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Renewing the house : trajectories of social life in the yucayeque (community) of El Cabo, Higüey, Dominican Republic, AD 800 to 1504

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renewing the house

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Renewing the house

Trajectories of social life in the yucayeque *(community) of El Cabo, Higüey, Dominican Republic, AD 800 to 1504*

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To my grandparents, Lillian Samson, Richard Samson and Fay Collister, with love.

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No house plans have been published for precolonial Hispaniola. Dwellings are generally presumed to have stood in the gaps between burial mounds and plazas, or wherever midden residues accumulated at these sites. Indeed, we have very little idea from archaeology what actual houses may have looked like, or more importantly, how they functioned, or what their significance and role was in pre-Columbian Hispaniolan society. In other words, we know very little about the physical and lived characteristics of precolonial daily life in the island's domestic setting. Enthusiasts, physicians and speleologists with their interest in indigenous art, petroglyphs and burials have dominated the archaeological history of the Dominican Republic and Haiti. Houses are absent, even though sometimes invoked as factors in models of culture change. The data from the site of El Cabo in the Dominican Republic, presented here, tips the scales the other way, contributing to a household archaeology in the Caribbean and a history of indigenous life in eastern Hispaniola, through the study of a significant native institution.

This dissertation concerns seven centuries in the history of the precolonial and post-contact community, or *yucayeque*[1], of El Cabo San Rafael, a settlement site on the east coast of the Dominican Republic (Fig. 1). El Cabo was inhabited for almost a millennium, from AD 600 to the first decades of European contact in the 16th century. The current research (re-) constructs the domestic structures at the site and interprets their associated artefact assemblages and the site organization from the latest phase of precolonial habitation, between ca. AD 800 and 1504.

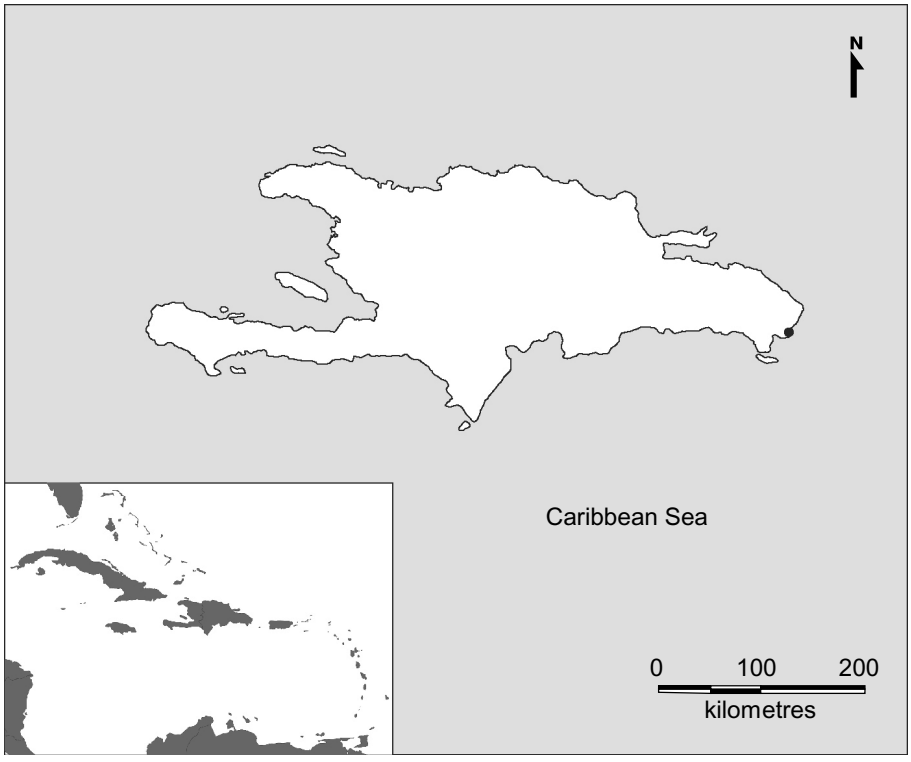

Figure 1. Hispaniola and its location within the Caribbean region (inset). The El Cabo archaeological site is marked with black dot.

1 *Yucayeque* is an indigenous term meaning "the people, or we people from this place" in the majority language (Taíno) of Hispaniola. The use of this term in this dissertation will be discussed in Chapter 2.

Data recovered in four fieldwork seasons from 2005 to 2008 provide insight into the house as a material, aesthetic, historical and social institution in the precolonial Caribbean. This is apparent in the details of architectural and settlement layout, both from a synchronic and diachronic perspective, and from the scale of the single house to the whole late settlement. A history emerges of indigenous life anchored in the historical province of Higüey in the centuries when demographic growth and socio-political complexity was at its height in the precolonial Greater Antilles. This we know from regional settlement studies, the presence of plaza and ceremonial complexes, demographic growth, agricultural intensification, high status artefacts and early colonial documents. A house-based perspective aims to complement these data.

Houses for the living and the dead

The present dissertation is the result of a sub-project forming part of the larger multi-disciplinary research design *Houses for the Living and the Dead*,[2] a 5-year project funded by The Netherlands Organisation for Scientific Research (NWO, grant number 360-62-030), under the direction of Dr Menno L. P. Hoogland. The sub-project, "Reading the features: A (re)construction of Taíno house structures at El Cabo[3] in the eastern Dominican Republic", represents the archaeological section of a multidisciplinary project which also combines the study of colonial document and bioarchaeological research. Colleagues Dr Adriana I. Churampi Ramírez and Dr Raphaël Panhuysen fulfil the historic document and bioarchaeological components.[4] The project has so far generated a number of reports, conference papers, undergraduate and graduate theses, and journal articles, and will be the subject of a forthcoming monograph.[5]

Overall aims of the research were to study the organisation of settlement space and residence rules in a Late Ceramic Age community in the Greater Antilles. Specific research questions related to the dissertation sub-project were the following:

(1) What do the house structures at El Cabo look like?

(2) What is the relation between the house structures and other features (burials, hearths, middens, artefact distributions, etc.)?

(3) Is it possible to (re)construct different households or household clusters?

(4) Are there marked differences of organisation and socio-economic status between different sets of households, as can be inferred from the early historic sources?

---

2 Full title "Houses for the Living and the Dead: Organisation of settlement space and residence rules among the Taíno, the indigenous people of the Caribbean encountered by Columbus."Principal applicant Dr Menno L. P. Hoogland, co-applicant Prof. Dr Maarten E. R. G. N. Jansen, Leiden University.

3 In 2004 sites in the Anamuya River area and Punta Cana were reconnoitred for suitability (see Hofman et al. 2004, unpublished report). Due to access issues, the location of El Cabo was subsequently preferred for this research. El Cabo was therefore not named in the original funding proposal.

4 The lack of a significant human burial assemblage meant that El Cabo was not appropriate for addressing the archaeometric dimensions of the project. Additional data are used to supplement the available collection.

5 MA theses and published articles on El Cabo as a result of the project include: van As et al 2008; Churampi Ramírez 2007; Hofman et al. 2006, 2008; Johnson 2009, forthcoming; Oudhuis 2008; Samson forthcoming; Samson and Hoogland 2007; St Jean 2008a, 2008b. A site monograph edited by Menno L.P. Hoogland, C.L. Hofman and the present author is forthcoming.

(5) What picture emerges regarding the general organisation of space in a "Taíno"[6] community?

These questions were posed by the principal investigator, Dr Hoogland, and aimed to pinpoint an archaeological, rather than an ethnohistoric definition of an indigenous house within a settlement context. Reliance on the early colonial sources has led to the emergence of a general picture of the house and the structure of settlements in the Greater Antilles before contact. However, in order to make interpretations on the intra-site (household) level and to get an insight into the spatial organisation and internal structure of the settlement, research on individual house plans and related features should be conducted. This level of research has, as yet, not been fully exploited in Hispaniola. I was extremely privileged to be a member of the field team throughout the research in El Cabo and this dissertation is written with the data recovered there. The chapters to come will attempt to answer the above questions, principally by a detailed presentation of archaeological plans. However, it also goes beyond these descriptive aims, resulting in the characterization of an indigenous community within its regional context and throughout a long period of its history, through the examination of the role of the house as a meaningful spatio-temporal unit of indigenous culture and unit of cultural transmission. This study will not only contribute regional data, but also present methodological and theoretical opportunities for archaeological research in the Caribbean, as well as contribute more widely to archaeological discussions of the house.

The site of El Cabo was more than ideally suited to address house-related questions. The foundations of dwellings and other domestic structures were dug down into the bedrock leaving indelible impressions. In turn, an artefact assemblage originating from both features and the find layer could be related to these architectural features. The high-resolution data from excavation units, combined with the lower-resolution, but spatially more extensive data from the collection of surface materials and smaller excavation units across the entire late settlement, led to reconstructions of houses, house groups and settlement layout over a centuries time span.

Such research at the individual house and settlement level acts as a foil to set off grander narratives engendered in the culture history of the period. The broad lines of this grand narrative, though still very much alive with competing claims between archaeologists, ethnohistorians and scholars from different national and political backgrounds, have been well established (Allaire 1999; Bercht et al. eds.,1997; Keegan 2000; Lovén 1935; Rouse 1948, 1992; Sauer 1966; Veloz Maggiolo 1991; Wilson, ed. 1997; Wilson 2007 (general); Moscoso 1978; Ortega 2005; Rouse 1939; Veloz Maggiolo 1972, 1993 (Dominican Republic); Cosculluela 1946; Curet et al. eds., 2005; Dacal Moure and Rivero de la Calle 1984, 1996; Domínguez et al. 1994; Guarch Delmonte 1973, 1974, 1994; Moreira de Lima 1999; Tabío and Rey 1979, 1989 (Cuba); Allsworth-Jones 2008; Atkinson 2006 (Jamaica); Keegan 1992 (The Bahamas); Curet 2005; Fewkes 1907; Oliver 2009; Rainey 1940; Rouse 1952; Siegel, ed. 2005;

6 "Taíno" is the much-debated, but almost universally applied shorthand denomination used to refer to the archaeological and historical populations of Hispaniola, eastern Cuba, Puerto Rico and the Virgin Islands, Jamaica, the Turks and Caicos Islands and the Bahamas from ca. AD 1000 to European colonisation. These peoples were ethnically, linguistically and socio-politically diverse yet nevertheless shared certain material culture traits which demonstrate cosmological underpinnings. Given such diversity, various alternatives have been suggested to the termí "Taíno", such as it's use to refer to an interaction sphere (Boomert 2001) or its more active form "Taínoness" to refer to networks of elite relations (Oliver 2009; Rodríguez Ramos 2007). It's use will be further qualified in this dissertation, and local terms preferably used.

