plantear hipótesis referidas, por ejemplo, al momento en el que el brocal fue destruido y rellenado el interior del pozo. Tomemos por caso los denominados *materiales culturales sintéticos con inscripciones* (MCScl), un conjunto de artefactos conformado principalmente por medio centenar de “gomitas” que estaban adheridas a las tapas metálicas de las botellas de gaseosas (Figura 2). El análisis tipológico permite sostener que hacia fines de 1979 y/o durante el año 1980 los perpetradores procedieron al ocultamiento de sus crímenes en este predio (Ataliva *et al.*, 2021). Este aspecto es destacable porque no está centrado exclusivamente en las evidencias óseas sino en las materialidades recuperadas en asociación a éstas. Por otra parte, al determinar las trayectorias concentracionarias de las personas identificadas, el análisis de los textiles viabilizó abordar las condiciones por las que atravesaron sus cautiverios en el CCD Jefatura de

Policía de la Provincia y en el CCD administrado por Gendarmería Nacional en la Compañía de Arsenales Miguel de Azcuénaga (Ataliva *et al.*, 2019; Romano, 2020), predio del Ejército argentino.



Figura 2. Ejemplos de MCSI hallados en el interior del Pozo de Vargas. Arriba, a la izquierda, recuperación en zaranda de una tapa de envase de gaseosa. Arriba, a la derecha, reverso de la misma tapa una vez efectuada –en gabinete– la limpieza. Otros ejemplos de “gomitas” que abarcan el período comprendido entre los años 1975 y 1979. Fuente: Archivo CAMIT.

Asimismo, la finca de Vargas fue configurándose, desde el inicio de la investigación, como un territorio de memoria (*sensu* Da Silva Catela, 2001) y, desde entonces, una diversidad de instancias de marcación social y monumentalización fueron protagonizadas por familiares de las víctimas de la desaparición forzada, ex militantes, organismos de DDHH e instituciones locales, provinciales y nacionales (Ataliva *et al.*, 2019).

A diferencia del mencionado CCD que funcionó en un predio militar de Tucumán, otros espacios también cumplieron con el rol de integrar el dispositivo desaparecedor en todo el país, como es el caso de “La Marquesita”, ex CCD emplazado en la localidad de Marquesado, a unos 12 km al oeste de la ciudad de San Juan. Se trata de una antigua finca agropecuaria situada en los terrenos colindantes al Regimiento de Infantería de Montaña N° 22 (RIM 22), unidad militar que durante la última dictadura desempeñó la jefatura militar de la provincia. A partir del golpe de Estado el predio fue clausurado y ocupado por los efectivos del Regimiento. La Marquesita fue el primer y único espacio de detención clandestino en la provincia acondicionado ex profeso

para operar por fuera de las dependencias militares y policiales oficiales. A lo largo de la segunda mitad del año 1976, este lugar —a cargo del grupo de tareas del RIM 22— concentró gran parte de los secuestrados que fueron desaparecidos en territorio sanjuanino.

A diferencia de muchos de los CCD que habían desempeñado un papel central en la ejecución de la represión clandestina en otras jurisdicciones del país, la propia existencia de La Marquesita como espacio represivo fue conocida recién en el año 2010, a partir de la información brindada por un reducido número de sobrevivientes y que adquirió carácter público durante el segundo juicio por crímenes de *lesa humanidad* desarrollado en la provincia. A partir del año 2015, el equipo conformado por integrantes del CEIAA y el Observatorio Ciudadano de DDHH de San Juan comenzó a intervenir en calidad de peritos (Jofré *et al.*, 2016). La escasa información disponible acerca de La Marquesita, sumada a la inmediata contigüidad del predio con el límite urbano, llevó a que la investigación se orientara en un primer momento a recuperar las memorias y testimonios de vecinas y vecinos de Marquesado, voces que hasta ese momento habían permanecido ausentes en las reconstrucciones del accionar represivo en la provincia.

A contramano de las hipótesis que situaban las principales edificaciones de la finca como los espacios que habrían alojado a los detenidos-desaparecidos de La Marquesita, los testimonios de los vecinos coincidieron en señalar un sitio, hasta el momento no tenido en cuenta, situado en los fondos del predio (Figura 3). De esta manera se planificó una intervención que permitió comprobar la presencia de restos semienterrados de una antigua estructura, originalmente vinculada a las labores de la finca, pero que había sido deliberadamente demolida y ocultada. De acuerdo a la secuencia histórica de las fotografías aéreas analizadas, se logró establecer que esta estructura correspondía originalmente a unos corrales para ganado, y que el proceso de demolición había sido realizado entre finales de los ochenta y principios de los noventa.

El trabajo arqueológico permitió documentar las huellas dejadas por la maquinaria pesada empleada en la demolición (Figura 4), así como las relaciones espaciales y cronológicas entre los diferentes depósitos resultantes. Por otra parte, durante las excavaciones se recuperaron una amplia gama de restos y objetos vinculados a su uso transitorio como CCD, que fueron incorporados al expediente a partir de la presentación del informe arqueológico. En este caso, más allá de las preguntas específicas —de tenor judicial— referidas a demostrar con carácter probatorio la existencia de este sitio y el proceso de su demolición intencional, el abordaje arqueológico permitió extender la perspectiva de análisis a nivel territorial. La ampliación de la escala de análisis habilitada por el desarrollo de prospecciones extensivas comenzó a revelar una vasta geografía de apropiación y control militar que excedía los límites físicos del antiguo CCD, y que interpela al modelo de los

CCD urbanos que han servido como referencia para conceptualizar la represión clandestina en la historiografía del pasado reciente (Jofré *et al.*, 2016).



Figura 3. Vista aérea de la finca rural La Marquesita (línea discontinua), en cuyas estructuras fue instalado un CCD, y de los barrios aledaños de la localidad de Marquesado (San Juan), fotografía aérea del año 1973. Fuente: Archivo CEIAA.



Figura 4. Huellas de maquinaria vinculadas a la demolición de estructuras en el ex CCD La Marquesita (San Juan). Fuente: Archivo CEIAA.

Chile: recuperando las evidencias del exterminio en un sitio urbano

+“Londres 38” se ubica en el centro cívico de Santiago de Chile y fue sede de la Octava Comuna del Partido Socialista (PS) durante el gobierno de la Unidad Popular (1970-1973), siendo reconocido tempranamente como CCD por militantes sobrevivientes, a pesar de que la dirección fuese cambiada a Londres 40 por la dictadura y hasta la actualidad. El “Cuartel Yucatán” —en jerga militar— operó intensivamente entre abril de 1974 y diciembre de 1975, en conexión con otros recintos utilizados por la Dirección de Inteligencia Nacional (DINA) en su estrategia represiva, principalmente para desarticular al Movimiento de Izquierda Revolucionaria (MIR). En 1978 la propiedad se transfirió legalmente al Instituto O’higginiano, organismo ligado al Ejército que hizo uso del lugar, a pesar de las múltiples manifestaciones de agrupaciones de familiares y sobrevivientes que “marcaron” el frontis. En el 2005 un grupo de colectivos organizados demandaron al Estado la protección patrimonial (Decreto N° 1413/2005, Ley 17.288/1970 de Monumentos Nacionales) y, al año siguiente, paralizaron la subasta del inmueble. Con ello, y tras la demanda para realizar indagaciones, el Ejecutivo desistió de ceder la propiedad al Instituto de Derechos Humanos, constituyéndose, de manera inédita, una mesa de trabajo donde se acordó la asignación de recursos para su funcionamiento como sitio de memoria.

A partir del año 2010 la organización Londres 38 - Espacio de Memorias, comenzó a elaborar un proyecto de diseño para la recuperación arquitectónica y museográfica del inmueble, que involucró la investigación arqueológica. En una primera propuesta (entre 2011 y 2012), el Centro Nacional de Conservación y Restauración (CNCR), siguiendo la metodología del Instituto de Espacio para la Memoria de la ex ESMA, identificó residuos y restos culturales en el baño de detenidos mediante técnicas que incluyeron: reflectografía infrarroja, fluorescencia de rayos X y sondeos estratigráficos (Seguel *et al.*, 2015; Glavic *et al.*, 2016). Los resultados corroboraron las bases testimoniales, permitiendo evidenciar transformaciones de los paramentos y la reinstalación del inodoro asociados al uso del Instituto O’higginiano, así como la localización de dos conjuntos de grafos, uno de ellos, vinculados a la Brigada Elmo Catalán (BRP), cuando el espacio era sede del Partido Socialista.

En el año 2018 el proyecto museográfico fue reiniciado, con financiamiento estatal y mediante una consultoría que —entre otras especialidades— contempló un estudio y peritaje arqueológico (Espacio de Memorias, 2018; Fuenzalida & Martínez, 2019). Este proyecto recoge los aprendizajes anteriores, desde un enfoque transdisciplinario que involucró a 30 profesionales y estudiantes, con la aplicación de diversas técnicas arqueométricas, una batería de protocolos y talleres de validación con el colectivo, en un total de ocho meses de trabajo. En su primera etapa se

jerarquizaron los espacios de indagación al interior del inmueble, según escalas de análisis (plantas, habitaciones y muros), importancia testimonial y representatividad de usos, entre otros. Por medio de la prospección de muros se identificaron huellas, grafos y marcas que permitieron realizar patrones de comportamiento y tipologías, así como análisis por luz infrarroja (IRR). Este registro fue sistematizado con un levantamiento fotogramétrico de los hallazgos, el cual fue georreferenciado y procesado en una plataforma virtual, que funcionó como repositorio digital.

Posteriormente y siguiendo los lineamientos desarrollados en el ex CCD El Pozo de Rosario (Bianchi, 2008), se realizaron lecturas estratigráficas, que actuaron como hipótesis de los cambios en los usos y acciones represivas desarrolladas. Con el georadar se establecieron nuevas líneas de indagación, ante potenciales cambios estructurales. En una segunda fase se realizaron microexcavaciones en sectores escogidos de muros y estructuras de madera (marcos de puerta, ventanas y escalera) y se efectuaron análisis composicionales (Figura 5). Con estos y otros datos se aplicó la perspectiva forense en espacios intervenidos por el estudio de ingeniería y con relevancia testimonial, que incluyó la exploración por UV y otros espectros, junto a pruebas presuntivas o análisis por cromatografía gaseosa (Figura 6). En todo el proceso se consideró un plan con criterio de mínima intervención y cadenas de custodia, que siguió estándares internacionales del manejo forense para la documentación visual, análisis de laboratorio y conservación preventiva, entre otros (OHCHR, 1991, 1999; Burns, 2013). Asimismo, se desarrollaron entrevistas complementarias a personas no consideradas usualmente, como antiguos propietarios, vecinos e integrantes de Instituto O'higiniano.

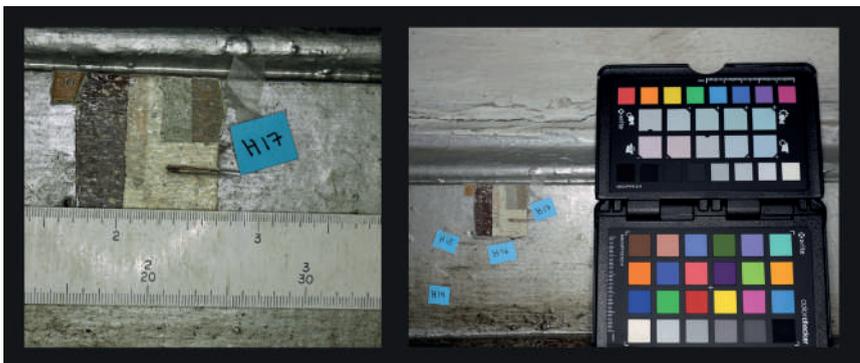


Figura 5. Vista de detalle de la microestratigrafía de excavación de una huella, del guardapolvos de madera (moldura del segmento inferior del muro) en la sala de torturas, segunda planta del ex CCD Londres 38 (Santiago de Chile). Fuente: Archivo Fuenzalida & Martínez (2019).



Figura 6. Proceso de exploración y registro forense en sala de torturas, segunda planta del ex CCD Londres 38 (Santiago de Chile).
Fuente: Archivo Fuenzalida & Martínez (2019).

Esta intervención arqueológica permitió detallar la historia ocupacional del inmueble, dando cuenta de los patrones de ocupación, usos asociados y principales transformaciones en las habitaciones. Ello implicó la postulación de una secuencia de etapas de ocupación, otorgando especial énfasis a los periodos anteriores y posteriores a su conformación y cese de actividades como cuartel. Así, diversas líneas de indagación convergieron en complejizar las acciones y fases de “borradura” desarrolladas en cada escala de análisis, considerando prácticas de desmantelamiento, supresión, construcción y ocultamiento deliberado, así como traspasos de propiedad y distintas agencias implicadas. Junto a ello, se contribuyó a la definición del espacio en su valor testimonial y probatorio, con el hallazgo de pruebas presuntivas positivas – búsqueda de patrones de distribución de trazas de sangre y otras evidencias biológicas– y el relevamiento de patrones de huellas del accionar represivo, que conllevaron la postulación de espacios de sensibilidad para futuras indagaciones y apertura de potenciales diligencias, en complemento con las documentaciones existentes a nivel testimonial.

De este modo, se logró ilustrar la fragilidad e importancia que encarna el inmueble en su materialidad, en tanto portador de un valor histórico, testimonial y probatorio, y especialmente, en su accionar como medio de activación de sentidos y memorias. Ello cobra relevancia en relación a que –a diferencia de otros espacios que conformaron parte del circuito represivo de la DINA y que se encuentran en gran parte destruidos– Londres 38 conserva

su infraestructura. Por su parte, el proyecto en el que se insertó el trabajo, forma parte de una propuesta que remite a la necesidad de dar protección y preservación integral a estos espacios para dar continuidad a las múltiples tareas que allí se realizan. Nos referimos especialmente a la promoción y educación en DD.HH., en el marco de las obligaciones del Estado en materia de reparación, de reconocimiento de los crímenes perpetrados y de dar garantías de no repetición.

Cabe acotar que en el caso de Londres 38 existe un acuerdo de confidencialidad en el manejo de los datos y divulgación de resultados, tanto con el colectivo como con la consultora responsable. A su vez, recientemente la aprobación de este proyecto ha sido puesto en cuestión por organismos del gobierno local, dando pie a una campaña vigente: “Londres 38 está en peligro” (Espacio de Memorias, 2020).