(Puerto Rico)). The traditional concerns of this culture history have been with origins, migrations, issues of complexity and adaptation to island environments, and specifically for the later period, the formation and consolidation of complex, hierarchical society. The details of daily life, however, have been neglected from an archaeological perspective and largely filled in by extrapolating backwards from historic texts. This research, by taking as a starting point the house, rather than a culture, and the archaeological record, rather than Oviedo's sketchbook[7], will add another narrative strand to the picture.

It is shown that the house, and its long term expression, the *House Trajectory*, was a major identifiable and relevant category and constituent of Late Ceramic Age culture and society, and that these institutions were themselves participant in the reproduction of culture. Without this grassroots picture of cultural transmission, the larger picture will always remain detached from indigenous social reality.

Scope of the research

The study of houses *per se* cannot be isolated from the regional context. Neither can every settlement-scale excavation supply information on all topics relevant to a full picture of social life, either due to issues of preservation, or the focus and duration of the research project. This is certainly the case with El Cabo. There are a great number of topics which cannot be discussed under the scope of this dissertation, or for which only tentative suggestions may be made, and which await the publication of a site monograph and additional research (Hoogland et al. eds., forthcoming). These are for example detailed pictures of household subsistence, production and consumption. Such economic questions demand in-depth studies of faunal remains and technological studies of tools and raw materials. Moreover, local and long-distance networks are best addressed through provenance studies and stylistic analyses of such artefacts as pottery and crafted items. Rather, the approach here combines qualitative, spatial and quantitative data systematically related to site features, architecture and artefact distributions, and more opportunistically to other lines of evidence. It also relies on the rich, but fragmentary, history of research in the eastern region of the Dominican Republic, and more detailed studies of the immediate site surroundings for context.

Dissertation structure and chapter outline

Chapter 1 deals with the history and current state of affairs of the archaeology of domestic structures in the Caribbean, with particular emphasis on the research in the Greater Antilles. A summary of published archaeological plans reveals some common features of the indigenous structures excavated across the Greater Antilles, but more data collection is needed before archaeological interpretations of indigenous domestic life can compete with those drawn from the European chronicles. Thereafter, the current archaeological project in El Cabo is positioned within the history of archaeological research in the Dominican Republic, and more locally, with respect to the threats to the archaeological heritage of the eastern region. Lastly, the research is positioned with respect to the collaborative relationship between local people from El Cabo and us as archaeologists.

---

7 The only firsthand sketches of indigenous houses from the Greater Antilles were made in the 1540s by Fernández de Oviedo (1851: bk 1, lamina 1, figs 9-10).

Chapter 2 presents the methodological and theoretical framework of the dissertation, including a discussion of the empirical methods and theoretical positions of household archaeology. The house is offered as a unit of analysis which can offer insights into and new perspectives on current and perennial research concerns in Greater Antillean precolonial archaeology. Definitions used in the dissertation are discussed. A review of the oft-cited early colonial sources on houses, as well as from archaeological research in Hispaniola is set out in order to situate current knowledge on pre-Columbian houses and settlement dynamics.

Chapter 3 places El Cabo in its regional and local setting. Previous archaeological investigations in the eastern region are described as well as the geological, ecological, palaeoecological, and landscape history of the site. The cultural-historical setting of pre-Columbian and post-contact Higüey is described with reference to local archaeology and historical documents relating to the region. Finally, forty years of archaeological research in and around El Cabo itself is described. The picture that emerges is that of a historically, ecologically, and archaeologically distinct region.

Chapter 4 introduces the current archaeological research in El Cabo by Leiden University. This presents the fieldwork methodology and results, including the first phase of research, site chronology, and a description of excavated and surveyed areas. The diachronic development of the site is discussed and a detailed description of the features from the main unit in the Chicoid habitation area is given as a basis for the reconstructions in the ensuing Chapter 5.

Chapter 5 presents the reconstructions of the built structures from the main unit. The reconstruction methodology as well as confidence criteria are outlined. Structures are described one-by-one in terms of their spatial and physical characteristics, based mainly on feature patterning. Details of feature fills, associated finds, abandonment, dating and their relation to other structures are additionally described. Lastly, a typology of structures is distilled from the reconstructions in which the house emerges as the most conspicuous built element.

Chapter 6 presents an interpretation of the chronology of site structures and a diachronic perspective on late settlement development through the combined interpretation of structures, artefact distributions from the main unit, data from excavated areas outside the main unit and data from surface survey. A picture is built up of the relationship between individual houses, house groups, House Trajectories and the community (*yucayeque*) between AD 800 and ca. 1504. Lastly, the houses are populated, and an interpretation of house and community demographics is presented.

Chapter 7 summarises the results of the dissertation research, characterising the indigenous house of El Cabo in terms of its identity as an architectural and socio-cultural unit. Finally, the implications of the house and its long-lived manifestation, the House Trajectory, are discussed in terms of Late Ceramic Age culture.

Chapter 1

Introduction

> *"In terms of the gathering of basic data I never really emphasized the excavation of sites. That didn't interest me all that much."*
>
> (Rouse, in Siegel 1996:686)

> *"The depths to which these posts were buried, six to nine feet, is surprising. The workmen said that they plant their houseposts at present to no more than four feet. These houses may have been larger than modern ones, or especial strength desired to withstand hurricanes."*
>
> (Mason (1941:239) on wooden posts at Capá, Utuado, Puerto Rico)

In the Caribbean interest in the horizontal excavation of sites to recover features has grown since the 1990s due to a small number of pioneering excavations including the ongoing projects of the Leiden School of Caribbean archaeology and rescue excavations ahead of builder development in the French West Indies, Puerto Rico and the U.S. Virgin Islands (Carlson 2007; Curet 1992a; Delpuech et al. 1997; Goodwin et al. eds., 2003; Hofman and Hoogland eds., 1999; Hoogland and Hofman 1993; Hoogland 1996; Kaplan 2009; Meléndez Maíz 1996; Righter ed. 2002; Rivera and Pérez 1997; Rivera and Rodríguez 1991; Schinkel 1992; Siegel 1989, 1992; Versteeg and Rostain eds., 1997, 1999; Walker 2005). Nevertheless, there is still a severe shortage of basic data on pre-colonial domestic structures and settlement configurations. Whereas house plans in other areas of the world are used to identify archaeological cultures (e.g. the Linear Bandkeramik houses in western and central Europe, or Bronze and Iron Age roundhouses from Great Britain), the Caribbean lacks any kind of regional, temporal or functional typology of domestic architectural forms. The only basic pattern to have emerged in twenty years of research is an apparent trend noted for eastern Puerto Rico in which house size decreases from the Early to the Late Ceramic Age (Curet 1992a). Whereas this means that settlement research is an area of great potential, it also means that there are few guidelines or type sites for reference or comparison, making an archaeologically complex site extremely taxing to interpret in terms of its structures. Hence clusters of postholes are often designated domestic areas without further investigation.

Nevertheless, there have been some moments of clarity: The excavations at the Golden Rock site, St Eustatius, produced the first detailed publication and discussion of domestic architecture and household reconstructions. These structures, six *maloca* (multi-family) houses, two activity huts and six storage/drying racks, impressed Caribbean archaeologists, without really having had a huge impact on research agendas. However, the methodological legacy of excavating non-midden contexts was felt in a number of other publications. This can be seen from the excavations carried out at Tutu, St. Thomas, U.S.V.I. (Righter ed. 2002), Tanki Flip, Aruba (Versteeg and Rostain, eds. 1997), Heywoods, Barbados (Drewett and Bennell 2000), San 1, Manzanilla, Trinidad (Jansen and Dorst 2007) and the research at the sites of Anse à la Gourde, Guadeloupe (Delpuech et al. 1999) and Kelbey's Ridge, Saba, conducted by Hoogland and

Hofman between 1987 and 2000, and the outstanding recovery of waterlogged wooden structures at Los Buchillones, Cuba (Jardines Macías and Calvera Rosés 1999; Pendergast et al. 2002, 2003; Valcárcel Rojas et al. 2006).

1.1 Positioning the El Cabo research within the Greater Antillean archaeological tradition

By and large, however, if postholes turn up in excavation trenches, they are treated as exotic artefacts, rather than prompting a different field strategy. Often, there is an uncritical acceptance that single postholes or posthole clusters represent domestic structures or the house area, and these are extrapolated according to the descriptions in historic documents, what Rivera and Rodríguez (1991) have termed a "fundamental dependency" of archaeology on text. In total, only structure plans from a handful of sites in the Greater Antilles, mostly Puerto Rico, have ever been published (see Table 1). Many more sites in Puerto Rico exist in the form of unpublished reports or secondary publications (Carlson 2007; Espenshade 1987 in Curet 1992a; Goodwin et al. eds., 2003; Meléndez Maíz 1996; Ramcharan 2004; Robinson 1983, 1985 in Curet 1992a), or are in the process of excavation or interpretation (Kaplan 2009; Roe and Ortíz Montáñez 2009; Walker 2005).[8] The presence of domestic structures from other sites, reiterated in published literature become fact (i.e. Curet 1992a), whereas the originals lack detail or are only partial. This is the case for En Bas Saline, Haiti (Deagan 2004), Maisabel, Puerto Rico (Siegel 1989, 1992), PO-21, Puerto Rico (Espenshade 1987, cit. Curet 2002), MC-12, Middle Caicos, Turks and Caicos Islands (Keegan 2007).

Table 1. Sites in the Greater Antilles with published archaeological structure plans. This is not an indication of reliability.

	Site	Occupation	No. structures	Shape	Construction	Diameter (m)	Area (m^2)	References
Cuba	Los Buchillones	AD 1295-1690	3 (of at least 5)	circular and rectangular	post-built	8, 14, 26	45, ?, 530	Jardines and Calvera 1999; Pendergast et al. 2002, 2003; Valcárcel Rojas 2005; Valcárcel Rojas et al. 2006
	El Morrillo	Late Ceramic Age	1	circular?	post-built	8.5	57	Hernández and Tápanes 2008
Puerto Rico	Maisabel	AD 600-1200	1 (and up to 3)	rectangular	post-built	52x14	576	Siegel 1989, 1992; Curet 1992a
	El Bronce	AD 900-1200 and AD 1200-1500	(at least) 3	oval and circular	post-built	5, 5.5, 7.6x4	20, 23, 24	Robinson et al. 1983, 1985; Curet 1992a
	Luján I	AD 900-1200	8 (10 inc. mortuary structures)	circular	post-built	2 to 30	13 to 346	Rivera and Pérez 1997
	Río Tanamá (AR-38 and AR-39)	AD 980-1490	7	oval and circular	post-built	5 to 8	20 to 50	Carlson 2007
	Playa Blanca 5	AD 1200-1500	1	circular-oval	post-built	16 or 6.6×7.1	200 or 37	Rivera and Rodríguez 1991; Curet 1992a
	Río Cocal-1	AD 890-1450	4 or more	circular	post-built	3.5 to 6	10, 16, 17, 24	Goodwin et al. eds., 2003, Oliver 2003
U.S. Virgin Islands	Tutu	AD 65-950 and 1150-1500	8	oval and circular	post-built	3.6 to 12.5	12, 30, 30, 34, 37, 42, 29, 90, 91	Righter 2002a
Turks and Caicos	MC-6	AD 1400-1500	8	circular	stone lined pit structures	5	20	Sullivan 1981 in Keegan 2007
Jamaica	Bellevue-Mannings Hill	AD 900-1500	1	circular	post-built	3.5	10	Medhurst 1976, 1977; Allsworth-Jones 2008

8 The author is aware that there may be more reports of sites with domestic structures excavated in Puerto Rico, but has not been able to consult these.

A critical synthesis of existing reports and the publication of the structure plans would invaluably aid research of domestic structures in the Caribbean. The sites listed in Table 1 are those for which some kind of plan has been published or was available to the author.[9] This is the tip of the iceberg in terms of data on structures. Contract excavations in Puerto Rico in particular have produced and are producing a wealth of settlement and house data. Yet after twenty years of excavation of domestic areas in the Greater Antilles, we have no clear picture of the precolonial house, not even simply as a physical structure. What follows is a brief description of the characteristics of the published plans in the Greater Antilles and a summary of this data.

1.2 Overview of structure excavations in the Greater Antilles

Since the 1980s, excavations at the site of Los Buchillones, in a shallow coastal lagoon on the north-central coast of Cuba, have revealed the most spectacular evidence of precolonial and colonial indigenous structures in the Antilles. Here, instead of postholes, upright and collapsed waterlogged posts and superstructural organic materials were very well preserved.[10] So far, three of five wooden structures, which may or may not have been raised pile dwellings, have been excavated and described: a circular structure 26m in diameter (*Casa No. 1*), a rectangular structure 14m in diameter (*Casa No. 2*), and an oval structure (*D2-6*) 8m in diameter (Jardines and Calvera 1999; Pendergast et al. 2002, 2003; Valcárcel Rojas 2005; Valcárcel Rojas et al. 2006). *Casa No. 1* consists of an outer post circle with two central posts, 7m long and forked at the top, which would have supported a roof beam. A collapsed, conical roof with rafters of decreasing size was recovered in position between the posts. Dates from individual elements of the structure span 360 years, leading investigators to propose indigenous conservation of important structural elements and modifications prolonging the structure's life over a considerable period. *Casa No. 2* was rectangular with a two-slope gable-roof with posts, rafters and palm thatch intact. Again, dated samples from different structural elements spanned a considerable period, AD 1435 to 1655. The final structure, *D2-6*, was excavated and documented in its entirety, and consisted of an internal and external post ring and no central post. What was remarkable about these excavations was the extent to which details of indigenous material selection, woodworking, and construction choices were visible in the archaeological record. Especially in the case of the latter structure, the selection and preparation of posts, the selection of a good matrix into which to dig the foundations, and the use of supporting posts to stabilize larger trunks all showed a high degree of expertise and organisation (Valcárcel Rojas et al. 2006).

The site of El Morrillo, on the northwest coast of Cuba, known since the 1960s, but more recently investigated in 2004 and 2005, merits mention here, not because it revealed a complete or near-complete structure plan, but because of the resemblance of the features to the postholes excavated in El Cabo. In a unit of 16m², five postholes were revealed, three of which form an arc interpreted as a possible outer wall of a structure. These features were all circular and

9 This selection is based on reports and publications to which the author had access. Even when data is minimal, publications which include plan drawings are included as this is the most effective way of presenting structures.

10 In addition to the architectural remains, hundreds of wooden items including *duhos*, *cemí* statuary, pins, hooks, dishes, handles for axes and chisels (some with these former still attached), were recovered (Pendergast et al. 2002).

regular postholes cut into the bedrock (Hernández and Tápanes 2008). The excavators' reconstruction extrapolates this to a circular structure, 8.5m in diameter, although only further excavation will bear out this interpretation.

Six sites from Puerto Rico merit mention in terms of their structures. Firstly, the site of Maisabel, on the north central coast of Puerto Rico, with a history of occupation which spans fourteen centuries, from the 2nd century BC to around AD 1000. Only the later period, from AD 600, is relevant to the discussion of structures. The site comprises a central burial ground, ringed by at least five mounded middens, between which the domestic structures are presumed to have stood. A "macroblock" (32 2×2m units, most contiguous) excavated between two of the largest midden mounds revealed part of a linear feature interpreted as a drainage ditch, which led to the reconstruction of a rectangular structure 52×14m, interpreted as an Ostionoid house (Curet 1992a:168; Siegel 1992:58; 126; 164-177; 245; 266-326). Based on artefact styles and one radiocarbon date from the ditch fill, the structure is dated between AD 685 and 1155, although Siegel prefers an occupation in the 8th and 9th centuries (Siegel 1992:172). Ten burials were excavated from within the purported structure, although the real number was expected to be higher. The palimpsest nature of the features in the unit, and the partial excavation of the ditch feature mean confidence in this reconstruction is weak. Neither does it bear any resemblance to the only other early Ostionoid structure to be excavated from the Greater Antilles, that of Structure 5, Tutu, St. Thomas, U.S. Virgin Islands (Righter 2002a:318-320; see below).

The site of El Bronce in south-central Puerto Rico, 13km from the coast, consists of several clusters of postholes arranged around a central plaza (Curet 1992a).[11] The site was inhabited between AD 900 and 1500 and bore hundreds of posthole features. Curet's analysis (1992a) is based on a selection of two feature clusters, from which he distils three structures. The first of these is an oval/rectangular structure 7.6×4m, the second a circular structure 5m in diameter, and the third a circular structure roughly 5.5m in diameter. The latter two circular structures are interpreted as having a square frame and central posts, something also seen at the site of Playa Blanca 5 (below). Curet suggests a chronology of structures based on morphology which places the oval structure as the earliest in the sequence.

The site of Luján I is located on a promontory on the south-central coast of the island of Vieques, east of Puerto Rico. The major occupation occurred between AD 900 and 1200 (Rivera and Pérez 1997). Both in terms of the research design and excavation strategy, as well as the site characteristics and the details of the built structures, Luján I has much in common with El Cabo. The author regrets that more results were not available for comparison. A rectangular unit, 90×70m[12] was excavated in which over one thousand features, including twenty-six burials were encountered. The burials were located in several clusters, most outside house structures, and the majority of the rest of the features were interpreted as structural elements of houses. Features, like in El Cabo, were dug into the bedrock. Altogether ten structures were identified, forming a large semicircle. The excavators took at least two charcoal samples from each structure indicating that the houses were burnt on abandonment. Two specialist mortuary structures, 2 and 3m in diameter are identified, as well as eight other circular and

11 The author did not consult the original excavation reports (Robinson et al. 1983, 1985 cit., Curet 1992a). Site descriptions and feature analysis is based on Curet 1992a.

12 Although this is labelled 50×50 in the publication despite being rectangular in shape. The current author uses dimensions extrapolated from the descriptions in the text and the plan drawing.

oval structures, of which Structures 1 and 6 are identifiable from the published plan and descriptions (Rivera and Pérez 1997). Structure 1 is 21m in diameter with some doubling of postholes representing re-building of the outer wall, an entrance in the southwest, and four internal posts in the centre.[13] Structure 6 is circular, 9m in diameter, and with a central post supported by rocks.[14] The remaining structures are largely circular and range from 4 to 11m in diameter. This is with the exception of a further large circular structure, Structure 10 which is reportedly 30m in diameter. Structures at Luján, even though in a preliminary phase of publication, appear to be well-defined, convincing and merit further analysis.

The site of Río Tanamá, on the floodplain of the Lower Tanamá River, Puerto Rico was the subject of recent excavations in which two find spots, AR-38 (AD 980-1490) and AR-39 (AD 350-890) were documented (Carlson 2007).[15] Features were only identified at AR-38, where seven round to oval structures in the "macroblock" (1000m²), 5-8m diameter, were reconstructed from five feature clusters (*ibid.*). Three structures had no apparent internal supports, one, Structure 6, had a four-post central configuration. In general, although the excavated area was relatively large, only four of the structures are fully within the excavation unit, and of these, Structure 6 appears the most credible reconstruction, at least in terms of its internal four-post configuration (similar to structure 2 in Tutu; see below). Irregular spacing of the posthole features of other structures, and the general lack of patterning in terms of depth and diameter, except for the case of partial Structure 2, does not inspire high levels of confidence. Structure 2, despite being partial, has a very regular spacing of postholes and moreover, the dimensions and spacing of two large features to the east (F128 and F129) may represent an entrance feature, an interpretation based on parallels with entrance features in El Cabo (see Chapter 5 this volume). Four out of nine excavated burials occur inside structures. In at least two cases, intentional foundation deposits of pottery were placed in postholes. Three structures were burnt down. Additional structures such as cooking tripods, mortuary structures, and windbreaks were proposed. The settlement extents were not reached in the excavated units and the density of features led Carlson to the opinion that the structures were rebuilt on numerous occasions. Features in the north of the unit date earlier than those in the south, indicating a general southern shift, following the displacement of the river, over time.

The site of Playa Blanca 5 is situated on a 50m high knoll in eastern Puerto Rico overlooking the Vieques Sound. Occupation dates between AD 1200 and 1500 are based on the almost exclusive presence of Chicoid pottery. This small site covers approximately 1000m², of which 406m² were excavated. The house area is located in a clearing between midden deposits, where a floor had been prepared by the indigenous occupants by removing rocks from the soft bedrock. A well-defined area of 54 postholes encircling a hearth, a collection of fire-cracked rocks and eight burial features were excavated. Two alternative reconstructions have been envisaged, both using most of the postholes to reconstruct one dwelling: firstly that of a 16m diameter circular house structure with three concentric post rings, the innermost five postholes around the hearth feature (Rivera and Rodríguez 1991). An alternative reconstruction of a smaller oval house

13 The current author prefers another interpretation: an entrance in the southeast aligning on the central configuration.