Uruguay: develando los espacios de la represión clandestina

La Tablada Nacional era un antiguo mercado de ganado situado en el Montevideo rural que fue reconvertido en el CCD “Base Roberto” por las FFAA en 1977. Se trata del mayor CCD de Uruguay y el que más tiempo estuvo vigente (siete u ocho años), prácticamente hasta el final de la dictadura. Su centralidad no solo se define por ser el lugar donde más detenidos desaparecidos fueron vistos por última vez, sino por haber albergado al cuartel general del Organismo Coordinador de Operaciones Antisubversivas (OCA), principal ejecutor de la represión clandestina en el país. Estas funciones nunca fueron reconocidas por las FFAA, que insisten en su empleo como taller de camiones (Marín Suárez & Tomasini, 2019). Al poco tiempo de constituirse el GIAF comenzaron las investigaciones (2007), las que —pese a las numerosas denuncias por secuestros, torturas y violencia sexual— se centraron exclusivamente en localizar inhumaciones clandestinas a partir de testimonios de vecinos y ex soldados. Tan sólo uno fue clasificado como “testimonio directo”, pues se trataba de un ex soldado que había visto enterrar cuerpos en una arboleda cercana al edificio. El resto de los “testimonios indirectos” señalaban otras zonas de esta gran finca e incluso lugares específicos del interior del edificio (López Mazz, 2012).

El siguiente paso del GIAF consistió en el análisis de fotografías aéreas (de 1975, 1981 y 1985), que permitieron poner en duda algunas de las informaciones recabadas. El plan de excavaciones en el predio de 86 hectáreas fue exhaustivo y desarrollado en varias campañas, llegando al año 2020. Se han excavado zonas boscosas, pozos de agua, estructuras ganaderas, orillas del arroyo Pantanoso y, a partir del 2012, el interior del edificio, pues hasta ese año el Estado había reutilizado las instalaciones como cárcel para menores infractores (1988-2000) y adultos (2002-2012). Estas reutilizaciones

modificaron notablemente la fisonomía arquitectónica y los espacios del interior del edificio durante su fase como CCD y cuartel del OCOA (Marín Suárez & Tomasini, 2019). Durante 2013 y 2014 se excavó en la antigua sala de transacciones –el espacio propiamente concentracionario–, siguiendo modificaciones identificadas en las baldosas originales, consignando un parche de cemento de gran tamaño y otras dos alteraciones menores (Figura 7). La primera fue producto de un motín en la década de 1990, por lo que el testimonio del policía que indicó que se debía a enterramientos clandestinos resultó ser deliberadamente falso. Los otros dos rasgos en el piso se interpretaron como arreglos de la cimentación del edificio en la década de 1940 (Lusiardo *et al.*, 2015).



Figura 7. Sondeos en proceso destinados a la búsqueda de restos de víctimas de la desaparición forzada en el ex CCD Base Roberto (La Tablada Nacional, Montevideo). Izquierda: sótanos de las cocinas; derecha: espacio concentracionario en la antigua sala de transacciones.

Fuente: Archivo personal de C. Marín Suárez.

Una intensa labor de archivos posibilitó descubrir documentación y planimetrías de la remodelación general del edificio en 1925 y arreglos (como las mencionadas cimentaciones), permitiendo disponer de los planos del inmueble tal y como era en su reutilización como CCD. A partir de las excavaciones se detectaron los muros de la anterior sala de los consignatarios (previa a 1925) y los sótanos de las antiguas cocinas, rellenos de escombros e invisibilizados por las obras de remodelación para la cárcel de menores. La excavación se paralizó por orden de la dirección del GIAF cuando tan solo se había desescombrado un metro de potencia. Este sector, en el que no había indicios de enterramientos de cuerpos, dejaba de ser prioritario. Entre 2015 y 2018 las obras para la apertura de una nueva cárcel para menores volvieron a rellenar los sótanos y supusieron una nueva transformación arquitectónica,

más destructiva que las previas, alterando las distribuciones y fisonomía del edificio original. Todas estas fases de remodelación fueron realizadas por el Estado sin tener en cuenta el carácter probatorio de estas materialidades en los diversos crímenes de *lesa humanidad* allí cometidos y sin respetar los valores patrimoniales de un conjunto arquitectónico que es Monumento Histórico Nacional desde la salida de la dictadura.

Una cautela judicial con orden de no innovar de 2017 por la causa de uno de los detenidos desaparecidos vinculados a La Tablada truncó los planes del gobierno de reabrir la cárcel para menores. Ese año comenzaron varios proyectos de investigación y extensión, aún vigentes, de un equipo interdisciplinario de la UdelaR. Uno se vincula con la construcción colectiva de este sitio de memoria, catalogado así en 2018 por la Ley 19.641. Otros indagan la reutilización del edificio y predio en clave represiva durante la dictadura, cubriendo la ausencia de investigaciones oficiales, centradas exclusivamente en la búsqueda de inhumaciones. Se consultaron archivos para disponer de una nómina de personas secuestradas en el lugar, que aporta una cifra mínima de 380, y se efectuaron numerosas entrevistas a sobrevivientes y vecinos, que están permitiendo realizar análisis cuantitativos y cualitativos sobre los variados delitos de *lesa humanidad* allí cometidos. Por ejemplo se ha avanzado notablemente en la interpretación de la cotidianidad del CCD (de tipo cuartelaria, determinada por los horarios de las comidas, empleo de baños, pautas para torturas), los espacios de reclusión y sus cambios en el tiempo, o las salas que fueron destinadas para cada tipo de tortura así como las alas del edificio que funcionaron como cuartel del OCOA (Figura 8).

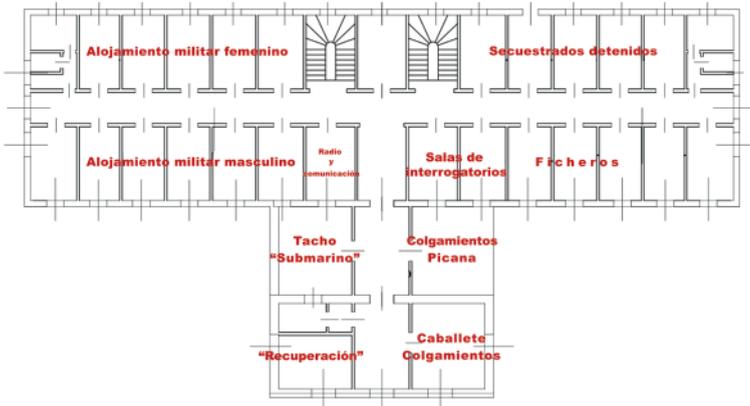


Figura 8. Hipótesis preliminar para interpretar la refuncionalización en clave represiva clandestina (por parte del OCOA) de las habitaciones de la primera planta de La Tablada Nacional (Montevideo). Plano consensuado entre el equipo de investigación y extensión universitaria de la UdelaR y sobrevivientes que conforman la Comisión de Memoria de La Tablada (CO. ME.TA) para las visitas guiadas del Día del Patrimonio (octubre de 2018).

A escala espacial micro se ha documentado la fisonomía del edificio en su fase como CCD (a pesar de las reformas por las reutilizaciones represivas en democracia); a escalas media y macro se realizó una aproximación a sus vínculos con bases clandestinas satélites y con otras infraestructuras militares, así como el sentido de su ubicación rural, permitiendo el aislamiento y profilaxis necesarias para la represión ilegal de tal magnitud, pero a la vez conectado por diversas vías principales con la ciudad de Montevideo y, en concreto, con el Hospital Militar y con el principal cementerio clandestino de la dictadura, en el Batallón 14 (Marín Suárez *et al.*, 2020). Todas estas reconstrucciones resultan de confrontar la información que surge de testimonios de ex secuestrados, vecinos y vecinas en encuentros bajo la forma de mapeos colectivos y talleres de memoria, el relevamiento detallado del edificio principal y predio, los análisis sintácticos del espacio desde la arqueología de la arquitectura, y la información documental y cartográfica. Este nuevo corpus de información supone un significativo aporte para la patrimonialización de este sitio de memoria y, desde una perspectiva forense, posee un alto potencial de cara a ser vinculado a las diversas causas judiciales relacionadas al lugar.

A 50 kilómetros de Montevideo se encuentra la ciudad de Canelones, capital del departamento homónimo. Diversos relatos señalaban que en dictadura unos vagones de tren fueron utilizados por la policía para secuestrar y torturar a militantes políticos, en particular comunistas y socialistas, en el principal parque de la localidad. Prácticamente la totalidad de los secuestrados fueron luego “blanqueados” (de secuestrados a detenidos) en las cárceles políticas de Canelones. En las investigaciones oficiales sobre detenidos desaparecidos no hay ninguno asociado con estos vagones y hasta hace poco tampoco causa judicial que indagara al respecto. Lo anterior se tradujo en la ausencia de investigaciones por parte del GIAF y la fiscalía. Esta dejación de funciones del Estado provocó que aquellos lugares involucrados con la represión en Canelones generasen dudas sobre su ubicación, funcionamiento y fisonomía. En este marco, el trabajo de la asociación civil Ágora - Identidad, Derechos Humanos y Memoria Canaria, nacida en 2017, fue fundamental para sistematizar las entrevistas a ex secuestrados y la investigación documental, identificando dos lugares con vagones gestionados por la policía.

Desde momentos previos a la dictadura, en el contexto de la excepcionalidad democrática por la imposición de las Medidas Prontas de Seguridad, se instalaron tres vagones de ferrocarril colocados en U en el patio trasero de la Escuela de Policía para las detenciones masivas realizadas en todo el departamento. En ese lugar se ensayaron las primeras formas de detención clandestina, que más adelante pasarían a constituir la norma. En septiembre de 1975, en plena dictadura y en relación con el Plan Morgan –escalada represiva clandestina contra el movimiento comunista en

Uruguay— esos vagones habrían sido trasladados a una casilla hacia el fondo del Parque Artigas, usándose con cierta intensidad hasta 1977. Se inauguraba de este modo un nuevo CCD: “Los Vagones del Barrio Olímpico”.

En ese contexto, desde el 2018, un equipo de extensión universitaria primero, y luego dos consultorías realizadas para la Secretaría de DDHH de la Intendencia de Canelones y la asociación Ágora, contribuyeron con investigaciones como pasos previos al desarrollo de un proyecto de musealización del recién declarado sitio de memoria. El lugar se encontraba muy modificado. Si bien la casilla se mantenía techada por su reutilización como vivienda, de otras estructuras sólo quedaban restos de pisos y arranques de muros alrededor de un gran patio cubierto de vegetación, más otro patio trasero diáfano. Este arrasamiento arquitectónico y la ausencia de los vagones generaban enormes dudas entre los ex secuestrados. En el marco de una primera investigación histórica que incluyó entrevistas semiestructuradas *in situ* a víctimas, se realizó una fotointerpretación histórica que permitió documentar la presencia de dos vagones en el gran patio (fotografía aérea de 1980), así como otras estructuras que eran coherentes con la información de los testimonios como, por ejemplo, garitas de vigilancia (Figura 9).

Durante el año 2019 se desarrollaron campañas de excavación en área en el patio principal y en la parte trasera del conjunto arquitectónico. Se añadieron sondeos en el patio trasero y un análisis de estratigrafía muraria en todo el conjunto, siguiendo los parámetros metodológicos de la arqueología de la arquitectura. Lo anterior permitió localizar con exactitud la ubicación de los dos vagones, al encontrarse *in situ* los cuatro patines de hormigón usados para sostenerlos (Figura 9), así como los negativos y cimentaciones de dos garitas de vigilancia. Se interpretaron, además, las fases en las que se produjeron los principales cambios y remodelaciones (de celdas individuales, celdario colectivo, baños), permitiendo interpretar la funcionalidad, usos y recorridos internos del CCD. La investigación arqueológica, además, posibilitó documentar diversos eventos de destrucción de las diferentes unidades edilicias que generaron niveles de escombros, tanto en el patio principal como en la parte trasera del conjunto. En última instancia se ha realizado un levantamiento virtual 3D de la fisonomía del conjunto durante su fase como CCD, con la caracterización y funcionalidad de cada estructura: vagones usados como oficinas de la policía, salas de tortura y celdario femenino; celdas individuales de obra; pasillos/lugares de depósito de secuestrados y secuestradas; baños; celdario colectivo; garitas de vigilancia; y casino de oficiales/oficinas de policía (Figura 10). Junto a la información brindada por los testimonios se pudo determinar que, excepto las oficinas de la policía técnica y el casino de oficiales, el resto de estructuras fueron usadas para la aplicación sistemática de torturas (Marín Suárez et al., 2019).

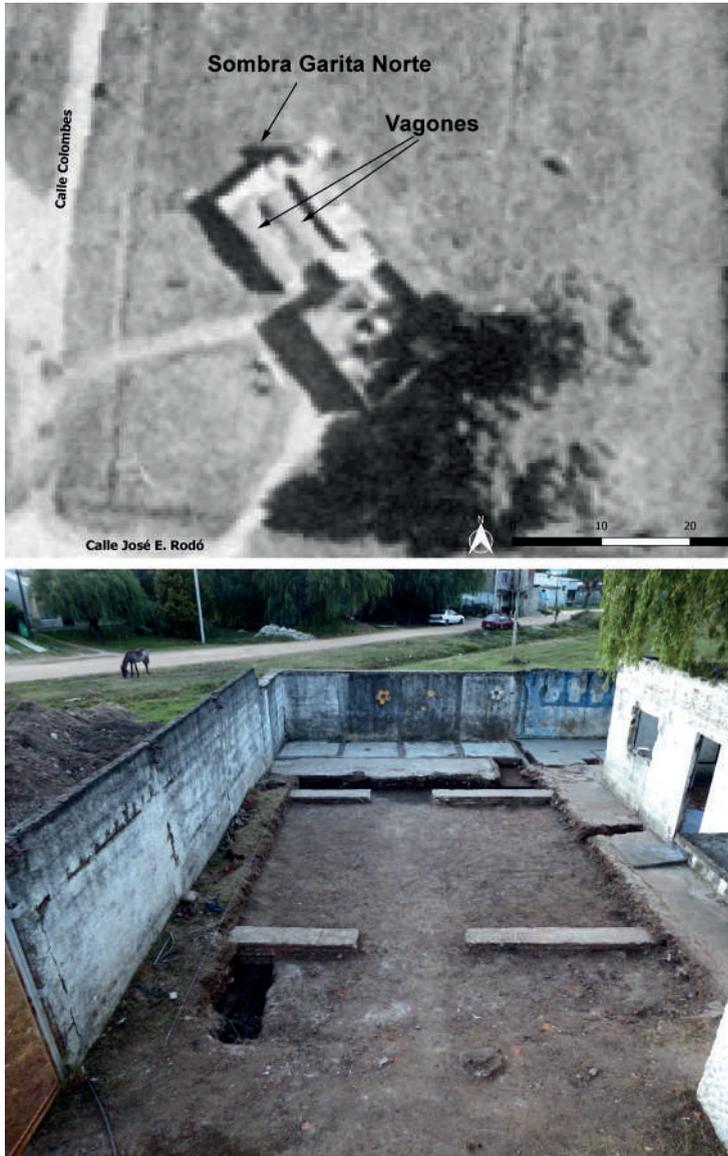


Figura 9. Ejemplos de fuentes usadas para la reconstrucción del CCD Los Vagones del Barrio Olímpico (Canelones). Arriba: fotografía aérea de 1980 donde se puede observar la disposición de dos vagones en el patio principal, y la sombra de la garita norte; abajo: excavación en área donde se detectaron cuatro patines de hormigón (empleados para sustentar los dos vagones), así como los negativos de las estructuras destruidas y los rellenos con escombros que ocultaban los patines.

Fuente: Archivo del Equipo de Consultoría Arqueológica.



Figura 10. Reconstrucción virtual de las estructuras que componían el CCD Los Vagones del Barrio Olímpico (Canelones). Arriba: descomposición de las estructuras por funcionalidad; abajo: dos vistas de la reconstrucción 3D del conjunto arquitectónico.
Fuente: Archivo del Equipo de Investigación y Extensión Universitaria de la UdelaR.

A raíz de estas investigaciones, y pese a que no fueran requeridas inicialmente, la Fiscalía Especializada en Crímenes de Lesa Humanidad abrió diligencias y solicitó la prisión preventiva para tres ex jefes policiales de Canelones (diciembre de 2019), acusados por delitos de *lesa humanidad* (torturas sistemáticas) y abuso de autoridad. Los informes históricos y arqueológicos de estas consultorías han sido adjuntados en el expediente judicial de la causa.

Proyecciones de una Arqueología Forense desde el Cono Sur

Al comienzo de este trabajo argumentamos que la persecución penal por delitos de lesa humanidad —así como el desarrollo disciplinar de la antropología y arqueología forense en estrecha vinculación con ésta— han recorrido trayectorias dispares en los tres países que integran el Cono Sur. Sin opacar las diferencias reseñadas que caracterizaron a las experiencias nacionales, a lo largo de la última década y media el desarrollo de las disciplinas forenses aplicadas a los DDHH ha tendido hacia cierta convergencia y a la búsqueda de estandarización de las prácticas en buena parte de América Latina. Entre las condiciones históricas de posibilidad para este proceso aún en marcha, podríamos recuperar el denominado “giro forense” de los tribunales supranacionales (Anstett & Dreyfus, 2015; Keenan & Weizman, 2015), el acceso al gobierno de frentes políticos que recogieron —con disímiles alcances— la deuda histórica en materia de memoria, verdad y justicia, y la conformación de redes internacionales como la Asociación Latinoamericana de Antropología Forense, ALAF (2003). Es entonces en el marco de este proceso, que quisiéramos articular el llamado a ampliar los alcances del campo disciplinar, y fundamentalmente de las prácticas judiciales locales, estructurando nuestra argumentación en torno a los ejes delineados en el *Informe Joinet* (ONU, 1997).

Derecho a la justicia

Recuperamos dos aspectos del *Informe Joinet*. Primero, que el derecho a la justicia debe ser asumido por los Estados a los fines de investigar lo ocurrido, perseguir y sancionar a sus responsables. Segundo, el derecho de las víctimas a conocer al autor y que éste sea juzgado (ONU, 1997). Como advertimos, la antropología forense se ha desarrollado como un campo científico central para la búsqueda e identificación de víctimas de la desaparición forzada desde 1984, pero también con los ejemplos expusimos los aportes de la arqueología forense para la comprensión de una diversidad de delitos de *lesa humanidad* concomitantes con la desaparición. Esto es, además de contribuir con la localización de inhumaciones y recuperación de los restos óseos para la posterior identificación nominal, se aporta con pruebas referidas a los secuestros, tratamientos crueles, tortura, violencia sexual —con la determinación, por ejemplo, de lugares específicos de los espacios donde se llevaron a cabo— y la prisión política. La arqueología, a través de un amplio espectro de proyectos que van desde investigaciones académicas a peritajes forenses, ha avanzado notablemente en la documentación e interpretación de las huellas de estos delitos por lo que, sostenemos, la materialidad en un sentido amplio —desde un paisaje a un recinto o un objeto— posee el mismo

estatus como fuente histórica y prueba jurídica que el habitualmente asignado a los restos óseos.

Para lograr el derecho a la justicia e imputar responsabilidades es necesario investigar y contribuir con evidencias que permitan reconocer el rol de los perpetradores en los distintos crímenes que protagonizaron. Es importante advertir que, en general, las causas judiciales por delitos de *lesa humanidad* que no están vinculadas estrictamente con la desaparición forzada se fundamentan principalmente en los testimonios de sobrevivientes y en la documentación producida por diferentes agencias burocráticas del Estado, dejando de lado las pruebas materiales de aquellos crímenes. La preocupación por los soportes materiales de la represión no conlleva invisibilizar la importancia testimonial, ni relativizar los saberes de sobrevivientes, familiares, vecinos, vecinas y militantes. Por el contrario, permite aportar al proceso investigativo complementando y habilitando nuevas líneas de indagación sobre aspectos claves de lo acontecido a partir del estudio de las transformaciones de los espacios represivos y los paisajes que se generaron a partir de —o para llevar a cabo— los crímenes. Más aún, en contextos como los CCD, caracterizados por la clandestinidad y la anulación sensorial de las personas secuestradas, la información documental y la aportada por los testimonios de sobrevivientes puede ser muy acotada en función de las propias condiciones por las que transitaron tales experiencias (cegada sus visiones, prohibidas toda forma de comunicación interpersonal y bajo una diversidad de violencias programadas por los represores). Por ello sugerimos la relevancia de las indagaciones arqueológicas desde el comienzo mismo de las causas y no, como es casi la norma, su incorporación mientras se desarrollan otras pericias forenses o ya está avanzada la etapa de instrucción judicial.

Desde abordajes arqueológicos se documentaron las huellas materiales de la destrucción, remoción, supresión y ocultamiento de pruebas efectivizadas por las FF.AA., policía y cómplices civiles. Es el caso de las remociones de inhumaciones clandestinas mediante la Operación Zanahoria en Uruguay (López Mazz, 2017), la Operación Retiro de Televisores en Chile (Cáceres, 2015), o el ejemplo argentino de las fosas en el CCD de Arsenales, en Tucumán (Binder & Ataliva, 2012; CLACSO, 2019). A ello quisimos sumar con los casos ejemplificados los patrones de destrucción, alteración y modificación que se desarrollaron luego del cese del funcionamiento represivo en los ex CCD La Marquesita, Los Vagones del Barrio Olímpico y Londres 38, como también del mismo Pozo de Vargas, que permiten fundamentar probatoriamente en el foro judicial, la sistematicidad de este tipo de prácticas. Se trata de acciones deliberadas de encubrimiento, ejecutadas ya sea durante los períodos de dictaduras o en los años posteriores, y en las que los perpetradores se encargaron o pretendieron borrar las evidencias y huellas materiales de sus

crímenes. Además, estas destrucciones y ocultamientos de evidencias tienen profundas implicancias para la reconstrucción judicial de los hechos, así como simbólicas (que remiten tanto a la continuidad de la desaparición como a la impunidad de quienes las llevaron a cabo) y sociales (desconfianza hacia los poderes del Estado). Como consecuencia de lo anterior se configuraron escenarios de impunidad que llegan hasta el presente. Al impedir o no avanzar con las investigaciones se reactualizan los crímenes y, de esta manera, se niega el derecho a la justicia. Por otro lado, y vinculado a los procesos posdictatoriales, muchos espacios represivos se destruyeron, se transformaron o continúan en usos represivos. En ocasiones no solo la alteración de los lugares contribuye a la destrucción de evidencias, sino que la omisión del estudio de la materialidad y la falta de participación de peritos arqueólogos conduce a realizar nuevas borraduras e invisibilizaciones, impidiendo el desarrollo de su valor probatorio y documental, agilizando la pérdida irremediable de información y obturando el acceso al derecho a la reparación.

Por último, un aspecto clave a destacar es que incluso en aquellas investigaciones que no se enmarcan en causas judiciales, la arqueología abordó la potencialidad que guardan estos lugares, asumiéndolos como documentos de acceso a los crímenes de lesa humanidad, valorando sus dimensiones materiales, simbólicas, políticas y probatorias. Es por ello que estas investigaciones deben mantener como imperativo ético-político, la conformación de archivos de amplio espectro para los sitios de memorias, atendiendo a futuras indagaciones de orden jurídico u otro, que superen el clima de impunidad actual.

Derecho a la verdad

Según el Informe Joinet, saber lo ocurrido es un derecho tanto individual de la víctima —y de la familia— como colectivo, en tanto las experiencias traumáticas y la historia de opresión de un pueblo forman parte de su patrimonio y como tal debe conservarse. Es por ello que el Informe insta a los Estados al “deber de recordar” y prevenir negacionismos y revisionismos acerca de prácticas que han sido tipificadas como delitos de *lesa humanidad* (ONU, 1997). Desde nuestra perspectiva, la arqueología forense puede contribuir activamente en las interpretaciones históricas respecto a las características que asumieron las prácticas represivas y genocidas, en tanto éstas se caracterizaron por la ausencia —o el ocultamiento deliberado— de la documentación, la anulación sensorial de los sobrevivientes en los espacios de reclusión y los férreos pactos de silencio de los perpetradores. En este sentido, y desde una diversidad de evidencias, la arqueología contribuye generando otras representaciones que pueden ser confrontadas y/o complementadas con los saberes de sobrevivientes, familiares y vecinos, o la información aportada

por perpetradores; lo instalado como “verdad oficial”; y lo generado por las mismas comisiones de verdad que, en ocasiones, contienen información imprecisa o limitada en función de las propias condiciones en las que actuaron e investigaron. De hecho, el caso de Uruguay es paradigmático por la incidencia de sus FFAA en los resultados de la COMPAZ (2003) y se diferencia sustancialmente del Nunca más argentino (CONADEP, 1984) y los informes *Valech* y *Rettig* de Chile.

Un aporte esencial de los proyectos arqueológicos respecto a los espacios que pertenecieron a las redes represivas y de exterminio no sólo ha sido acompañar —desde las evidencias materiales— lo que desde los testimonios se sostenía, sino también determinar la existencia de espacios de reclusión que aún no habían sido denunciados. De manera que desde la arqueología se han habilitado nuevas líneas de investigación de los espacios represivos urbanos, periurbanos y rurales que no estaban contemplados con anterioridad. Ante la ausencia de testimonios —y en muchos casos, de sobrevivientes—, de cara a la escasez de documentación y frente a la destrucción y ocultamiento de las evidencias, la arqueología le aporta centralidad a la interpretación histórica a partir de la materialidad, posibilitando, por ejemplo, documentar la existencia de lugares de secuestro, detención, tortura y exterminio (denunciados y reconocidos o no), efectuando análisis para recuperar indicios de las experiencias concentracionarias y de reclusión, reconstruyendo sus dinámicas internas en cuanto a usos y rutinas y evaluando las transformaciones espaciales y arquitectónicas que estos experimentaron, es decir, trazando una genealogía de estos espacios de reclusión antes, durante y después de su funcionamiento como tales.

Tal y como hemos visto en los ejemplos presentados, muchas investigaciones arqueológicas han aportado a la reconstrucción de tales espacios aún sin contar con arquitectura en pie, integrando para ello los aportes de otras disciplinas —historia, geociencias, fotointerpretación, etc.—, los saberes de sobrevivientes y vecinos, y documentos conservados (planos, croquis, fotografías). Por otra parte, la materialidad no deja de ser portadora de la voz y la agencia de las víctimas, a la que en ocasiones es posible acceder desde los indicios que dejaron en muros y pisos, en sus ropas y en prácticas de resistencia materializadas en una diversidad de objetos y marcas. El estudio de los paisajes y circuitos represivos también permite elaborar hipótesis para avanzar con investigaciones que procuren la localización de inhumaciones clandestinas, como los procesos de formación, uso y posteriores remociones a las que fueron sometidas (Ataliva *et al.*, 2019; Zurita, 2019).

Es necesario precisar que las intervenciones arqueológicas —como las expuestas en este trabajo— permitieron valorar aquellos saberes que no habían sido considerados hasta el momento, como los de vecinos y vecinas de los predios e incluso, de sobrevivientes que nunca habían sido entrevistados/

as. Si compartimos la exigencia del *Informe* respecto a que cada Estado debe contribuir con la “verdad histórica”, y que dicha construcción –agregamos– debe ser colectiva en tanto afecta a toda la sociedad, entonces cobra aún más relevancia incorporar esos testimonios que no fueron contemplados anteriormente por las más diversas razones, que van desde internalizados prejuicios sobre los sectores populares al interés político de invisibilizar a ciertos actores sociales, así como a la ortodoxia disciplinar de los saberes académicos. Es por ello que sostenemos que los proyectos de arqueología forense tienen un mayor alcance y potencialidad cuando apuestan por formas de democratizar la interpretación histórica y de construir colectivamente el conocimiento histórico.

Derecho a la reparación

El *Informe Joinet* también destaca el derecho a la reparación, medidas que deben llevar adelante los Estados en tanto políticas públicas que posibilitan el “deber de recordar” (ONU, 1997). Recientemente la CIDH ha insistido en que los Estados deben garantizar un “abordaje integral de la memoria” y que los espacios represivos de las dictaduras se conviertan en *sitios de memoria*, en lugares para “repensar, recuperar y transmitir” los procesos traumáticos y para “homenajear y reparar a las víctimas” (CIDH, 2019). Plantea, además, la relevancia de contar con equipos de estudio y trabajo interdisciplinarios y la activa participación de las víctimas y la sociedad civil en la gestión y promoción de los sitios.