14 The current author questions the presence of a central post, and suggests there may be an entrance in the west, which aligns on two back posts in the perimeter wall and other larger postholes in the perimeter to provide roof support.

15 I am grateful to Betsy Carlson for a copy of the Río Tanamá report.

(6.64×7.14m) has been proposed by Curet (1989 cit., Rivera and Rodríguez 1991; Curet 1992a). Both Curet and the excavators interpret the house as having a square frame (i.e. four main roof supports) and a circular plan.

The site of Río Cocal-1, situated on the northeastern coastal plain of Puerto Rico, revealed four clusters of features in the largest excavated unit (1000m²), comprising postholes, pits, hearths and a discrete burial cluster, leading to the minimal reconstruction of four structures (Goodwin et al. eds., 2003).[16] Other unreconstructed feature clusters are thought to have been sheds, cooking huts and ancillary structures. Structure A consists of a single ring of postholes 4.7m in diameter. Structure B is a round structure 3.5m in diameter. Structure C consists of a single roughly circular post ring 5×6m in which four heavier-set postholes are interpreted as forming the roof-supports. Structure D, roughly circular, is similar in size to Structure C, but hypothesized on the basis of unexcavated features. Due to the small size of the structures, and the lack of hearth features or other distinct features in all but Structure C (in which there was a hearth), the undifferentiated artefact assemblage and the lack of any paraphernalia, these structures are interpreted as sleeping structures for nuclear families, with work and cooking areas located in separate, adjacent structures (Oliver 2003). Similar to the Río Tanamá and Maisabel sites, these structures are not convincing by dint of their floor plans alone, which leave a lot to be desired. Site context and artefactual assemblages bolster and compensate the interpretations.

The multi-phase settlement site of Tutu, St. Thomas, U.S. Virgin Islands, has some of the most fully-published descriptions of site structures in the Greater Antilles. Over one thousand features were excavated from half the site, of which over half were postholes (Righter ed., 2002). Eight structures, one from the early Ostionoid occupation, and seven from the late Ostionoid occupation were reconstructed in a village plan which retained roughly the same circular shape throughout its history. Structures are round, with and without interior/central posthole(s), and oval, with interior postholes. The early structure (Structure 5) is dated to the 8th century by three of its posts and is a round structure, 7×6.75m in diameter with a deep external post ring, and shallower posts in no particular pattern in its interior. Reconstructions of structures 1 and 2 are the most detailed and reliable. Structure 1 is a small circular structure 4.15×3.6m with a portico entrance and no central configuration. Structure 2 is a circular structure with dimensions of 6.75×6.4m and four large internal posts and an entrance portico. Other structures range between 5 to 12m in diameter, with structures at the larger end of the scale (Structures 7 and 8) with multiple or special-treatment burials, being credited as higher status dwellings. Additional site features include linear posthole alignments, discrete burial clusters related to houses and open spaces around structures.

There is one site in the Turks and Caicos Islands with published structures: the site of MC-6, situated on a tidal flat on the south coast of Middle Caicos (Keegan 2007). The site is deemed to have had a short occupation between AD 1400 and 1500. Two adjacent plazas are delimited by raised middens, of which plaza I has eight stone-lined, semi-pit circular structures with low limestone rock walls dug into the top (Keegan 2007:142-154; Fig. 5.5). A larger structure was identified at the juncture of the two plazas which had a two-chambered floor plan. Structures average 5m in diameter and are interpreted as houses.

16 Feature analysis and reconstructions were undertaken by L. Antonio Curet in Chapter V of the edited volume. Unfortunately the present author did not consult this analysis, but relied on the interpretive discussion by José R. Oliver in the same volume. The author is grateful to José Oliver for his report.

Reappraisal of Sullivan's (1981) original data from the site and further investigation led Keegan to the conclusion that the smaller plaza II was not likely a habitation area, but possibly used for *conucos*, or home gardens (Keegan 2007:174). In terms of the artefact assemblage, there appeared to be no significant difference between the structures, not even in the case of the two-chambered structure.

Turning lastly to Jamaica, the site of Bellvue-Mannings Hill (K13) furnishes the only published structure, out of the 271 sites inventoried for the island. The site is 8km from the sea in the greater Kingston area. Bellevue-Mannings Hill, which belongs to the White Marl ceramic tradition (AD 950-1550), revealed a structure which consisted of a circular arrangement of postholes, interpreted by excavators (C.W. Medhurst and J. Wilman) as a house foundation. Excavated in the 1970s, the structure was published in *Archaeology Jamaica* and reproduced in Allsworth-Jones (2008: Appendix 9). From the reproduced figures, the excavated area appears to be a small 30m². The single-ringed circular arrangement of postholes within this comprises 33 features published as a schematic plan drawing suggesting the structure was not much more than 3.5m in diameter. The features appear to cluster in pairs or threes, suggesting possible re-building on the same spot. Internal features are generally absent. It is not known whether other features or stains have been eliminated for clarity. I was not able to consult the text of the original publication which accompanied the figures, but given the lack of additional information, this reconstruction must remain rather insecure.

1.2.1 Summary of Greater Antillean structure characteristics

One can summarise some of the general characteristics of these plans as small, circular and oval post-built structures ranging between 10 to over 500m², but most credibly and on average within the range of 20 to 50m². This size variation occurs within and between sites. There are numerous architectural solutions for roof-supports, ranging from internal post rings, a central post(s) to the weight being taken by the external wall with no internal support at all (perfectly plausible given their small dimensions). Many of the house plans have internal features such as hearths and burials, but others do not. Features exterior to the structures include pathways, fences, and small ancillary buildings interpreted as kitchens, windbreaks, mortuary structures and domestic tools.

There is simply not enough evidence to identify any patterns in terms of changes in house size over time, even for eastern Puerto Rico (*contra* Curet 1992a). There are no reliable Early Ceramic Age plans for comparison, only two early Ostionoid plans, and the chronological control, and reconstructions are not reliable enough to attempt this. This is not a criticism of the reconstructive attempts or methodologies: many authors state the tentative and experimental nature of their reconstructions and make the best of the data. It is a comment on research design, and the small size of the excavation units which has a deleterious impact on the quality of the data. Moreover, the above summary judges the reconstructions on the basis of their architectural features alone without taking into account the other lines of evidence put into service by the investigators. The presence of hundreds, if not thousands of predominantly posthole features in an excavation trench is too valuable a dataset not to try to interpret. However, this becomes problematic when weaker interpretations are reiterated in the literature. One should question why at certain sites, identification of structures is not a very satisfactory exercise, whereas at other sites the plans are very striking (e.g. Luján I, Los Buchillones, Tutu). This distinction between sites with clear structures and those without may be related three factors: either post depositional processes obscure posthole patterning at certain sites, but not at others; or the

positioning of excavation units is either not sufficiently guided by the location of archaeological features or the units are excavated in a manner which does not permit an overview of features in one level (i.e. they are excavated in small, adjacent units at different times); or postholes in domestic contexts are not always related to built structures, but to other activities occurring in the settlement. These are issues which a full synthesis and assessment of available or published plans would clarify considerably.

Nevertheless, after this cursory summary and in anticipation of a future full synthesis of structures from these and other sites, some tentative general observations can be made. Firstly, there is an indication that structures from multiple sites share the same four-post framework of heavier posts incorporated into the outer wall. This is especially the case in structures from Puerto Rico (Playa Blanca 5, El Bronce, Río Cocal-1). Four-post central configurations are also not uncommon, such as for example structures at the site of Río Tanamá (Structure 6), Luján I and Tutu (Structures 2 and 7). A centre post(s) however is very rare across all sites.

In terms of other recognizable and shared structural features, there is an indication that structure entrances may have been emphasized or marked by a doubling, or enlargement of entrance features. This is documented for example for Structures 1, 2 and 6 at Tutu. Although not made explicit by the authors for other sites, it appears from the published plans that certain structures at the sites of Luján I (Structures 1 and 6) and Río Tanamá (Structure 2) may also have had entrance features consisting of a pair of heavy-set posts, which in the case of Luján I also appear to align on internal configurations and open onto a central clearing. As presented later in Chapter 5, contemporaneous structures from El Cabo share this type of entrance feature with the sites of Luján, Río Tanamá and Tutu.

Lastly, there is an indication that temporalities of domestic sites are complex and that structures lasted a considerable length of time, either through re-building or the replacement of various elements. This is the case with most sites and especially Los Buchillones, Rio Tanamá, Luján I and Maisabel. Contrary to what is suggested by the feature density at many sites, and the longevity of occupation, this does not necessarily equate to a dense or intensive palimpsest of occupation. Although the occupation of multiple sites spans many centuries, the number and spatial distribution of features appears to witness no more than two or three, probably related (i.e. the same community within contiguous decades) building phases. This is indicated by the clear empty spaces between feature clusters at sites such as Tanamá, Luján I, Maisabel, Río Cocal-1, El Bronce, and Tutu.

Leaving aside archaeological plans, there is quite a body of research which has identified houses by indirect means such as the topography of a site, the number and spacing of midden or house mounds (Guarch Delmonte 1974; Keegan 1992; Valcárcel Rojas 2002; Veloz Maggiolo et al. 1976; Veloz Maggiolo and Ortega 1986), the presence of cleared areas between middens and the plaza (Keegan 2007; Keegan et al. 2008; Torres Etayo 2006a), site size (Curet 1992a), house floors identified in archaeological deposits (Calderón 1996; Jardines Macías and Calvera Roses 1999; Tabío and Rey 1979), the presence of one or more postholes (Allsworth-Jones 2008:14; Espenshade 1987, cit. Curet 1992a; Hernández and Tápanes 2008; Jardines and Calvera 1999; Mason 1941; Sullivan cit., Keegan 2007:140; Tabío and Rey 1979), or the reconstruction of artefact assemblages (Espenshade 2000).