Muchos proyectos donde interviene la arqueología –como hemos expuesto en los ejemplos tratados aquí– fueron desarrollados junto a familiares, sobrevivientes, organismos de DDHH, colectivos de víctimas y/o de vecinos, con quienes se comparten y consensuan distintos aspectos de las investigaciones. Es por ello que se trata de procesos colectivos. De hecho, en muchos casos la presión ejercida por estos actores posibilitó la apertura de causas e indagaciones, darles continuidad y visibilizarlas. Además, son estos colectivos quienes viabilizan la resignificación, refuncionalización, lucha y generación de los sitios de memoria, cuyos aportes permiten la reelaboración del pasado traumático, educar y promover una cultura de los DDHH y contribuir en un sentido amplio a la reparación simbólica.

Finalmente, y como ya advertimos, el registro y análisis de las evidencias del exterminio (desde indicios en los muros hasta proyectiles, indumentaria, etc.), la detección de las huellas de la destrucción de los ex CCD, el registro de las ausencias de materialidades, la interpretación arqueológica de documentos (como las fotografías) y testimonios, etc., contribuyen al derecho a la reparación en tanto los resultados de las investigaciones exponen lo que ha sido sistemáticamente ocultado y negado.

Consideraciones finales

Las investigaciones arqueológicas forenses consideran efectos del terrorismo de Estado que sobrepasa los ámbitos académicos y técnicos locales, ya que se vinculan con derechos de las víctimas de los delitos de *lesa humanidad* que proceden del ámbito jurídico internacional (derecho a la justicia, a la verdad y a la reparación), así como de los compromisos que los Estados adhieren para garantizar estos derechos. En ese marco —y si bien los itinerarios represivos adquirieron modulaciones de escala y contexto para cada país—, entendemos que las investigaciones arqueológicas forenses pueden ser concebidas desde una serie de premisas generales que, fuera de constituir un ideal, conforman prácticas susceptibles de desarrollarse bajo condiciones concretas.

Estimamos importante que las investigaciones de arqueología forense consideren un afán holístico fundado en el estudio sistemático de la materialidad en sus amplias dimensiones y rasgos, desde los objetos a los paisajes, pasando por la importancia estructuradora de las prácticas sociales que tiene la arquitectura, en virtud de la especificidad de las estrategias represivas. De este modo se avanzaría no ya exclusivamente en la documentación de la desaparición forzada, sino en el conjunto de delitos de *lesa humanidad* y prácticas represivas que caracterizaron estos circuitos de violencia estatal. Lo anterior se relaciona con un punto trascendental, a saber: la materialidad que resulta de las investigaciones arqueológicas puede constituirse en prueba judicial en igualdad de condiciones que el testimonio. Como argumentamos a lo largo de este trabajo, grafos, objetos personales, vestimentas, remodelaciones y adaptaciones arquitectónicas, huellas de maquinarias que dan cuenta de remociones, alteraciones y/o destrucciones edilicias, itinerarios y paisajes represivos, pueden entenderse en su estatus de evidencia en ámbitos judiciales en complemento y alternativa de indagación y no como sustituto de los testimonios brindados por víctimas y testigos. Cabe hacer el llamado a la necesidad de integrar la perspectiva arqueológica tanto en los procesos de recuperación de los sitios de memoria como en ámbitos judiciales desde el comienzo de los proyectos o indagatorias, formando parte de las tomas de decisiones en los inicios mismos de las causas. De esta manera se evitaría perder información susceptible de documentar y derivar como prueba judicial, tal y como continúa ocurriendo con la reutilización, abandono o demolición de muchos de los espacios que funcionaron como CCD en Argentina, Chile y Uruguay. Asimismo, se podrían consensuar directrices de manejo —en tanto política pública y destinada, particularmente, al ámbito judicial— que impidan procesos de destrucción, remodelación o construcciones y que conversen con los requerimientos del trabajo arqueológico para la recuperación de muestras y el desarrollo de investigaciones.

Finalmente, las experiencias de trabajo anteriores y sus proyecciones son sólo un esbozo provisional para un panorama altamente complejo en la región, donde las violaciones a los derechos humanos lejos de agonizar fueron reavivadas al calor de nuevos estallidos sociales. Es por esto, que este trabajo pretende entregar elementos de reflexión, intercambio y debate que constituyan un punto de partida para ir conformando una praxis de arqueología forense integral, en la comprensión de fenómenos de violencia política recientes, y que supere fronteras no solo disciplinares, sino institucionales, políticas y judiciales. Así, sostenemos la intención de trascender este acto académico, en la convicción de que los derechos humanos constituyen un desafío para todos los actores y la sociedad en su conjunto.

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Enfermedad y estatus social: un caso de treponemosis infantil en un entierro Preclásico del valle de Maltrata, Veracruz, México

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Resumen

Este trabajo aporta el examen paleopatológico de un enterramiento infantil explorado en el sitio de Barriales de las Besanas, en el valle de Maltrata, Veracruz, del Preclásico medio, 600-450 a.C. Los rasgos osteopatológicos registrados a través de una valoración macroscópica y de un análisis radiográfico, sugieren una afección treponemica. El contexto arqueológico de este entierro, por otro lado, muestra evidencia de un tratamiento distinguido, indicativo de un alto rango social, lo cual daría cuenta de los cuidados ofrecidos al enfermo y su supervivencia hasta la segunda infancia. El diagnóstico diferencial del caso estudiado es compatible con la sífilis congénita; se trataría del caso más antiguo reportado hasta ahora en Mesoamérica.

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Palabras clave: *paleopatología de Mesoamérica, treponematosi, sífilis congénita, centro de Veracruz.*

Illness and social status: a case of infantile treponematosi in a Preclassic burial in Valle de Maltrata, Veracruz

Abstract

This work provides the paleopathological examination of a child burial explored in the archaeological locality of Barriales de las Besanas, in the Maltrata Valley, Veracruz, dated to the Middle Preclassic, 600-450 BC. The osteopathological features recorded through an assessment Gross and radiographic analysis suggest a treponematosi condition, particularly congenital syphilis. The archaeological context of this burial, on the other hand, shows evidence of a distinguished treatment, indicative of a high social rank, which would account for the care offered to the patient and his survival until second childhood. The differential diagnosis of the case studied is compatible with congenital syphilis, which would be the oldest case reported so far in Mesoamerica.

Key words: *Paleopathology of Mesoamerica, treponematosi, congenital syphilis, Central Veracruz.*

Introducción

Hoy día las enfermedades infecciosas causadas por el *Treponema pallidum* y sus subespecies,¹ continúan siendo endémicas en muchos países en vías de desarrollo. Han sido asociadas con condiciones de vida adversas, así como al entorno ecológico; por ejemplo, se ha dicho que el clima tropical es un factor de dispersión del yaws (Fafara-Thompson, 2015; Ortner, 2003).

En específico, la sífilis congénita es un flagelo continuo de la salud pública a nivel mundial. En el África subsahariana, aproximadamente el 10% de las mujeres embarazadas son afectadas por esta enfermedad, que es la causa más común de mortalidad perinatal. Las estadísticas indican que dos tercios de los fetos de mujeres con sífilis infecciosa se ven afectados. En los últimos años se ha manifestado un resurgimiento de la sífilis congénita en los países más desarrollados como resultado del aumento de la sífilis infecciosa en Europa y América del Norte. En América Latina y el Caribe, la prevalencia de sífilis entre mujeres embarazadas es de 1,7% a 7,0%. Su prevención radica en un

¹ Pinta, yaws-pian-, bejel —sífilis endémica— y sífilis venérea, las primeras tres enfermedades infecciones treponémicas no venéreas son causadas por una subespecie de bacteria dentro del género *Treponema pallidum*.

diagnóstico oportuno durante el embarazo y en la mejora de los servicios de detección y tratamiento prenatales, o incluso en establecer tratamientos epidemiológicos masivos a mujeres embarazadas en regiones de alta prevalencia (Walker y Walker, 2007).

La sífilis no tratada durante el embarazo puede ser causa de muerte fetal, restricción del crecimiento intrauterino o trabajo de parto prematuro. En el caso de recién nacidos se pueden presentar la hepatomegalia, el retraso del crecimiento, las discapacidades neurológicas o esqueléticas o la muerte. Aproximadamente un 34% de los infantes afectados mueren antes de nacer. De los supervivientes el 50% mueren después de nacer, incluso en el caso que tengan tratamiento. El 75% de los sobrevivientes pueden ser asintomáticos. Se calcula que tras el primer año de vida se diagnostica aproximadamente un 60% de casos. Cuando se logra sobrevivir a una etapa adulta, generalmente al rebasar los 20 años, es factible que se manifiesten diversos trastornos neurológicos (Walker y Walker, 2007, p. 200).

Los estudios osteológicos contribuyen a conocer la historia de las enfermedades y a entender el origen de las entidades patológicas, su diversificación por el mundo y su epidemiología. De acuerdo con evidencia genética, se sabe que las subespecies de los patógenos que causan las enfermedades treponémicas son genéticamente distintas y han evolucionado a lo largo de diferentes trayectorias. No obstante, sigue siendo un debate si las enfermedades treponémicas, sobre todo la sífilis venérea, se originó en el Nuevo Mundo y fue transmitida al Viejo Mundo por los primeros colonizadores en la década de 1490, o bien, la enfermedad treponémica ya estaba presente en el Viejo Mundo antes de esa fecha (Harper *et al.*, 2011).

En México, las enfermedades treponémicas causadas por espiroquetas del género *Treponema pallidum* y otras subespecies, han sido identificadas en series esqueléticas que datan del Clásico mesoamericano, es el caso del sitio Atoyac en el occidente de México, y atestiguan mayor preponderancia conforme nos acercamos a la época actual. Las enfermedades infecciosas detectadas a través de la evidencia de los restos óseos humanos han sido el bejel o sífilis endémica, el yaws, la sífilis venérea y otras específicas. La sífilis congénita únicamente se ha documentado en la Iglesia de San Jerónimo del siglo XVII-XVIII al igual que la venérea (Muñoz y Márquez, 2020). Muñoz y Márquez (2020) mencionan que a la fecha no hay evidencia de la sífilis venérea precolombina para el territorio mexicano, pero no es descartable dado los reportes que se tienen para Perú y Colombia (Altamirano, 2019; Rodríguez *et al.*, 1998); después del contacto con el Viejo Mundo es común su virulencia.

El objetivo de esta investigación es presentar un caso de treponematosi infantil muy sugerente de sífilis congénita. Debido a que sus manifestaciones son similares a otras infecciones treponémicas, se optó por realizar un

diagnóstico diferencial entre el yaws, el bejel y la sífilis congénita, que suelen afectar principalmente a individuos infantiles. El caso de estudio se remite a un individuo infantil procedente de la localidad arqueológica de los Barriales de las Besanas, del periodo Preclásico medio y superior en el valle de Maltrata, Centro de Veracruz. Se aborda también la importancia de los individuos infantiles dentro de la esfera social, ya que, en nuestro caso, la evidencia arqueológica muestra una distinción en su tratamiento mortuario por la riqueza de su tumba y su ofrenda, debido a la presencia, entre otros objetos, de cerámica gris fina considerada de lujo e importación (Lira, 2005).

Caber señalar que el entierro infantil fue recuperado de una formación troncocónica; éstas son oquedades en forma de cono truncado excavadas en el suelo generalmente encontradas en espacios habitacionales o de tipo doméstico; rasgo característico de las aldeas del Preclásico de Mesoamérica (Ortega, 2023). Funcionaron como espacios de almacenamiento multiusos para albergar maíz y granos, o para desperdicios y/o basureros (carbón, tiestos, fauna, figurillas, fragmentos de manos y metates, instrumentos de hueso, material lítico) (Ochoa, 1989). Después de su vida útil para lo que fueron elaboradas, se reutilizaron como tumbas, posiblemente ocupadas por familias nucleares o de un mismo linaje (Manzanilla, 1988). Las formaciones troncocónicas no fueron los únicos espacios funerarios durante el Preclásico, pues también los entierros humanos a menudo se ubican cerca o debajo de las casas y en cementerios (Cervantes *et al.* 2016) (Figura 1).

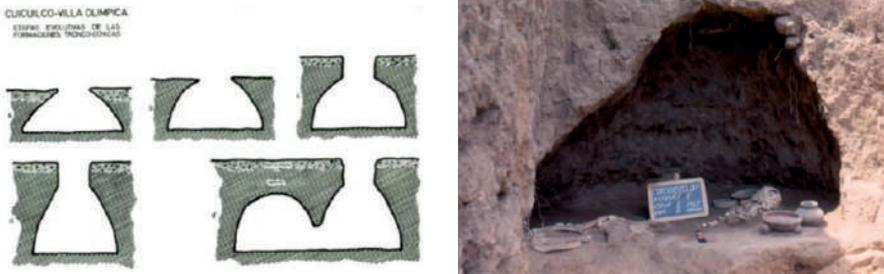


Figura 1. Variedad de formaciones troncocónicas encontradas en una aldea preclásica de la cuenca de México (Cuicuilco), y ejemplo de un entierro en ella (Ortega, 2023, pp. 122 y 123).

Contexto arqueológico

Barriales de las Besanas es uno de los sitios arqueológicos ubicado al poniente y en la planicie del valle de Maltrata; junto con otros cinco sitios, también del Preclásico, marcaron los límites occidentales en la ruta de comunicación al Altiplano central (Figura 2).

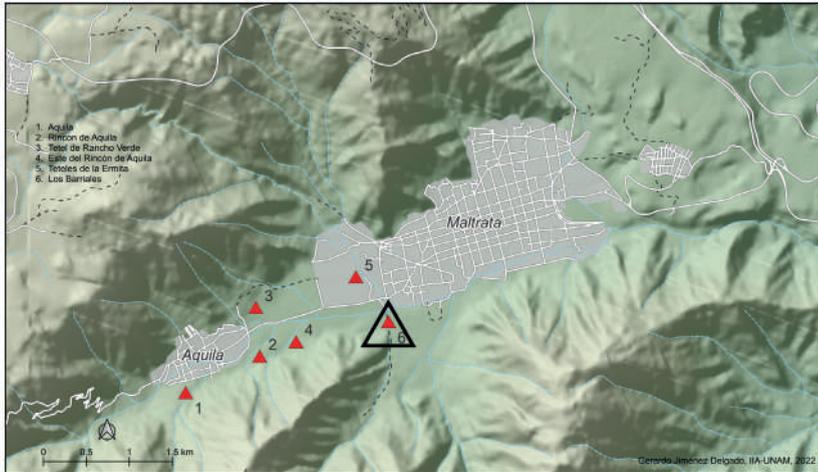


Figura 2. Ubicación del sitio Barriales de las Besanas dentro del Valle de Maltrata.

El sedimento del sitio es utilizado actualmente para la fabricación de ladrillos; entre el material removido por los barreros se han encontrado cerámica, artefactos de molienda, obsidiana y hueso. En el 2002 se realizó un salvamento arqueológico, debido a que en los perfiles expuestos por los bancos de barro se identificaron tres fogones; por medio de un pozo de sondeo y calas se logró recuperar, además, un entierro infantil a 3.32 m de profundidad (pozo 22d). El entierro es primario, indirecto e individual, colocado dentro de una formación troncocónica de 1.60 m de diámetro y con orientación al noreste, en un eje norte-sur. El cuerpo infantil se dispuso en decúbito ventral flexionado; el suelo donde se colocó no estaba nivelado de manera que la región anatómica derecha del cuerpo se encontró a un nivel más bajo. El individuo tenía como ofrenda un cuenco, una olla completa y una piedra de moler sobre los huesos de los pies; después del depósito, la formación troncocónica fue rellenada, pues el esqueleto muestra evidencia de descomposición en un espacio rellenado (Figura 3).

La base de la fosa fue preparada con una cama de arcilla café y amarilla con fragmentos pequeños de carbón y tiestos con abundante material cerámico del tipo Gris fino y Baño blanco, así como gran variedad de figurillas modeladas. Los fragmentos de cerámica indican que por lo menos fueron depositadas bajo el entierro 11 vasijas “matadas”: una olla o florero Gris fino con incisiones, un cajete Gris fino con incisiones, una vasija con baño negro y pasta compacta rojiza, tres cajetes con baño blanco y doble línea incisa en el borde, una vasija con decoración rojo sobre blanco, tres ollas globulares de pasta burda quemadas y una olla globular con baño rojo y pasta granulosa,

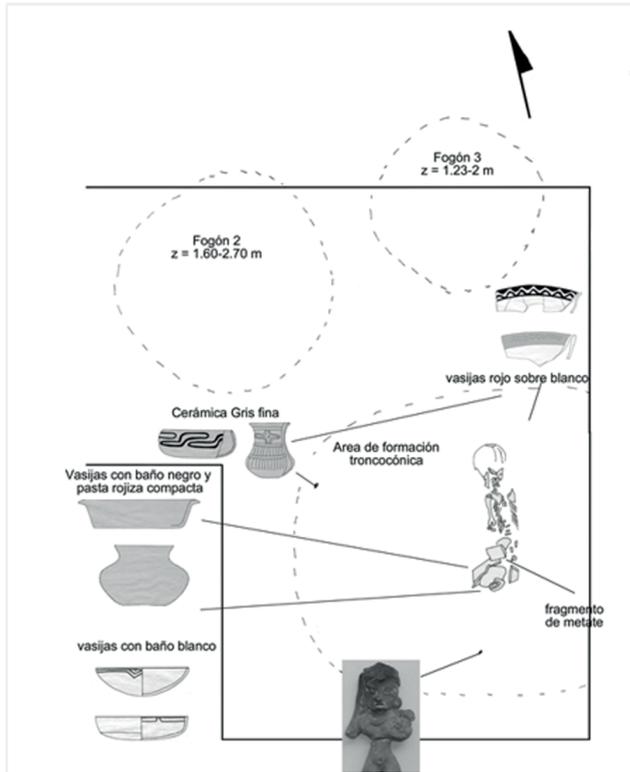


Figura 3. Esquema del entierro con ofrendas, sitio Barriales de las Besanas (Lira, 2005).

entre un número considerable de tiosos burdos. Otros elementos culturales importantes en la formación troncocónica son 10 fragmentos de figurillas (torsos y extremidades), destacando una figurilla femenina, rota en dos partes, cargando un niño con el brazo izquierdo, y tres torsos esbeltos correspondientes a las figurillas C10, dos fragmentos de pierna del estilo “pie arqueado” y un torso del tipo “seated trackwoman bodies” (MacNeish *et al.*, 1970, p. 140, 142). Así como una figurilla baby face de tipo olmeca; y dos punzones de hueso de venado (Lira, 2005).²

El contexto se ha interpretado como área habitacional con fogones, apisonado de barro y la formación troncocónica que fue reusada con fines funerarios. El tipo de cerámica y las figurillas encontradas indican un contacto probablemente desde 600-450 a.C. con la región oaxaqueña y Tehuacán, La Venta en el estado de Tabasco, Cuenca de México, valle de Morelos y Costa del Golfo. Dichas interacciones con el valle de Maltrata confirman que fungió como zona de paso e interconexión posiblemente comercial.

Debido a la evidencia cerámica, se plantea que en el asentamiento de Barriales de Las Besanas pudo existir una sociedad jerárquica en donde la posición social podría ser heredada para individuos infantiles, quienes no podrían haber obtenido su rango de otra forma, indicado por la cerámica de lujo y de importación, la posición del cuerpo en ventral y el depósito definitivo que se le ofreció al infante como parte de su pompa fúnebre. La posición ventral ha sido referida como postura de autoridad de la fase San José en los valles centrales de Oaxaca, es el caso del entierro 11 de Tomaltepec, muy parecido en la composición funeraria al infante de Barriales (Marcus y Flannery, 2001, p. 114). Además de estos dos rasgos indicadores de jerarquía: la posición ventral y la acumulación de bienes importados, tenemos la presencia de las figurillas.

La definición de una posición de autoridad está en estrecha relación con una “postura de obediencia”. Las investigaciones en los valles centrales de Oaxaca muestran que los individuos con “postura de obediencia” son numéricamente superiores en los entierros y se encuentran a mayor profundidad, quedando sus cabezas en un nivel inferior al de los individuos con postura de autoridad. Los individuos de élite son colocados sentados y arrodillados, sobre sus subordinados. El mismo concepto puede apreciarse en el pozo 22d en barriales de las Besanas, pues el infante posiblemente femenino apareció sobre la entrada de una formación troncocónica en la cual hubo hasta diez figurillas. Retomando la posibilidad de que las figurillas

² La formación troncocónica funeraria de Rancho Verde, en el valle de Maltrata, también fue preparada con una cama de carbón y tiosos para recibir un entierro múltiple sucesivo (Ruiz 2023). Respecto a la cerámica Gris fino, es considerada una loza lujosa en el valle de Oaxaca y de importación en otras localidades, que se comerciaba con San Lorenzo, con Aquiles Serdán en la costa chiapaneca del Pacífico y con Tlapacoya en la Cuenca de México (Lira, 2005).

hubieran sido utilizadas para representar “pequeñas escenas rituales” (Marcus y Flannery, 2001, p. 117), en los valles centrales de Oaxaca, puede aceptarse que las figurillas en la formación troncocónica representan sus subordinados. El enterramiento de figurillas y no de humanos tal vez se debió a la corta edad de la niña que no le permitió tener realmente subordinados propios, pero es precisamente su edad el factor que le otorga interés al hallazgo.

El rol social y político de las mujeres es bien conocido para las culturas de Veracruz y Tamaulipas; ellas podían acceder al gobierno para continuar la línea dinástica en el caso de la cultura huasteca, si el padre no tenía primogénitos varones. Esculturas de bulto dan cuenta de la actividad política de estas representantes de la élite, como la escultura de la Señora de Amajac (Veracruz), la escultura de la Señora de Tempoal (Veracruz) y la escultura femenina del valle del Pánuco (Tamaulipas) (Figura 4); todas ellas con grandes tocados que denotan su posición y linaje, así como la postura erguida del cuerpo y la combinación de elementos simbólicos que pudieran asemejar a las diosas Teem, o deidades femeninas de la madre tierra y la fertilidad (Figura 4d). En el caso de La Señora de Tempoal exhibe escarificaciones en la parte superior de su dorso, práctica destinada a los gobernantes y a personas de alto rango (Figura 4b).



Figura 4. a: La Señora de Amajac; b: La Señora de Tempoal, c; escultura femenina con tocado de dos mechones de Pánuco; d: Diosa Teem, porta tocado semicircular de hojas de palma o plumas con elemento cónico al frente (Maldonado Vite, 2021 y Mediateca INAH).

Los entierros infantiles con gran pompa se pueden rastrear también para el periodo Preclásico (350 a 100 a.C.) en lo que fue una aldea costera en Chak Pet, al norte de la Huasteca en el actual estado de Tamaulipas. Es de interés el entierro 236 correspondiente a un infante femenino entre ocho y 10

años de edad, al cual se le dispuso de un collar de 52 caninos de cánido y el cuerpo fue cubierto con pigmento rojo. El infante fue depositado como bulto mortuorio al exterior de una casa, cerca de un piso de barro y un fogón, en posición decúbito dorsal extendido de Oeste a Este; posición atípica para la temporalidad del sitio, ya que la posición predominante ha sido en decúbito ventral extendido; tanto el ajuar funerario como el tratamiento mortuorio son indicativos de un estatus social de importancia para las mujeres dentro de la sociedad huastecana temprana (Valdovinos *et al.*, 2016).

Entierros localizados en posición ventral dentro de formaciones troncocónicas se rastrean desde el Preclásico en la Cuenca de México (Centro de Tlalpan), es el caso del entierro 5, individuo masculino adulto con objetos foráneos como parte de su ofrenda, y por lo mismo considerado de mayor rango dentro del asentamiento e incluso, foráneo (Meraz, 2016). El antecedente más remoto sobre la posición ventral en Veracruz se remite a tres individuos del Arcaico tardío de la Cueva del Palmar, Huayacocotla: un masculino adulto joven y dos infantes de sexo indeterminable de uno a dos y de cinco a siete años de edad; ambos infantes con una diferencia de 400 años entre cada inhumación (Meza *et al.*, 2022).

En otro sitio del mismo valle de Maltrata, Tetel de Rancho Verde, también se han registrado formaciones troncocónicas pertenecientes al periodo Preclásico, una de ellas funcionó como depósito funerario de un entierro múltiple sucesivo. La base de la formación había sido preparada para el depósito subsecuente de los cuerpos, los materiales cerámicos encontrados son parecidos a los reportados para el depósito infantil de este caso de estudio, pero en mucho menor frecuencia y variedad. Se concluyó que dichos individuos pertenecen a la esfera común de la población del sitio, además que exhiben lesiones patológicas relacionadas con treponematosi s causadas por la espiroqueta *Treponema pallidum* (Ruiz, 2023).

Si bien el uso de formaciones troncocónicas como espacios de muerte es un rasgo característico del periodo Preclásico, asociadas a espacios habitacionales, es posible distinguir una jerarquía entre los individuos depositados en dichos pozos de reuso. En ambos sitios: Tetel de Rancho Verde y Barriales se observó una preparación del fondo de la fosa, pero la cantidad y calidad de ofrenda, así como los materiales con los cuales se preparó la fosa sobresalen en el individuo infantil; en suma, se nota un trato diferencial del cuerpo, mientras que el infante de los Barriales corresponde a un depósito definitivo, el entierro de los individuos de la fosa de Rancho Verde implicó la manipulación del espacio en diferentes momentos. El depósito definitivo podría considerarse privilegiado por el hecho de mantener la individualidad, la identidad y la integridad del cuerpo intacto de la persona (Valentin *et al.*, 2013); a diferencia de un espacio colectivo de personas.

Metodología

Sexo y edad

Las variaciones morfológicas entre hombres y mujeres en edades tempranas de la ontogenia humana son muy sutiles, por lo cual, asignar el sexo a individuos subadultos es controversial en los estudios de osteología humana. Desde hace tiempo se han desarrollado metodologías para detectar ciertas características osteológicas dimórficas, como la superficie auricular del ilíaco, al presentar diferencias estadísticamente significativas entre los sexos (Luna, Aranda y Santos, 2017; Luna, Aranda, Mongue y Santos, 2021).³ Para el presente estudio se utilizó el método de la superficie auricular del ilíaco en individuos en edad intrauterina a cinco años y de siete a 18 años (Luna *et al.* 2017, 2021).

En el caso de la asignación de la edad en subadultos nos basamos en el desarrollo dental, su erupción y la longitud diafisaria (Scheuer *et al.*, 2009); así como en los estadios de calcificación en el desarrollo dental (Demirjian *et al.*, 1973). Para este último criterio se utilizó una radiografía panorámica de la mandíbula y se describieron los estadios de desarrollo de la A a la letra H de los siete dientes mandibulares, se valoró el inicio de la calcificación de las cúspides, el momento del cierre del ápice y los cambios en la longitud desde la corona a la raíz.

Diagnóstico diferencial, características clínicas

De las enfermedades infecciosas no venéreas, sólo el yaws y el bejel exhiben patología esquelética. Se ha postulado que los tres padecimientos resultaron de una especie bacteriana original, por ello sus manifestaciones esqueléticas son muy similares y difíciles de distinguir, sobre todo entre el yaws y el bejel; ambas desarrollan etapas tempranas y tardías de infección con afectación esquelética en huesos largos: tibia, ulna, húmero, clavículas y el cráneo (Fafara-Thompson, 2015; Ortner, 2003). De las cuatro variantes de treponematosi existentes, sólo la sífilis se transmite regularmente por vía transplacentaria; no obstante, el yaws y el bejel pueden transmitirse durante el embarazo o el parto, pero es extremadamente raro. El yaws y el bejel generalmente se adquieren durante la infancia, lo que implica que al llegar la madurez reproductiva la carga bacteriana inicial ha disminuido drásticamente y esto reduce la probabilidad de transmisión en la etapa fértil. Contrario a esto, la sífilis se adquiere principalmente después del inicio de

³ Los individuos producto de dichas investigaciones fueron exhumados del Cemitério Municipal da Conchada de Coimbra y cada uno de ellos contaba con información osteobiográfica: nombre completo, sexo, edad al fallecer, lugar de nacimiento, fecha, lugar, causa del fallecimiento y actividad ocupacional (Luna *et al.*, 2017, 2021).

la madurez sexual, por lo que la probabilidad de una alta carga bacteriana durante el embarazo es significativa. La evidencia esquelética específica para la treponematosi congénita es un fuerte indicador de la presencia de sífilis venérea, sin embargo, determinar las lesiones esqueléticas específicas de esta afección es un gran problema porque muchas de las lesiones esqueléticas son compatibles con otras variantes de treponematosi. Incluso las lesiones no diagnósticas, como las reacciones subperiósticas sistémicas y localizadas, tienen múltiples etiologías y deben interpretarse con cautela (Harper *et al.*, 2011, p. 121).