All these studies indicate that houses and households in Greater Antillean archaeology are considered identifiable and archaeologically retrievable units. However, they are very rarely treated as analytical units. The reasons for this are historical, logistical and epistemological. As has been remarked many times before, Caribbean archaeology is an archaeology of pottery whose methods include excavation of small scale "telephone booth" (Flannery 1976:3) units or surface surveys (Keegan 2000). This is as a result of the historical development of certain units and scales of analysis inherent in the classification and chronological schemes of the discipline, or what Curet calls "the tyranny of culture history and migration" (Curet 2003). The strengths of this scheme and the resultant categories, developed by Rouse (1964, 1986, 1992) for the purpose of tracking migrations and reconstructing cultural sequences are not appropriate for the analysis of lower levels of analysis, such as social processes like exchange, social networks, competition and household dynamics. Researchers who have wanted to pioneer new methodologies, have also had to look elsewhere for analytical and theoretical frameworks, and it has been no surprise that those engaged in horizontal excavation have come from traditions of settlement or historical archaeology elsewhere (Deagan 2004; Drewett and Bennell 2000; Hoogland 1996; Versteeg and Schinkel 1992).

The lack of research-driven excavation of house plans or extensive units in domestic areas is also understandable due to economic and time constraints. The recognition of structures is dependent on the simultaneous exposure of sufficient surface area, and consistent mapping; generally necessitating fieldwork which can be carried out with a large field team over multiple seasons. The amount of work required for post-excavation analysis of site features is enormous. Moreover, the task is made especially challenging given the fact that there are no typologies to aid interpretation. This is of course a circular situation in which the lack of research impedes research itself.

There are three additional reasons for the reluctance to excavate houses. The first relates to what has been numerously termed the "tyranny of ethnohistory" (Curet 2005; Keegan 1991). This refers to the ways scholars use and abuse colonial documents to supplement archaeological data without taking sufficient notice of the historical and regional specificity of the text. Although there is a more outspoken consciousness of this in recent literature, the seductiveness of text can still be a double-edged sword. One example is the way in which it influences research agendas. The sketches and descriptions of Hispaniolan house structures by Oviedo and Las Casas contribute to the reluctance to do household studies in the Caribbean. There is an assumption that we know more or less what they were like – post-and-thatch roundhouses of sweet-smelling materials with size differences between those of high- and low-status families. Burials, monumental architecture and exotic artefacts are the stuff on which theories of socio-cultural change and the development of hierarchies are based! This overlooks the fact that there is much more to be learnt from houses than simply what they looked like, their dimensions and how they were built, which is an erroneous conflation of the domestic with the ethnographic. Seeing as the historic documents are thought to provide the best details on daily life, structures and house-related assemblages are not, in the majority of cases, (satisfactorily) described. Household archaeology, as we shall see in more detail in Chapter 2, is more than just house plans.

The second reason for reluctance to excavate house plans is the presence of analogies with the dwellings of the Tropical Forest cultures of the South American mainland, whose ecology, cosmology and settlement patterns have

acted as supplements and substitutes for archaeological research in the Antilles. This has led to a very rich anthropological/archaeological research tradition in the Caribbean. One example of this is the use of the *maloca* model as a template for Saladoid houses. The *maloca*, a large, single-celled communal dwelling of the tropical lowlands, was deemed to provide the most acceptable vernacular model for conceptualising house form and domestic space in the precolonial insular Caribbean, especially during the Early Ceramic Age (Heckenberger and Petersen 1995; Schinkel 1992; Siegel 1992, 1996, 2007). However, several recent syntheses and discussions of Caribbean data (Boomert 2000; Bright 2003; Duin 1998; Morsink 2006; Ramcharan 2004) have shown that the *maloca* was only one of the architectural solutions used in the Caribbean, and it may have been in the minority. Excavations have produced a much larger array of round, oval, square, irregular, large and small structures indicating that, as on the mainland, insular traditions were diverse (Kaplan 2009). Bright (2003:61) for example proposes that house design within one period and location may have been flexible (in contrast to a more conservative burial tradition). Moreover, the *maloca* village is a particular historical development in Amazonia, rather than an ahistorical template (Heckenberger 2002:112-113).

Finally, the perishable nature of precolonial architecture and the destructive actions of especially (tourist) development are seen as barriers to the recovery of settlement features (Curet 1992a:161). This is despite early investigations which made evident that some sites in the Greater Antilles represented potentially excellent opportunities for excavation of post-built structures. As early as the start of the 20th century, Mason (1941:233-247 and pl.12) recovered burnt posts over two metres deep at Capá (Caguana), Utuado, Puerto Rico, and interpreted these as parts of aboriginal ceremonial houses. Later investigators seemed to forget this (see Rouse quotation at the start of the chapter).[17] Large scale excavations were common in the Dominican Republic, especially during the 1970s; however, these were aimed at documenting burials, stratigraphy and general settlement layout, not houses.

1.3 Positioning the El Cabo research within the archaeological research history of the Dominican Republic

> *"De esta área indígena* [Juandolio-Guayacanes] *se reportaron los mejores collares y amuletos líticos, cuya belleza y terminado asombran a los mas entendidos conocedores de la cultura taína. Hasta la fecha niungún otro lugar ha arrojado mayor de número de abalorios y microcuentas. **Ademas la frecuencia de cemies de piedra en posición acucillada.** Algunos de estos valiosos amuletos y pendientes se encuentran en el Museo Nacional y el resto en colecciones privadas."*
>
> (Mañón Arredondo et al. 1971:94-95)

> ["The best necklaces and stone amulets, whose beauty and finish astonish even the most experienced experts of Taíno culture, have been reported from the Juandolio-Guayacanes area. To this day, no other place has revealed a greater number of beads. The same is true of crouched stone *cemís*. A few of these precious amulets and pendants can be found in the National Museum, and the rest in private collections." Author's translation]

17 But because of the primacy of the monumental architecture of the ballcourts, Mason (1941:238) notes that "their [i.e. the features] publication here would have only nuisance value."

If there are few houseplans in the Greater Antilles, there are none at all on Hispaniola.[18] Even moreso than in the rest of the Greater Antilles, this may have to do with the submission to the supremacy of text and the fact that the early descriptions of houses refer to Hispaniola. Combined with the fact that Dominican archaeology, as a reflection of both the United States Boasian tradition and Latin American Social Archaeology, is characterized by a keen interest in the current day populations of the island, whose rural subsistence strategies and ecology are deemed analogous to precolonial lifeways, and their houses built similarly (Fewkes 1907:41; Herrera Fritot 1946:16; Ortega 2005; Prieto Vicioso 2009; Vega 1981; Veloz Maggiolo 2004). This adds up to lethargy in the excavation of houses.

This charge would be denied by Dominican archaeologists who argue that the excavation of postholes and mapping of house mounds in many sites show a marked presence of houses of which the size and form can be known ("la marcada presencia de viviendas nucleares"; Veloz Maggiolo (1984:13) on Atajadizo). But without more data these remain assumptions. Moreover, basic data such as the presence, size and form of structures are just the starting point of house analysis.

Fuller historiographies of Dominican archaeological research history can be found in Veloz Maggiolo (1972) and Ulloa Hung (2006). I shall limit myself here to the main trends and information relevant to research in the eastern region, the study of houses and the creation of a dominant narrative of the archaeological past with regard to domestic life.

1.3.1 The early phase

Although the 17th and 18th centuries saw an interest in the history of Caribbean populations, these were ethnographic and historical texts mainly by European authors (Ulloa Hung 2006a:9-22; Veloz Maggiolo 1972:2-20). There are occasional references to early collecting of archaeological artefacts, such as the various stone *cemís* found in the caves of Santa Ana, Santo Domingo, in 1808 by the traveller ("el viajero") Walton (Mañón Arredondo et al. 1971:108). However, it was not until the mid-nineteenth century that we hear of archaeological remains provoking interest, usually among foreign dilettantes, who were generally "solo de paso" (Mañón Arredondo et al. 1971:106), such as the British scientific traveller and consul to Santo Domingo, Sir Robert H. Schomburgk, posted just after the Dominican Republic gained independence from Haiti (1844). Schomburgk collected everything from animals and plants to social and economic statistics and ethnographic and archaeological objects (Rivière 2006:210-215). He journeyed on horseback, mapping some of the most renowned sites in the Dominican Republic such as the ceremonial plaza of San Juan de la Maguana (Rivière 2006; Ulloa Hung 2006a). Relevant to this dissertation, in 1850 he made forays into the east of the Dominican Republic, visiting Hato Mayor, El Seibo, Higüey and Macao and publishing articles on shell heaps in Cabo Engaño and on the tides and currents of the Mona Passage (Rivière 2006; Schomburgk 1854).

The Frenchman Louis Alphonse Pinart is credited with the production of the first official document on the archaeology of the Dominican Republic, published in the *Gaceta Oficial* in Santo Domingo in 1881 (Veloz Maggiolo 1972:7). He reports on indigenous burials and rock art from the coast of Los Haitises and the Bay of Samaná (*ibid*. 1972:7-8; Ulloa Hung 2006a:13). However, the start

18 En Bas Saline is included in this statement because although the site has produced evidence for three structures, the specifics of none have been published.

of systematic study of aboriginal material culture is attributed to the anthropologist Jesse Walter Fewkes (1891 *et passim*; Veloz Maggiolo 1972:9-11) whose articles on especially *cemí* artefacts of the islands of the Greater Antilles and elsewhere in the West Indies testify to the number of collections of indigenous pieces by private individuals already existing at that time in the Caribbean and outside. His rigorous methods are seen as the precursors of the Boasian historical particularism of the American school of anthropology, heralded by American imperialism in Latin America and the Caribbean (Ulloa Hung 2006a:15). This tradition was inherited by later scholars such as Irving Rouse (starting with his work on Haiti in 1939).

Other foreigners, mostly North Americans such as the Dutch emigré Theodoor de Booy, who was also active in the eastern part of the Dominican Republic after Schomburgk, followed suit (de Booy 1915; Mañón Arredondo et al 1971:105-6), as did Gudmund Hatt, Mark Harrington and in the 1930s Herbert W. Krieger whose publications and collections, along with those of Fewkes, inspired the classic study which popularized "Taíno" culture by Sven Lovén (1935; Krieger 1930, 1931; Veloz Maggiolo 1972). They also collected avidly for export to the United States and other private and public collections outside the Dominican Republic (Mañón Arredondo et al. 1971:95; Ulloa Hung 2006a:15; Weeks et al. 1994).

1.3.2 A national Dominican archaeology

The first systematic archaeological work undertaken by a Dominican was by Narciso Alberti Bosch between 1908 and 1932. Bosch's output was enormous and included the first publications on the extensive archaeological area of Andres and Boca Chica, the latter of which became the type site for one of the most flamboyant styles of Chicoid pottery; Boca Chica (Mañón Arredondo et al. 1971; Veloz Maggiolo 1972:12). Another Caribbean caribbeanist, the Cuban René Herrera Fritot, who published among other things a work on the cemetery at La Caleta and excavated at La Cucama (without publishing), is credited in the 1940s with beginning the first Antillean archaeological school in the Institute of Anthropology at the University of Santo Domingo. His students included Luis Chanlatte Baik and the later director of the *Museo del Hombre Dominicano* (The Museum of Dominican Man) Emile de Boyrie Moya.