Para el diagnóstico diferencial con base en los criterios macroscópicos entre el yaws, el bejel y la sífilis congénita se debe considerar la edad del individuo, ya que el yaws y el bejel son principalmente enfermedades infantiles que afectan a menores de quince años; mientras que la sífilis venérea, debido a su transmisión sexual, se presenta mayoritariamente en adultos (Fafara-Thompson, 2015; Ortner, 2003). En la Tabla 1 vemos condensadas las lesiones esqueléticas más comunes en cada una de estas enfermedades.

Para realizar el diagnóstico diferencial (DD) utilizamos un criterio de puntuaciones propuesto por Harper *et al.* (2011, p. 119). A la fecha no existen indicadores diagnósticos específicos para la sífilis congénita, pues las lesiones que ocurren también aparecen con frecuencia en otras condiciones; por esta razón el arqueamiento tibial tiene una puntuación más baja, mientras que el signo de Wimberger y los incisivos de Hutchinson, que se presentan principalmente en la sífilis congénita, reciben una clasificación más alta.

Diagnóstico: sífilis congénita

1. Lesiones compatibles con un proceso no treponémico (proceso tafonómico, etiología no infecciosa, etc.).
2. Lesiones compatibles con sífilis congénita (periostitis, arco palatino alto, maxilares y mandíbulas desproporcionados, arqueamiento tibial verdadero).
3. Lesiones sugerentes de sífilis congénita (signo de Parrot, escápulas ensanchadas, molar de Fournier/Mulberry).
4. Lesiones altamente sugerentes de sífilis congénita (signo de Wimberger, incisivos muescados y ahusados o de Hutchinson y molares de Moon).

Para el diagnóstico diferencial fue necesario la toma de radiografías de ciertos huesos del individuo infantil (cráneo, mandíbula, clavículas, radio, ulna, húmero, ilion, fémur tibias y fíbula). La toma radiológica se realizó con un equipo Poskom modelo PXP-40HF portable de uso veterinario. El equipo tiene un rango máximo de salida de alto rendimiento de 100 kV/35 mAs. Dicho equipo fue colocado ortogonal al plano de toma a 100 cm del chasis. Para la

digitalización se empleó un sistema CR Vita Flex marca Carestream empleando dos chasis de 14 x 17" obteniendo imágenes de 2208 x 2664 pixeles.

Pian o Yaws

El yaws se observa en gran medida sólo en niños y exhibe características similares a las de la sífilis endémica y no se transmite a través de la placenta. El yaws produce lesiones en la piel, en los huesos y los cartílagos, pero no afecta órganos más profundos. Al igual que la sífilis endémica o bejel, los casos de afectación por yaws ocurren en la infancia, entre los dos y los diez años, a través del contacto de piel a piel con las lesiones cutáneas húmedas de un individuo infectado.

Las infecciones de yaws se pueden clasificar en etapas tempranas y tardías. En la primera, las lesiones se caracterizan por una erupción inicial de pápulas en la piel que después de un tiempo llegan a sanar. Las lesiones óseas en el yaws son raras y suceden entre el 5% y el 15% de los casos; se consideran en gran medida indistinguibles de otras infecciones treponémicas. El yaws es principalmente una enfermedad infantil, así que las lesiones activas se observan únicamente en niños; tales lesiones pueden afectar el tejido óseo, pero en etapa adulta ya no llegan a ser visibles. Cuando ocurre afectación ósea, se pueden observar cambios patológicos en el hueso, en dos etapas: cambios activos e inactivos; los primeros corresponden a depósitos periósticos, mientras que los cambios inactivos incluyen engrosamiento cortical, expansión ósea y pseudo tibias en sable, el cual es uno de sus rasgos más distintivos.⁴

La tibia en sable corresponde a un arqueamiento anterior general, sin ningún otro cambio importante en el hueso y es muy similar a la tibia en sable que se presenta en la sífilis congénita y normalmente comienza antes de los quince años; rara vez el peroné muestra una hipertrofia como la tibia. Por lo que el pseudo-arqueamiento de la tibia se genera por la formación reactiva de hueso en las superficies anterior y medial del eje largo sin distorsión real del eje largo que se observa comúnmente en adultos. Existen otras condiciones observables, es el caso de la rinofaringitis mutilante con destrucción completa de la cavidad, como resultado de la formación de procesos gomosos en la nasofaringe; los nódulos yuxtaarticulares en las articulaciones principales; la dactilitis o agrandamiento de las articulaciones interfalángicas. El yaws se puede distinguir de otras afecciones treponémicas por la mayor tasa a la que producen las lesiones óseas tempranas y tardías, así como lesiones nasofaríngeas y nódulos articulares; en cambio la sífilis endémica o bejel

⁴ El engrosamiento de la cortical o hiperostosis cortical también puede ser causada por el Síndrome de Caffey; consiste en neoformación ósea perióstica secundaria a un proceso inflamatorio en extremidades superiores o inferiores, presente desde la etapa prenatal o en los primeros años de vida (Rodríguez *et al.*, 2016).

tiene menos lesiones primarias y más afectación de las superficies mucosas; en general, esto resultará en menos lesiones esqueléticas y menos graves (Fafara-Thompson, 2015).

Bejel, sífilis endémica, sífilis no venérea o infantil

Puede presentarse en individuos infantiles, esta enfermedad se transmite por contacto con la piel, por insectos vectores, de manera más frecuente por el uso de recipientes para comer y beber compartidos. No se observan lesiones óseas en niños menores de dos años. Los cambios esqueléticos de la sífilis endémica se asemejan a los cambios observados en la sífilis congénita adquirida. Las ubicaciones esqueléticas predilectas pueden ser tibia y ulna. Los cambios óseos se asemejan a los de la sífilis congénita tardía o adquirida, los cuales son: depósitos óseos periósticos que causan agrandamiento fusiforme o alargado pero pocos cambios medulares (Figura 5). Pueden producirse gomas intracorticales, muy líticas y redondeadas. La formación reactiva de hueso en

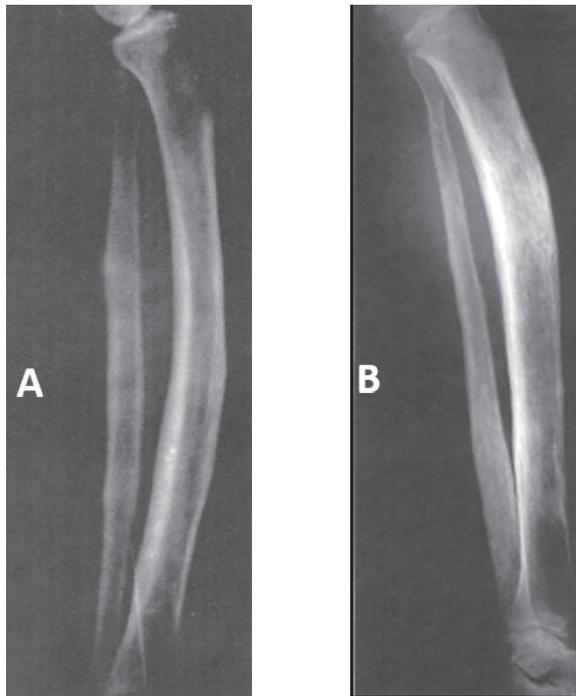


Figura 5. A: Radiografía de tibia en sable en el pian o yaws, se observa arqueada con espesamiento cortical anterior y posterior, la curvatura se presenta a la mitad de la diáfisis y fibula normal B: Radiografía de un individuo moderno con bejel, se observa pseudo tibia en sable, debido a la formación de hueso perióstico en la parte anterior y medial en el primer tercio (Ortner, 2003, pp. 276 y 279).

la tibia produce la clásica tibia en sable en la vista lateral, sobre la mitad de la diáfisis; pueden llegar a presentarse periostitis y gomias en huesos cortos de manos y pies. La articulación de Charcot (destrucción y deformación articular) no es observable en la sífilis endémica. Presencia de lesiones nasales que perforan el paladar duro; puede haber destrucción de los cuerpos vertebrales adyacentes, similar a la tuberculosis; si hay destrucción de los cuerpos vertebrales tendría que ser visible en hueso seco (Ortner, 2003, p. 278).

Sífilis congénita

Contagio

Existen tres etapas de desarrollo de la afección —primaria, secundaria, terciaria. En la etapa primaria, las mujeres infectadas presentan llagas genitales indoloras —chancros— que pueden ser desapercibidas. Después de varias semanas o meses se generan reacciones cutáneas sistémicas generalizadas de la diseminación de las espiroquetas de la sífilis secundaria y es su periodo de contagio más alto, el cual dura hasta un año. Tanto las lesiones primarias como las secundarias entran en una etapa “latente”, en donde no hay manifestaciones clínicas pero la infección puede transmitirse a los bebés nacidos de madres infectadas, igualmente en la etapa primaria y secundaria (Walker y Walker, 2007).

La transmisión vertical ocurre porque las espiroquetas pueden atravesar la placenta e infectar al feto, esto a partir del tercer trimestre de gestación o por la contaminación del feto en el momento del parto al pasar por el canal vaginal. Si el bebé se infecta después de este periodo existe un 25% de aborto espontáneo o mortinato, así como un 50% de probabilidad de infección congénita y sólo un pequeño porcentaje nacerá sano. Los neonatos infectados durante el tercer trimestre pueden enfermar hasta las primeras semanas de vida, entre la segunda y sexta semana (Forero y Peña, 2011). El riesgo de infección fetal llega a aumentar con la edad gestacional. Las posibilidades de transmitir la infección al feto son del 70% cuando la mujer embarazada no ha recibido un tratamiento y el 40% de los embarazos en mujeres con sífilis temprana no tratada terminan en muerte perinatal.

Nacimiento

Si el feto está infectado, cerca del 35% nace vivo con sífilis congénita; aunque no se tengan signos específicos de infección, habrá un peso bajo al nacer. Cuando el feto no sobrevive es debido seguramente a una infección placentaria asociada con la disminución del flujo sanguíneo al feto, sin embargo, puede influir la infección fetal directa. Se ha considerado que alrededor de dos tercios de los recién nacidos vivos con sífilis congénita son asintomáticos al nacer. En la sífilis congénita las manifestaciones clínicas

aparecen después del nacimiento y se divide en sífilis temprana a los dos años de edad y sífilis tardía en niños mayores hasta los 15 años, dependiendo de la edad de aparición de los síntomas (Chungara *et al.*, 2006, p. 67; Forero y Peña, 2011; Harper *et al.*, 2011, pp. 102, 207, 208; Nissank *et al.*, 2016, p. 123, 124; Torres y Rodríguez, 2017, p. 290; Walker y Walker, 2007).

Expresión de la enfermedad

La infección en etapa tardía afecta tanto a la región craneana como postcraneal. Las lesiones craneales incluyen un puente nasal colapsado (nariz en silla de montar: borde inferior difuso en forma de gotera, dando un aspecto de lavado), debido a la rinitis sífilítica y la destrucción de huesos y cartílagos subyacentes, asociado a la perforación del tabique nasal; protuberancia prominente en el hueso frontal; paladar alto y arqueado y un maxilar y una mandíbula desproporcionados (Chungara *et al.*, 2006, p. 67; Forero y Peña, 2011; Harper *et al.*, 2011; Nissank *et al.*, 2016; Torres y Rodríguez, 2017, p. 290; Walker y Walker, 2007).

En cuanto a los defectos dentales principales se encuentran: 1) los incisivos de Hutchinson o dentadura mellada por falta del desarrollo del lóbulo medio de la corona del diente, además los dientes son cortos, estrechos y semitraslúcidos, rasgos presentes en dentadura permanente, sobretodo en el incisivo central superior; 2) los molares de Moon o molares en brote corresponden a dientes pequeños en forma de cúpula, múltiples cúspides pequeñas, sus cúspides están más juntas de lo normal; las coronas son más anchas en la base y más estrechas en las cúspides, no tienen surcos alrededor de las cúspides y la superficie de la corona es lisa; 3) los molares de Fournier o molares en mora, se refiere a un surco profundo alrededor de la base de cada cúspide debido a una hipoplasia del esmalte, también se puede observar un diente más pequeño –muñón– que crece a partir de uno más grande. Las personas con signos dentales de sífilis congénita tienen mayor probabilidad de presentar hipoplasias del esmalte con foveas en lugar de lineales. Los molares de Moon y los incisivos de Hutchinson se consideran fuertemente indicativos de sífilis congénita -rasgos patognomónico más útiles para diagnosticar la sífilis congénita en el registro arqueológico- y los de Fournier pueden ser causados por otras condiciones. El esmalte oscurecido y el tamaño reducido de los dientes también ocurren, pero no son específicos (Nissanka *et al.*, 2016; Torres y Rodríguez, 2017, p. 290).

Las lesiones postcraneales van desde el engrosamiento esterno-clavicular unilateral o bilateral (signo de Higoumenakis); las articulaciones de Clutton (hidrartrosis bilateral o hinchazón sobre todo de la rodilla) en rodillas, tobillos, codos, muñecas y dedos con limitación en la movilidad; escápulas ensanchadas, reacciones periósticas en manos y pies (dactilitis, con más

frecuencia en los dedos de los pies); gomas, osteomielitis y artritis sifilítica. En la tibia aparecen signos de Wimberger (lesiones líticas en la cara medial de la tibia proximal), que son típicamente indicadores de sífilis congénita; arqueamiento tibial verdadero o tibia en sable (por crecimiento diferencial de la tibia anterior que corresponde a una curvatura en proyección anterior de la porción media de la tibia, aunque también se presenta en yaws o pian) (Bou, 2020; Chungara *et al.*, 2006, p. 67; Forero y Peña, 2011, p. 207, 208; Nissank *et al.*, 2016, 123, 124; Harper *et al.*, 2011, p. 102; Torres y Rodríguez, 2017; Walker y Walker, 2007).

Respecto a la tibia en sable, Ortner (2003, pp. 294 y 296) menciona que hay dos tipos de anomalía tibial. El primero es un arqueamiento de la tibia resultado de un crecimiento anormalmente estimulado que produce una inclinación verdadera; sin embargo, también se puede producir un pseudo arqueamiento por la deposición de capas de hueso en la superficie anterior y medial. La diferencia radica en que la acumulación ósea similar en la superficie tibial anterior en la periostitis no gomosa de la sífilis adquirida, no está anormalmente alargada y curva, pues el contorno posterior permanece recto; por lo que se tiene que determinar si la línea interósea de la tibia es recta, si lo es, el arqueamiento es considerado pseudo; pero si la línea interósea se curva en cualquier dirección, específicamente en el eje anteroposterior, entonces se trata de un verdadero arqueamiento en sable (Figura 5).