In the era of the 1950s many Cuban, Puerto Rican, Haitian and Dominican archaeologists were collaborating and excavating in the Antilles. From the Dominican Republic they include Emile de Boyrie Moya, Fernando Morbán Laucer, Manuel de Jesús, Manuel Mañón Arredondo, and Rafael Kasse Acta, who embarked on many field projects with the *Instituto Dominicano de Investigaciones Antropológicas* at the *Universidad Autónoma de Santo Domingo* (Mañón Arredondo et al. 1971; Veloz Maggiolo 1972:19-20).

Meanwhile, the works of the North American Irving Rouse were creating a new systematizing nomenclature which went beyond individual islands and encompassed the whole insular Caribbean from Venezuela to Cuba, in a culture-historical scheme. The conflicts between Rouse's (descriptive) view of culture, resulting in typo-chronologies, and later Dominican (explanatory) views (typified by the post- and late-1970s works of Veloz Maggiolo), expressed in *modos de vida*, not only embody the tensions of colonial and national politics but still represent the main cleavages (and productive collaborations) in contemporary Caribbean archaeology (with reference to the current debates on La Hueca and Taíno, i.e. origins and social processes).

Thus, the early days of national Dominican archaeology, from the 1920s to the 1960s, saw the excavation of many of the most iconic Dominican sites like Andrés de Boca Chica, La Caleta, La Cucama, and Juandolio-Guayacanes. Many of these had been investigated, and their pieces shipped abroad by the time the Institute got involved, as lamented by its members (Mañón Arredondo et al. 1971:94). For example, La Caleta, the joy of Antillean archaeology (as Herrera Fritot described it), had disappeared without a trace by the 1960s (Mañón Arredondo et al. 1971). It was also during the 1950s that the huge collection of Samuel Pión, now in the *Museo de Altos de Chavón*, was amassed from around la Romana and the Chavón River (Bluhdorn and Kaplan eds., 1992; Mañón Arredondo et al. 1971:107). These are not only key sites for defining cultural horizons, but also allegedly provide the only archaeological support for evidence of "Taíno chiefdoms" in the Greater Antilles. These sites along the south coast are the *cacical* (chiefly) centres with the clearest examples of "Taíno" high culture and artistic florescence (see above quotation).

1.3.3 The Dominican Golden Age

The Golden Age of Dominican archaeology was in the 1970s, when not only were investigations in full swing, but the *Museo del Hombre Dominicano* was founded and sites which had been combed by visitors to the island were investigated by its own researchers with the full backing of the Dominican government in post-Trujillo nation building (Ortega, 2005:56). In 1972 the first number of the *Boletín del Museo del Hombre* appeared. The museum and the anthropological society of the UASD (*Universidad Autónoma de Santo Domingo*) carried out many excavations in the 1970s and 1980s, and in collaboration with other Latin American colleagues, notably Iraida Vargas Arenas and Mario Obediente Sanoja from the *Universidad Central de Caracas*, Venezuela. These activities marked a theoretical departure from the North American trends characterizing the previous decades, and a pursuit of archaeology as the science of social and historical reconstruction with contemporary social relevance. Although old sites, such as La Cucama, were reappraised and excavated in this era, attention now turned to new sites which would form the basis of alternative, regional, narratives of precolonial history such as Atajadizo, the Punta Cana sites of El Barrio and Sitio de Pepe, Cueva de Berna, El Caimito, Juan Pedro, Punta Macao, and Boca del Soco, to name a few in the east (Calderón 1973, 1976, 1996; Mañón Arredondo et al. 1971; Ortega 1978a; Rímoli 1996; Veloz Maggiolo 1976; Veloz Maggiolo and Ortega 1972, 1986, 1996; Veloz Maggiolo et al. 1973, 1974, 1976, 1977, 1991). Researchers attached to the museum and the Academy of Sciences and active in publishing at the time were Manuel García Arévalo, Bernardo Vega, Plinio Pina, physical anthropologist Fernando Luna Calderón, palaeobotanist Renato Rímoli and Marcio Veloz Maggiolo.

The latter, Veloz Maggiolo, is the scientist who above all dominated archaeology in the Dominican Republic for 40 years, from the 1970s to his most recent post (2007/8) as the director of the *Museo del Hombre* (only major syntheses or monographs listed: Veloz Maggiolo 1972, 1976, 1977, 1984, 1991, 1993; Veloz Maggiolo et al. 1974, 1977, 1981; Veloz Maggiolo and Ortega 1986). His new approach, together with other Latin American "social" archaeologists and Dominican historians such as Francisco Moscoso, was a reaction against North American intellectual hegemony which did not chime with neo-Marxist paradigms. He developed a specifically Antillean vision, with the rigour of processual archeology and theoretical roots in Marxist historical materialism which focused on: (1) social relations between people as embodied in the organization

of labour and production, (2) the hybrid origins, and (3) diversity of aboriginal cultures, (4) the importance of ecology, and (5) the importance of viewing the pre-Columbian past as part of a historical trajectory connecting with the present (Keegan and Rodríguez Ramos 2004; Ulloa Hung 2008; Vargas Arenas 1996). This was opposed to a unilineal culture history vision which saw for example the "Taínos" as an evolutionary end product of mainland colonization and as the majority and dominant group in the Greater Antilles in the final centuries before contact (Ulloa Hung 2008). Other major hypotheses such as the Ostionoid expansion and the introduction of ceramic technology were also challenged by the Antillean approach of Veloz Maggiolo.

The historical materialist approach is not without criticism, however, and principally from Cuban researchers who broke early with Dominican Marxism, which in its classification of *modos de vida* creates an evolutionary hierarchy of sites (Keegan and Rodríguez 2004; Tabío and Rey 1979; Torres Etayo 2005, 2006b; Ulloa Hung 2006b). Moreover, this is still an archaeology which focuses heavily on pottery, using the presence/absence, increase/decrease of ceramic griddles (an indicator of staple food production, especially cassava bread) to infer relations of labour and production. Many of the sites investigated in this era are relevant to the subject of El Cabo. Excavations at and site monographs of early pottery sites in the east formed a critical mass of new information which criticized Rouse's homogenous scheme of Ostionoid and eventually Chicoid evolution from Saladoid ancestry, instead arguing for early, diverse influences from within and outside Hispaniola resulting in various forms of ethnogenesis (Veloz Maggiolo 1991).

Moreover, the extensive excavations at the settlement sites of Atajadizo and Juan Pedro, both published as monographs (Veloz Maggiolo et al. 1976; Veloz Maggiolo and Ortega 1986), and to a lesser extent at Boca del Soco and Punta Macao (lesser because they are not fully published, Andújar Persinal et al. 2004:171; Ulloa Hung 2008; Veloz Maggiolo and Ortega 1972; Veloz Maggiolo 1972, 1992 for aspects of these sites) yielded evidence for house features. Interpretations and reconstructions of houses have been made at these sites on the basis of the spacing of posts and the topographic and spatial characteristics of house mounds (pers. comm. Veloz Maggiolo 2008).

1.3.4 The current state of affairs

Nowadays, Dominican archaeologists form a small active network involved in campaigning for and preserving the national heritage, as well as being involved in international collaboration.[19] Unfortunately, despite the fact that the general public takes a keen interest in their culture and history, the absence of university level courses in archaeology and an economic and political agenda which is at odds with the interests of cultural heritage means that there are few Dominican archaeologists, and little continuity in terms of personnel or training. The *Museo del Hombre*, resilient in the face of budget cuts and political changes, continues to house and make available a world class collection, maintains the national site inventory, welcomes researchers to its library and archives, and regularly produces one of the longest-running scientific publications devoted to archaeology, anthropology and history in the Caribbean - the *Boletín del Museo del Hombre*

19 Those of my direct acquaintance are Harold Olsen Bogaert, Jorge Ulloa Hung, Marcio Veloz Maggiolo, Elpidio Ortega, Glenis María Tavárez, and Gabriel Atiles. I am indebted to them all for their enthusiasm and readiness in helping me understand Dominican history and archaeology and the exchange of ideas we have had from the beginning about El Cabo.

Dominicano. Museum personnel also carry out impact assessments ahead of development or mineral extraction, the results of which are published in the *Boletín*.

Recently, research-driven excavation in the Dominican Republic, like this dissertation project, has been carried out in partnership with foreign institutions (Indiana University, Leiden University, *Sapienza Università di Roma*, University of Wisconsin-Madison, Florida Museum of Natural History, etc.). To prevent these from being "solo de paso" visits, the *Museo* has taken the initiative in requiring formal bilateral agreements between foreign and host institutions (i.e. the *Museo del Hombre*). This is a positive move fostering more enduring international relationships which will result in better collaboration with local partners. Unfortunately, as mentioned above, the lack of university level courses in archaeological subjects risks these developments only having limited impact in the long term (Ulloa Hung 2009:8).

1.4 Positioning the El Cabo research locally

> "*The earthly paradise glimpsed by Columbus was to be perpetuated, and at the same time debased, in a gracious life-style reserved solely for the rich.*"
>
> (Claude Lévi-Strauss (1955/73:74), Tristes Tropiques)

1.4.1 Threats to the Dominican heritage

One of the tasks of the *Museo del Hombre* is protecting the archaeological heritage of the Dominican Republic. A national site record is kept to assess the damage done by destruction of archaeological sites. Ironically, a site often only comes to the knowledge of the authorities because of the attention it receives from *saqueadores* or *huaqueros* (looters), or more fatally and commonly when it has already been erased by large-scale development activities. Consequently, one often comes across references to destruction by looting in Dominican archaeological literature and in the national press (Olsen 2001b:84; *Listín Diario*)[20]. However, in practice, the distinction between collectors, looters and archaeologists is ambiguous. Mainly this is a distinction of money, class and education. Moreover, the "looter" is always the local man with the shovel, or the local middle-man with friends or family in rural villages with "*restos de indios*" (Indian remains), rather than those members of the wealthy elite, foreign and Dominican, official and respectable who commission the pieces. Many of the latter are famed for their collections of indigenous pieces and are champions of Dominican heritage. Local people know their illegal digging will go unnoticed but do not know how inflated the prices of objects become once they have left the country. One short example suffices:

A local man from Higüey, who we saw on site and was referred to as "Hector the Detector", regularly comes with friends for a weekend fishing and digging near El Cabo for archaeological pieces to sell to collectors. Hector was proud of his aptitude for recovering top quality pieces. He was also proud of his extensive network of buyers, many of whom he claimed were archaeologists, who valued his skills. He (almost certainly correctly) asserted that he knew more about the location of indigenous sites than professional archaeologists. The pieces he offered to us were very convincing and came from a variety of local provenances.