Tabla 1. Patología esquelética diferencial entre yaws, bejel y sífilis congénita

	<i>Yaws/Pian/frambesia</i>	<i>Bejel/sífilis endémica</i>	<i>Sífilis congénita</i>
	Entre los dos y los diez años	Lesiones óseas mayores a los 2 años	Entre los dos a 15 años
Temprana	x	x	Pseudo parálisis de Parrot
Cráneo	-Lesión gangosa -Lesiones nasofaríngeas	Lesiones nasales que perforan el paladar duro	Nariz en silla de montar, protuberancia prominente en el hueso frontal; paladar alto y arqueado y un maxilar y una mandíbula desproporcionados
Defectos dentales	x	x	-Incisivos de Hutchinson -Molares de Moon -Hipoplasias del esmalte con foveas

	<i>Yaws/Pian/frambesia</i>	<i>Bejel/sífilis endémica</i>	<i>Sífilis congénita</i>
Manos y pies	-Artritis gomosa particular y muy exacerbada que produce destrucción y reparación ósea marcada en las articulaciones y zonas contiguas en las articulaciones interfalángicas y de la muñeca -Dactilitis o agrandamiento de las articulaciones interfalángicas -Periostosis en la parte plantar del calcáneo	-Gomas en huesos cortos de manos y pies -Es menos común la dactilitis	-Dactilitis
Esqueleto apendicular	-Periostosis y osteítis en los huesos del brazo -Depósitos periósticos -Engrosamiento cortical, expansión ósea y pseudo tibias en sable -Nódulos articulares -Suele afectar a los siguientes huesos del esqueleto apendicular y axial en orden descendente: tibia (46%), fíbula (20%), fémur (13%), ulna (10%), húmero (9%), región nasal (8%), radio (7%), columna (5%), huesos de manos (4%), huesos de pies (4%), cráneo (3%), costillas (3%) y pelvis (2%)	-Las ubicaciones esqueléticas predilectas pueden ser tibia y ulna -Depósitos óseos periósticos que causan agrandamiento fusiforme o alargado pero pocos cambios medulares	-Signo de Higoumenakis -Articulación de Clutton.. -Gomas, osteomielitis y artritis sífilítica -En la tibia aparecen signos de Wimberger -Tibia en sable

Fuente: Chungara et al., 2006, p. 67; Fafara-Thompson, 2015; Forero y Peña, 2011, pp. 207, 208; Harper et al., 2011; Nissank et al., 2016, pp. 123, 124; Ortner, 2003; Roberts y Buikstra, 2019; Torres y Rodríguez, 2017; Walker y Walker, 2007.

Resultados

Como preámbulo es importante mencionar todos los marcadores de salud observados en el esqueleto, si bien luego se realiza el cuadro con las

alteraciones propias de la treponematosi, pues las enfermedades infecciosas tienen mayor repercusi3n en personas con salud m1s deteriorada. La presencia de alteraciones dentales, son indicadores evidentes del estado de salud. Por otra parte, la presencia de signos esquel3ticos relacionados con actividades f1sicas forzadas a edades tempranas, son reflejo de estr3s, pudiendo tener igualmente repercusi3n en el estado de salud y por tanto en la inmunidad del infante.

Sexo y edad

El individuo probablemente corresponda al sexo femenino, de acuerdo a los criterios morfol3gicos evaluados (Figura 6). La edad a la muerte es dif1cil de estimar, debido a que se encontr3 una incongruencia respecto al grado de maduraci3n dental: siete a ocho a1os por desarrollo dental, 7.6 a1os por calcificaci3n dental. Mientras que el desarrollo del esqueleto postcraneal nos indica una edad aproximada entre cinco y siete a1os, siendo menor que la dental. Realmente el h1mero da una edad menor; parece haber una ligera disimetr1a en el desarrollo de las extremidades superiores respecto de las inferiores, como indicamos seguidamente (Tabla 2).

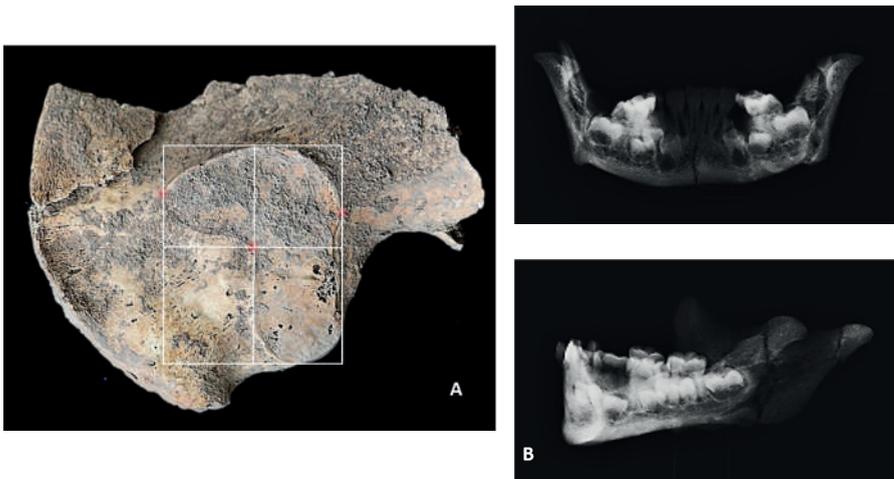


Figura 6. A: Carilla auricular il1aca del individuo infantil con morfolog1a de L invertida, de acuerdo a los par1metros dim3rficos establecidos por Luna *et al.*, 2017, 2021. B: Vista frontal y lateral de la mand1bula, se aprecia calcificaci3n dental.

Es de inter3s anotar que las extremidades superiores parecen estar acortadas. Se ha estimado el estatus de crecimiento para conocer las

condiciones de vida que experimentó este infante. Nos basamos en la estatura a partir de la longitud diafisaria del fémur derecho, utilizando el método de Maresch (1963, tomado de Peña y Hernández, 2010, p. 84), obteniendo una estatura máxima de 115.25, una mínima de 90.45 y una media de 102.85. Una vez estimada la estatura se tomaron como referencia los datos del estudio longitudinal de crecimiento en una muestra de niños mestizos de la Ciudad de México realizado por Faulhaber (1976), en específico los valores correspondientes a la media de grupo de edad y la desviación estándar para cada edad de acuerdo con el sexo; se consideró la edad estimada a partir de la calcificación de los dientes mandibulares (7,6 años). Estatura estimada: 102,9; estatura esperada 119,56 (Faulhaber, 1976, p. 74); de acuerdo a estos datos el individuo infantil podría presentar un retardo en el crecimiento por estar -3σ respecto al grupo de referencia.

Tabla 2. Edad dental y postcraneal

<i>Pieza dental</i>	<i>M1</i>	<i>M2</i>	<i>PM2</i>	<i>PM1</i>	<i>C</i>	<i>IL</i>	<i>IC</i>	<i>Suma</i>	<i>Edad dental</i>
<i>Estadio</i>	G	D	D	D	E	F	G	67.8	7.6
<i>Valor</i>	14.0	11.1	10.6	7.5	7.3	8.0	9.3		
Desarrollo dental								7 a 8	
<i>Esqueleto postcraneal</i>								<i>Edad</i>	
Desarrollo del atlas y axis:								5 a 7	
Clavícula derecha: 8.03 cm								6 a 7	
Húmero derecho: 16.6 cm								4 a 4.5	
Ulna derecha: 14.43 cm								5	
Tibia derecha: 21.3 cm								5 a 6	
Fémur derecho: 22.5 cm								5 a 6	

Fuente: Demirjian *et al.*, 1973; Schaefer, Black y Scheuer, 2009.

Por otro lado, el individuo infantil manifiesta lesiones macroscópicas registradas por región anatómica, en cráneo: paladar alto y arqueado (puntuación 1), incisivos laterales superiores de Hutchinson (puntuación 3), Molares de Moon (1MII) (puntuación 3), hipoplasias del esmalte con fóveas (incisivos inferiores) (Figura 7G); en el esqueleto postcraneal: signo de Higoumenakis o engrosamiento esterno-clavicular unilateral lado izquierdo (Figura 7A); signo de Wimberger o lesiones líticas en la cara medial de la tibia proximal (puntuación 3) (Figura 8E, F); pseudo arqueamiento tibial con línea interósea no curva e hipertrofia tanto del peroné como de la tibia (Figura 8E, F) (Harper *et al.*, 2011). En la Tabla 3 y Tabla 4 se condensa la descripción detallada por región anatómica.

Tabla 3. Descripción de lesiones patológicas en dentadura decidua y permanente

<i>Dentadura maxilar decidua</i>		<i>Dentadura mandíbula decidua</i>	
62: ILI Pérdida <i>ante mortem</i>	52: ILD En proceso de desprendimiento. Diagénesis con destrucción de esmalte en vestibular, superficie incisal con cálculo dental		
63: CI Decidual En proceso de desprendimiento y desgaste oclusal	53:CD Decidual Pérdida <i>ante mortem</i>	73: CI Desgaste inicial, cálculo dental subgingival inicial	83: CD Pérdida <i>ante mortem</i> con absceso en el alveolo
64: 1MI Una caries en región oclusal, lingual y distal, con desgaste	54: IMD Una caries interdental en mesial que no afecta superficie oclusal	74: 1MI Desgaste de cúspides moderado, 2 caries (interdental y oclusal), con pérdida de esmalte y exposición de dentina	84: IMD Pérdida <i>ante mortem</i> con absceso en el alveolo
65: 2MI Desprendimiento de esmalte en cara mesial y lingual, coincidente con la caries del diente 74 y desgaste	55: 2MD Presencia de tubérculo Carabelli grado 1, cálculo dental inicial en lingual	75: 2MI Desgaste oclusal inicial, cara lingual con cálculo inicial, no tiene patrón cuspidé, una caries interdental distal	85: 2MD Desgaste oclusal inicial, no patrón cuspidé, fóvea distal oclusal sin esmalte y dentadura de Mulberry y posibles gránulos de Moom
<i>Dentadura Maxilar Permanente</i>		<i>Dentadura permanente mandíbula</i>	
21: ICI Diente de Hutchinson, muesca en forma de media luna en superficie oclusal, una hipoplasia	11: ICD Una hipoplasia visible en lingual, pieza en proceso de erupción	31: ICI Dos líneas de hipoplasia, dos fóveas incisal-vestibular y distal en cada reborde, y cálculo dental vestibular. Los mamelones son muy angulados	41: ICD Dos líneas de hipoplasia, dos fóveas interdentes y cálculo dental vestibular

<i>Dentadura maxilar decidual</i>		<i>Dentadura mandíbula decidual</i>	
22: ILI Diente de Hutchinson: corona reducida y redondeada con forma de clavija, dos fóveas: una vestibular y otra lingual hacia la región incisal	12: ILD Diente de Hutchinson: corona reducida y redondeada con forma de clavija, una hipoplasia del esmalte incisal y una fóvea vestibular incisal	32: ILI Una línea de hipoplasia en corona y otra en raíz	42: ILD Una fóvea interdental vestibular, dos líneas de hipoplasia en corona y dos líneas de hipoplasia en raíz, y cálculo dental vestibular, mamelones muy angulados
26: IMI Presencia de tubérculo Carabelli grado 1	16: IMD Presencia de tubérculo Carabelli grado 1, una hipoplasia del esmalte	34: IMI No patológico	44: IMD No patológico, impresiones de raíces vegetales en corona
27: 2MI En proceso de erupción	17: 2MD En proceso de erupción	35: 2MI Empieza a emerger	45: 2MD Empieza a emerger

Tabla 4. Descripción de las lesiones patológicas por región anatómica en el esqueleto postcraneal

<i>Hueso</i>	<i>Descripción</i>
Cráneo	-No observable criba orbitaria ni hiperostosis, debido a la acumulación de sedimentos. Cráneo sin modelado cefálico intencional. Incipiente aumento vascular en porción basilar y reborde de foramen, lado derecho. En la nariz se observa reacción perióstica en la base nasal, se extiende a la parte malar de forma bilateral y a los huesos internos de la nariz (Figura 5A)
Maxilar	-El paladar es elevado con aumento vascular y porosidades (Figura 5B)
Mandíbula	-Aumento de vascularización ósea sobre todo del lado derecho; el otro lado está cubierto por sedimento. Hay pérdida dental que implica el canino derecho decidual. Cavidad con absceso y periostitis dentro del alveolo, borde reabsorbido e inflamación del borde alveolar conservado. Agrandamiento del foramen justificado por la infección (Figura 5F)
Clavículas	-Engrosamiento unilateral lado izquierdo faceta articular externa (Signo de Higoumenakis) (Figura 6A y 7). Aumento vascular bilateral en cara superior e inferior (en menor grado) y porosidad

<i>Hueso</i>	<i>Descripción</i>
Escápula	-Espinass vascularizadas
Esternón	-Sin lesiones patológicas
Vértabras	-Cuerpos cervicales con aplastamiento de C3 a C6; aumento vascular en región anterior de cuerpo, desde inicial a severo: -Aumento vascular inicial: C3, C7, L1, T1, T2, L2, L3 -Aumento vascular moderado: T3, T4, T5, T9, L3, L12 -Aumento vascular severo: T6, T7 y T8 (Figura 6C)
Costillas	-Vascularización externa y porosidad
Coxal y sacro	-Aumento vascular en rama ascendente del isquion izquierdo -Aumento vascular en tercera y cuarta vértebra región anterior del sacro
Húmero	-Engrosamiento bilateral, criba humeral en región distal, reacción ósea en inserción del pectoral mayor bilateral y en deltoides derecho. En el lado izquierdo no es observable debido a acumulación de sedimentos. -Engrosamiento de la articulación distal con reacción perióstica en la diáfisis, seudoparálisis de Parrot (Figura 7)
Ulna	Engrosamiento bilateral de articulación proximal y reacción perióstica en diáfisis, seudoparálisis de Parrot (Figura 7)
Radio	-Engrosamiento bilateral de articulación proximal y distal mayormente, con reacción perióstica en diáfisis, seudoparálisis de Parrot. Línea de Harris, dos parciales y una completa, epífisis distal (Figura 7)
Mano	-En falanges agrandamiento del agujero nutricio del primer dedo y segundo dedo derechos, y tercer, cuarto y quinto dedos izquierdos y porosidad
Fémur	-El fémur derecho presenta criba femoral bilateral, aumento vascular en el cuello y periostitis en diáfisis -El izquierdo presenta aumento vascular en los cóndilos de la epífisis distal; no es observable el primer tercio debido al sedimento acumulado. Línea de Harris, dos parciales en epífisis distal (Figura 7)
Patela izquierda	-Dismórfica y muy pequeña (Figura 6)
Tibia	-Pseudo arqueamiento con acumulación ósea antero-posterior. Línea de Harris, dos parciales en epífisis distal
Fíbula	-En ambos se observa engrosamiento hacia la mitad de la diáfisis, bilateral y periostitis en zona de inserción del músculo tibial posterior. Línea de Harris parcial en epífisis distal (Figura 7)
Pies	-Tarsos derechos y cuñas sin cambios patológicos; pie izquierdo ausente

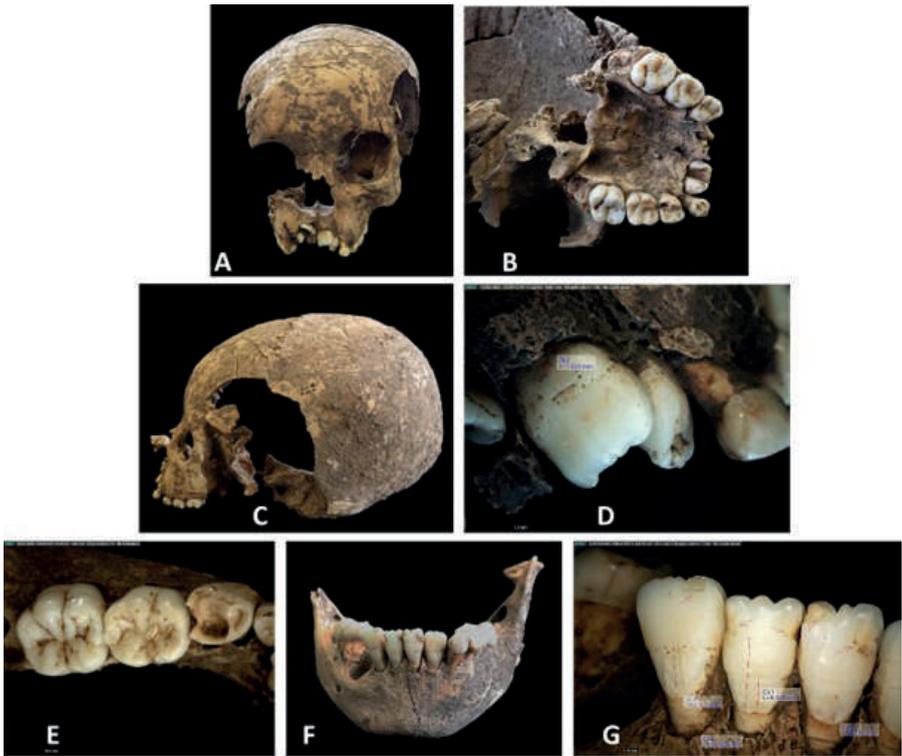


Figura 7. Lesiones treponémicas en piezas dentales. A: vista frontal con reacción perióstica en la base nasal; B: paladar con aumento vascular; C: morfología craneal, dolicocefalo; D: hipoplasias lineales y dientes de Hutchinson; E: posibles molares de Moon; F y G: hipoplasias lineales y fovea en incisivos inferiores.



Figura 8. A: signo de Higoumenakis en clavícula izquierda; B: cuerpos cervicales con aplastamiento anterior de C3 a C6; C: aumento vascular en región anterior de cuerpo en T6, T7 y T8; D: patela izquierda dismórfica y muy pequeña comparada con la de un infante de 7 a 8 años; E y F: pseudo tibia en sable con aumento cortical anteroposterior.

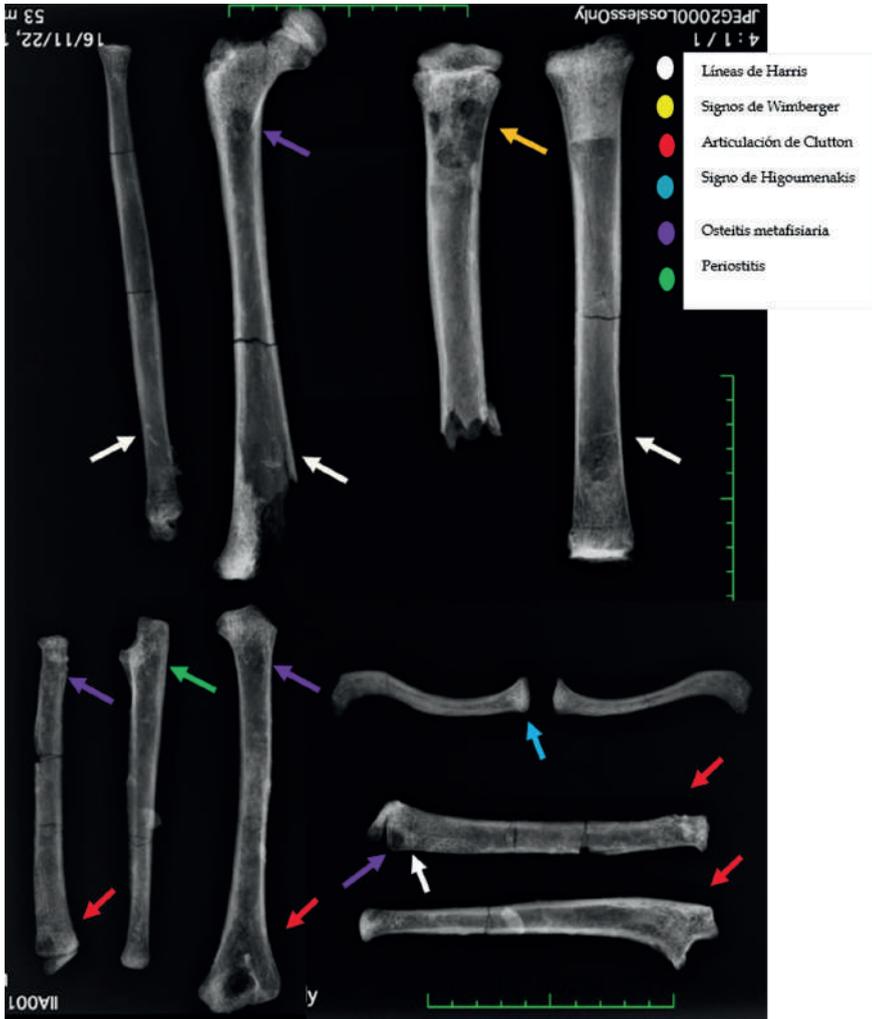


Figura 9. Vista radiográfica de clavículas, húmero, ulna, radio, fíbula, fémur y tibiae, se señala el tipo de lesiones en cada caso.

Discusión

Es imposible tener certeza de un caso de sífilis congénita a través de un diagnóstico diferencial basado únicamente en lesiones macroscópicas de restos óseos, principalmente porque hoy en día existen medios más certeros como los análisis paleogenómicos, sin embargo, las lesiones descritas pueden ser consistentes con esta enfermedad.

El infante presenta osteocondritis o pseudoparálisis de Parrot, dicha condición puede afectar a todos los huesos, pero lesiona con mayor frecuencia

al fémur y al húmero; conlleva una disminución del movimiento de los miembros superiores, debido al intenso dolor causado por la periostitis local y afecta principalmente a las metáfisis de los huesos largos (Pereira *et al.*, 2017). Como consecuencia biomecánica de dicha inamovilidad se produce una disimetría ósea de miembros superiores, es decir, una diferencia de longitud en las extremidades superiores. El origen puede ser variado: anomalías congénitas, trastornos del desarrollo, infecciones –procesos inflamatorios–, traumatismos, inmovilizaciones prolongadas e idiopáticas causantes de un hipocrecimiento u hipercrecimiento de uno de los miembros o crecimientos diferentes de cada uno de ellos. Los procesos infecciosos contribuyen a la detención del crecimiento, sobre todo el acortamiento de hombro y rodilla durante el periodo perinatal (Torruella y Jordana, sin año).

A través de la estimación de estatura se ha determinado que posiblemente tuvo un retardo en el desarrollo esquelético, corroborado por la presencia de hipoplasias lineales y líneas de Harris. La estatura, además de ser indicador del tamaño corporal, también provee información sobre la calidad de vida y las condiciones de salud, al estar influenciada por el ambiente, factores socioculturales y económicos. Tal situación de enfermedad ha causado un rezago importante en el crecimiento, en más de una ocasión, como lo evidencian las hipoplasias lineales y las líneas de Harris; tales indicadores de estrés son una respuesta adaptativa de su organismo ante situaciones adversas. Si bien a esta edad su sistema inmunológico se encontraba desarrollado, es posible que su estatus social y los medios de subsistencia con los que contó, hayan sido un medio atenuante para garantizar su sobrevivencia a edades mayores; sin embargo, su muerte pudo estar asociada al padecimiento prolongado de la enfermedad.

Las hipoplasias del esmalte son resultado de la reducción del grosor del esmalte, han sido consideradas como un indicador de estrés no específico durante el desarrollo dental y se han relacionado con la desnutrición y la enfermedad, algunas infecciones graves o periodos de fiebre alta. Su relación con la sífilis congénita se debe a las alteraciones en la amelogénesis que aparecen en el nacimiento y menguan con el tiempo; en general las trepanematosi pueden afectar la morfogénesis dental hasta la edad de dos años, por ejemplo, los incisivos de Hutchinson se originan en los primeros tres meses de vida extrauterina. En el caso de estudio, las hipoplasias del esmalte se localizan en incisivos permanentes, superiores e inferiores, con ranuras lineales y foveas con alteración en el color oscuro (Towle e Irish, 2020; Torres y Rodríguez, 2017). En cuanto a las líneas de Harris que presenta, se han asociado a episodios de enfermedad como puede ser: infección, neumonía, sarampión, influenza, varicela, tumores, condromolacia, quiste óseo, enfermedades metabólicas y nutricionales, anomalías congénitas y a la sífilis,

entre otros; sobre todo las líneas no paralelas oblicuas a la fisis –cartílagos de crecimiento– son evidencia del cese del crecimiento (Resnick, 2001).

En este estudio describimos un posible caso de sífilis tardía, los infantes en esta etapa de la enfermedad experimentan una serie de cambios corporales que comprometen su óptimo desarrollo y su inserción social –malformaciones faciales (abultamiento frontal, nariz en silla de montar)–, dientes malformados, deformidad en piernas; otras manifestaciones son la queratitis intersticial (visión borrosa, fotofobia y exceso de lagrimeo), posible sordera y vértigos; además de afectación de ciertos órganos (pulmones) y sobre todo la afectación osteomuscular (Rodríguez-Cerdeira, 2012).

Hoy día la sífilis congénita como causa de muerte sigue siendo un problema de salud pública en nuestro país con antecedentes históricos y osteológicos desde la época colonial, siglo XIX y XX, afectando mayormente a individuos masculinos y con mayor índice de mortalidad durante los primeros cuatro años de vida (Márquez y Sosa, 2016). La sobrevivencia de niños con este padecimiento implica realizar un diagnóstico oportuno desde la etapa intrauterina y posteriormente un tratamiento adecuado que garantice mejores condiciones de vida; en la antigüedad pudo implicar cuidados extremos para el infante hasta su bien morir, en donde el alto estatus de su linaje familiar jugó un papel importante, manifestándose en el ritual funerario que se le brindó al individuo, que no sobrevivió más allá de la segunda infancia.

Es factible que en el antiguo asentamiento del valle de Maltrata, los niños fueran considerados parte de la esfera social como los adultos, o quizá su posición social fuera heredada a su corta vida para dar un trato digno al cuerpo a la hora de la muerte (Lira, 2005); también existe la posibilidad de que su género haya sido trascendente en su estatus social como se propone para La Niña roja de Chak Pet en la Huasteca de Tamaulipas (Valdovinos *et al.*, 2016).

Se puede considerar que en la región centro de Veracruz pudo existir un foco endémico de enfermedades treponémicas desde tiempos muy antiguos (Preclásico), al reportar el caso que discutimos y otros existentes en el sitio de Rancho Verde (Ruiz, 2023), también en el valle de Maltrata; esto puede ser consecuencia del tránsito permanente que se ha reportado para la región debido a la ruta de comunicación entre la Costa del Golfo y el Altiplano central. Es deseable que más adelante se logren realizar análisis paleogenómicos, entre otros, para indagar sobre la variante treponémica reportada en este estudio de caso.

Las evidencias de treponematosi s en poblaciones pre coloniales mexicanas y del resto del Continente americano, son relativamente escasas, por lo que cualquier dato obtenido incrementa el conocimiento de la enfermedad, incluyendo la cronología, su ubicación territorial y la cultura de pertenencia. Por otra parte, los casos en población infantil se convierten en un elemento esencial para conocer las condiciones vitales de ese sector de la población

que durante mucho tiempo ha quedado en el olvido en la investigación paleopatológica. Hoy día somos más conscientes de que ninguna sociedad puede sobrevivir sin apoyo y cuidado entre las personas que la constituyen. Durante un largo periodo de la historia de la investigación el reconocimiento de los cuidados ofrecidos a las personas ante episodios que causan pérdidas de salud no han sido valorados. En la actualidad, la mirada que proyectamos en nuestra investigación integra tanto los signos que han perdurado de una enfermedad como los síntomas y los cuidados ofrecidos durante un proceso de discapacidad que puede finalizar con la cura de las personas, con la presencia de secuelas que causan una discapacidad más o menos limitante, o con la muerte (Tilley, 2015).

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Definición de REVISTA DE **ARQUEOLOGÍA AMERICANA**

La *Revista de Arqueología Americana* fue creada por el Comité de Arqueología, de la Comisión de Historia del IPGH y publicó su primera edición en 1990.

El objetivo de la Revista es ofrecer temas relacionados con la investigación arqueológica de las distintas regiones americanas. Además, los contenidos están presentados en dos volúmenes: uno sobre América del Norte y Central, otro desarrollando el tema para América del Sur y Caribe.

La Revista es temática, siendo publicados artículos en las cuatro lenguas americanas (español, inglés, francés y portugués), cada uno de ellos presenta un resumen en estos idiomas.

Los temas elegidos son aquellos objetos de debate en los círculos académicos y pretenden mostrar la situación en el panorama americano. Los artículos del cuerpo principal de la Revista se realizan a través de invitación a los expertos en los temas en cuestión.

Los primeros 12 volúmenes trataron del desarrollo cultural de todo el continente. Después, fueron discutidos algunos temas más específicos incluyendo diferentes aspectos de la tecnología precolombiana. El último tema discute la relación de cambios climáticos y la tecnología antigua.

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Estados Unidos
de América

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