20 Recent examples: "Peligro: El patrimonio arqueológico es destruido por los saqueadores", 12/1/2008, "Las que salen de República Dominicana se venden en cantidades exorbitantes", 12/2/2008, reporter Javier Valdivia.

It was difficult to tell how many were genuinely precolonial. He was very unwilling to tell us the origin of these pieces even though we offered to acquire them for the *Museo* (after consultation with the director) if he did so. He claimed the site was very nearby, although we were unable to verify his account with enough certainty, and declined.

Hector is just one type of "looter" we encountered whilst we were working in El Cabo. Other people who make money from archaeological pieces are local inhabitants who over the years sold pieces they came across in their day-to-day work farming gardens and tending sheep. Economic incentives are the reasons why local children know how to identify indigenous pottery quicker than us. This is a national informal economic activity.

1.4.2 Large-scale destruction

The damage caused to archaeological sites by unofficial digging is only a drop in the ocean compared to their destruction by development. Unrestrained building projects, beachfront urbanisation and the laying of golf courses across huge swathes of Dominican territory irrevocably re-shape and destroy its past human landscape (Olsen 2001b). A similar picture is seen all over the Dominican Republic, particularly in coastal zones (Gregory 2007).

To keep this discussion locally relevant, I will concentrate on examples of this which we directly witnessed throughout fieldwork in the eastern region. This puts the research carried out under *Houses for the living and the dead* into the context of local archaeology.

The eastern Dominican Republic has been seen as the gateway for the expansion of Arawak-speaking peoples from Puerto Rico into the rest of the Greater Antilles. When pottery-producing horticulturalists crossed the Mona Passage around AD 600, they were thought to be forerunners of the historic "Taíno", gradually replacing the Casimiroid fisher-gatherer populations of Hispaniola, Cuba, Jamaica, and the Bahamas (Rouse 1992). However, evidence from sites in the Punta Cana area suggest that people in Hispaniola may have been making and using pottery up to 1000 years earlier than this standard model indicates. This calls into question not only the chronology for the spread of pottery technology, but the origins of the Neolithic way of life and the culture-history of the Caribbean (Rímoli and Nadal 1983[21]; Rodríguez Ramos et al. 2008; Veloz Maggiolo et al. 1991; Veloz Maggiolo and Ortega 1996).

Punta Macao, Sitio de Pepe and El Barrio are three sites which between them represent a long historical sequence (Ulloa Hung 2008; Veloz Maggiolo et

Figure 2. Approximate area (grey) of privately owned property in the Altagracia coastal area (2006), and consequently the area of destruction of archaeological sites. Dot shows location of El Cabo site.

21 The author has not been able to consult this publication, but has learnt of its relevance to the matter in question from secondary publications.

al. 1977, 1991; Veloz Maggiolo and Ortega 1996). Dates published for the early use of pottery come from El Barrio, and Punta Macao may have been continuously inhabited up to colonial times. These sites thus potentially enable the tracing of this long historical trajectory and, consequently, are seen as key sites in Dominican and Greater Antillean archaeology. Investigations in the 1970s and 1990s were the tip of the iceberg, and unfortunately these sites and those in the eastern coastal region in general are threatened or have already been destroyed by development of the beachfront zone in the last decades (Fig. 2). They are no longer available for excavation. The same goes for the hundreds of unknown sites on the combined private estates along the east coast.

One of the ways in which sites are destroyed in these areas is through the large-scale mining of pits for sand and gravel and the dynamiting of Pleistocene cliffs, caves and beaches for landscaping. Material is commonly transported from one location to another throughout properties. Due to the density of past habitation in the area, material from archaeological sites can be found at a distance from its source incorporated in roads and other manmade landscape features across private terrains. Examples of "site relocation" are common. Although private developers occasionally acknowledge the ecological value of their property (to sell the idea of a sustainable tourism), this is usually in the form of the biodiversity of plant and animal life, and never in terms of human history. In effect a narrative of a *tabula rasa*, in which there is no human history, is created.[22] This erasure flies in the face of the fact that the area was far more densely populated throughout centuries of precolonial history than today.[23]

1.4.3 The relevance of El Cabo to local history and vice versa

The point of this gloomy preamble is to indicate the importance of extensive research in El Cabo, which so far has not been encroached upon. It thus offers one of the only remaining opportunities for settlement research, focusing on the house, in the eastern part of the Dominican Republic. Such research is no longer possible in the majority of areas of the east, with the exception of areas in the better protected *Parque del Este* (Atiles and Ortega 2001; Conrad et al 2001, 2008; Guerrero 1981; Ortega and Atiles 2003; Vega and Calderón 2004).

It is not only precolonial history which is being erased by developments in the area. The contemporary inhabitants are also threatened by the process of development. In the approximately 50-year history of the village of El Cabo, the quality of life for local people has diminished considerably. The inhabitants, who arrived before the foundation of big resorts further north along the coast, did not envisage the lightning encroachment of these private domains, which eventually choked access and opportunity, and turned El Cabo from a relatively dynamic rural hub, tied into a network of similar villages and farmsteads, into a dying community.[24] The displacement of local people by private landowners is a

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22 This chimes with the rugged individualism of capitalist adventure which can be found in the publicity literature: "In 1969, a group of American investors acquired a 58-million square meter lot, equivalent to 48 square kilometers of *pure jungle…*" From the official history of a local resort.

23 An exception is the collaboration between the *Museo*, the Leiden University Caribbean research group and Punta Cana estate who are currently developing plans to research the still intact El Barrio site. A longstanding relation between Punta Cana and the *Museo* has led to a mutually beneficial recognition and appreciation of the archaeological heritage by the landowner (Veloz Maggiolo and Ortega 1996).

24 There is a horrible irony in what Benitez-Rojo (1989) calls this *rediscubrimiento* whereby in an analogous situation to precolonial indigenous uprooting, the natural resources (i.e. prime coastal real estate) of the present-day inhabitants are also being exploited to their disadvantage.

common theme in coastal areas (Gregory 2007). Coastal communities are very precarious and local interests completely marginalized in the land grab of the rich and powerful. Life in marginalized communities such as El Cabo is now far from idyllic, but very representative of a type of rural existence in the Dominican Republic which is being denied and degraded by certain priority forms of economic development. Often archaeological sites and rural settlements occur together as not only are these long-lastingly attractive places to live, but present-day farmers are apt to re-occupy the fertile, midden soils of former habitation areas.[25] Such landscapes are often not dissimilar to precolonial landscapes. The people who live in the surroundings of El Cabo now are the last surviving inhabitants of the contemporary *and* precolonial landscape. This is said guardedly not to imply that the inhabitants are frozen in time. Quite the contrary, the current marginalization of rural communities in the east is the result of their refusal to face the modernity of urban deprivation, but instead to enjoy a semi-autonomous existence from state control in what is seen as a historically unproductive zone. This means that the current population have become the stewards and inheritors of the precolonial landscape which has remained in many ways similar to how it was. Local inhabitants are now the custodians of the archaeological site of El Cabo, as their minimal-impact presence preserves the site.

Several field seasons over four years of working in El Cabo with local people has led to mutually beneficial relationships and experiences which influence the interpretations in this dissertation in more ways than one. Apart from the logistical benefits (to us) and the economic benefits (to the local workers and the village), one of the advantages enjoyed by all parties was the dialogue created between locals and non-locals, between the present and the past. Local people regularly did paid work alongside the archaeological team, performing many of the same tasks, and almost everyone in the village was informed about the work and visited the site. The work in El Cabo was joint research. One of the repercussions of this is not that locals suddenly stopped looting the site[26], but that there was a marked mutual appreciation and satisfaction in our exchange of information about the precolonial inhabitants and about how things were now. An interest in the past and present of El Cabo established lasting relationships between us and local people, which continue today. This was the most fruitful area of archaeological collaboration I experienced in the Dominican Republic. The cooperation and exchange between researchers and local people should be acknowledged in this dissertation.

The development of the Dominican Republic does not only threaten cultural heritage, but more importantly people's livelihoods. Research in El Cabo is extremely valuable because it is one of the only intact sites in the eastern Dominican Republic. Documentation of precolonial and contact-period lifeways here is only possible because the area has not yet been subject to developer destruction.

1.5 Discussion

This chapter has provided an introduction to the research aims and historical background of archaeological research on settlement structures in the Greater Antilles. In summary, the Greater Antillean research tradition has not lent itself

25 The frequency with which this occurs can be seen in Ortega's (2005) site compendium. See also Veloz Maggiolo's *La Mosca Soldado*.

26 In any case informal digging does not occur much any more and our role is not to prevent local people supplementing their income.

to the dedicated recovery of settlement features. The unprepossessingly small, single-roomed round houses sometimes isolated in excavation units are not as exciting as the descriptions of houses by Spanish colonists. The house as an analytical unit is therefore an underdeveloped topic. This is largely due to the historical research paradigms within Caribbean archaeology itself. Several extensive excavations, especially in Puerto Rico, have shown that there is potential to develop this area. A far more critical approach is needed for the identification of structures, and this should be applied to already excavated house plans. In addition, research designs are needed which specifically target the recovery of intra-site domestic settings.

The situation described in general for the Greater Antilles is even more pronounced in the Dominican Republic. The early history of research developed culture-chronological schemes on the basis of pottery and identified the presence of elaborate material culture in some sites. These same sites, denominated as *cacical* centres, and now destroyed, have achieved anecdotal recognition which remains influential in archaeological narratives. Later excavations in the 1970s and 1980s established alternative chronological schemes and classifying traits (*modos de vida*) for sites, but still generated few data on intra-site dynamics. Altogether there is a general lack of data synthesis from excavations which prevents the construction of an archaeological picture of indigenous settlement structures or the dynamics of settled life, and this is even more so the case in Hispaniola. Threats posed to the cultural heritage of the island, especially in coastal regions, are particularly pressing, and compound this problem further.

Chapter 2

Trajectories of social life

The main purpose of this chapter is to situate the archaeological approach taken here by a discussion of "house-centred"[27] research in archaeology. The theoretical and methodological relevance of this type of research in the Caribbean will be outlined and a definition given of the terms *house*, *House Trajectory*, and *yucayeque* which will be used in the interpretive chapters of this dissertation.

The end contention is that the house, as an indigenously constructed and archaeologically retrievable unit, offers avenues of understanding into the precolonial and post-contact society of the Greater Antilles through themes such as materiality and aesthetics, the temporalities of social life, social complexity and social transformation and domestic identity. This approach is informed by archaeological discussions on the house, an empirical grounding in the methodology of household archaeology and the specific qualities of the El Cabo data, and influenced by ethnographic literature on Amazonian sociality and grounded in the contemporary village of El Cabo.

2.1 Household archaeologies

There are no household archaeolog*ists*, just household archaeolog*ies*. The research designs of household archaeologies focus on (usually commoner, majority) social dynamics, the small scale, indigenous social units and identities, and not necessarily on houses *per se*. The social entities archaeologists wish to explore are not always coterminous with a house. Or as Hendon puts it: "Although not always named as such, a concern with household production and social relations has informed archaeological research of different theoretical orientations and operating under various paradigms" (Hendon 2004:272). One such theoretical orientation which has parallels with practice-based perspectives by a shared focus on daily life (*la vida cotidiana*) is Latin American Social Archaeology. According to this approach, the house and especially household organisation are an inherent, though not explicit part of research (Ensor 2000; Politis 2004; Sanoja 1995; Ulloa Hung 2009; Vargas Arenas 1996; Veloz Maggiolo 1984). Very often, however, houses in settlement contexts are identified as the material conjunction of research interests. This is the case in this dissertation where the house is the main subject.

The study of houses and households has followed the major trends in archaeology over the last half century. Especially within the last decade, household archaeology has developed into one of the most socially oriented forms of archaeology. Its main strength is empirical research of complex societies at the small scale, strongly informed by cross-cultural studies, both complementing and challenging dominant narratives focused at "culture" on the larger scale, adding a bottom-up perspective and bringing the credibility of background

27 Used by Gillespie (2007) to denote approaches built on various disciplinary foundations dealing with the house as a social, political, economic, kinship, residential, ritual, or other kind of corporate identity.

knowledge into question (Ames 2006; Robin 2003:309; Wylie 2007). This was as much the case at its processual beginnings, when the archaeology of households consciously operated as "middle-range theory" (Wilk and Rathje 1982), as later interpretive approaches in which houses reflected cognitive schemes or were social settings for the practices of agents (Hendon 2004). Nowadays household archaeology can best be defined as a scale of analysis whose practitioners deal with complex, usually sedentary societies, and whose focus are the social dynamics and material setting of the house and settlement. Household archaeology has moved from the study of the house as a unit of economic analysis, or the ethnography-envious container of elusive households, to a branch of archaeology which tackles anthropological themes from a historical, material- and practice-based perspective.

There have been a series of in-depth critical discussions and reviews in the literature, plotting the intellectual and methodological history of household archaeology and its current contributions which makes the sub-branch of household archaeology one of the most diverse, engaged and productive fields of archaeological research (Allison ed. 1999; Ames 2006; Beck ed. 2007; Carsten and Hugh-Jones ed. 1995; Gillespie 2000a, 2000b; Hendon 1996, 2004; Joyce and Gillespie eds. 2000; Nash 2009; Robin 2003).

2.1.1 Methodology in household archaeology

Empirical methods are important in the definition of household archaeology. Field methodology follows an explicit research design which focuses on the recovery of social constructions relevant to past cultures whose material correlates can be found contextualized in the worlds of the everyday – domestic, mortuary, military, occupational, etc. The terminology "household", which implies a social group, rather than a material object, does not require a house (Allison 2006; Rossenberg 2005; Voss 2008 on households in military/colonial or mortuary contexts, or Levi-Strauss' concept of house extending to shrines, clan boats or shields, Gillespie 2000b:48), and can extend beyond the spatial boundary of the dwelling structure and incorporate membership within different social parameters. This often implies extensive, multi-season excavation, or if not, extensive synthesis of published material. Robin (2003:312) cites this as one of the strengths of household archaeology which is both strongly dependent on empirical data sets and connected to theoretical developments.

One of the early explicit attempts to define a methodology of household archaeology appeared in the edited volume *The archeology of household activities* (Allison ed. 1999) which brought together case studies, particularly from the Mediterranean, in a self-proclaimed "largely processual approach" in which household archaeology is defined as the relationship between the spatial patterning of architectural features and artefact distributions (Allison 1999:1-18). As simple as this may sound now, this correlation has seldom been expressly sought in Caribbean excavation history. With regard to the Maya commoner house, which has been one of the most productive realms in household archaeology, Robin (2003) cites recent methodological developments as: (1) the expansion of the domain of household studies into outside spaces, (2) new scientific analyses, particularly in soil chemistry, bone chemistry, and paleoethnobotany, and (3) the intensive study of uniquely preserved households.

Some of these advancements also hold true for Caribbean archaeology which in the extensive excavations at Golden Rock, Anse à la Gourde, Kelbey's Ridge 2, En Bas Saline, Tanki Flip, Tutu and El Cabo have also focused on research of domestic areas outside midden deposits, as well as inside and outside houses

(Deagan 2004; Delpuech et al. 1997, 1999; Hofman et al. 2001, 2006, 2008; Hoogland and Hofman 1993; Morsink 2006; Righter ed. 2002; Samson forthcoming; Samson and Hoogland 2007; Versteeg and Rostain ed. 1997; Versteeg and Schinkel 1992). Moreover, Caribbean archaeology is increasingly pioneering new techniques such as research into isotopes and ceramic and clay provenancing, revealing more about prehistoric patterns of mobility and exchange (see contributions in Hofman et al. eds., 2008). What I would however disagree with is the premise that household archaeology functions better under conditions of good preservation or rapid abandonment. The "Pompeii premise" (Ascher 1961 cit. Binford 198l), that artefact assemblages are direct reflections of human actions frozen in a snapshot of time, still lingers in the definitions of Robin and the case-studies of Allison, and this is probably as a reflection of their very well preserved remains. One of the key strengths of archaeology in general, is its ability to access deep time, and gain the historical perspective missing in ethnographies and access phenomena not visible at human lifescales. The properties and characteristics of the house through time, and this temporal emphasis is a theme addressed in *The durable house* (Beck ed. 2007, and see also Ames 2006; Gillespie 2007; Marshall 2006), but is generally more explicit in other archaeologies focused outside the domestic arena in cult places and monuments (see contributions in Mills and Walker eds. 2008, especially Gillespie 2008). The emphasis on good preservation in household archaeology is rather like chasing an ethnographic chimera and does not play to archaeology's strengths.

2.1.2 House theories in archaeology

Early archaeological household studies were descriptive and functionalist in nature. They looked at the house as the smallest identifiable economic and political unit, socially expressed as the household (defined by economic function) or corporate group (defined by the property-holding function) depending on research emphasis (Marshall 2006:38-39). These groups were seen as the building blocks of society, materializing microcosms of production, distribution, transmission and reproduction (Blanton 1994; Hayden and Cannon 1982; Netting et al. 1984; Wilk and Rathje 1982, see discussion in Hendon 2004; Robin 2003). Such studies established the house as a valid unit of archaeological analysis, which Hendon characterizes as the U.S. approach (2004). Anthropologists were already interested in the possibilities of the category of the house from the 1970s as an alternative analytical and organizational system to kinship (Gillespie 2000a; Stone 2004). At this stage, however, archaeology did not engage with those anthropological themes.

This is contrasted to a European cognitive approach, which was influenced by the structuralist anthropologies of Lévi-Strauss and Bourdieu, and which saw the material culture of domestic life in terms of meanings and symbols (Hendon 2004; Hodder 1990; Pope 2007). Case studies such as that of the Bororo village and Berber house (Bourdieu 1973; Lévi-Strauss 1963) were popular in archaeology because binary oppositions were often materially encoded in domestic buildings and settlements (inside : outside, front : back, etc.). Later, the focus of analogy moved to Southeast Asia and body symbolism (Carsten and Hugh-Jones 1995; Fox ed.1993; Schefold et al. eds., 2003, 2008; Waterson 1991). The impact of cross-cultural ethnography on house studies in archaeology was extremely influential, especially studies which discussed the symbolic ordering of the house and settlement so that the domestic environment was conceptualized as a microcosm of the larger cosmos, or as metaphorically related to the human body. Indeed anthropomorphism was seen as one of architecture's universals

(Preston Blier 1987, cit. Brück 1999; Duly 1979). These studies had a great impact on British prehistoric roundhouse studies, often peppered with analogies from North Africa, South America or Southeast Asia (Brück 1999; Parker Pearson and Richards 1994; Pope 2007; Richards 1990, 1996).

Importantly, from the 1990s onwards, on both sides of the Atlantic, and partly as a critical reaction to the androcentric bias of structuralist approaches (associating women : domestic : inside as opposed to men : public : outside), and also to address the shortcomings of both U.S. and European traditions which excluded real people (expressed as social agents and gendered bodies), feminist archaeologies embraced the house as a focus of study. These studies embodied diversity, practices of individuals and the interrelatedness of social and political relationships which converged on the house to break down the separate spheres of structuralist boundaries (Brück 1999, 2005; Gero and Conkey 1991; Gilchrist 1999; Hays-Gilpin and Whitley 1998; Hendon 1996; Claassen and Joyce 1997). Such archaeologies deconstructed "domestic" activities such as eating and sleeping exposing the power and discourse of their political dimensions. The house was cast as the key social component in the constitution of culture, as distinctively political entities through which productive and ritual activities were organized and performed. *"The household is, in effect, politicized in that its internal relations are inextricable from the larger economic and political structure of society"* (Hendon 1996). It is this third wave feminist archaeological research which paved the way for the agent-focussed archaeologies of social life. Elements of which are apparent in Marxist (Latin American Social Archaeology) approaches in which domestic relations, as the major structuring factors in society, determine modes of production and organization of labour. These approaches can generally be classed as practice-based because they are concerned with the process of the production and reproduction of culture by social agents in the spaces in which they live (Hendon 2004; Lopiparo 2007; Robin 2002, following Bourdieu 1977; Dobres 2000; Giddens 1979, 1984. Recent case-studies in archaeology being: Brück 2005; Deagan 2004; Flannery and Marcus 2005; Rodning 2007; Scattolin et al. 2009; Voss 2008).

Lévi-Strauss' definition of the house in house societies, i.e. a social entity attached to an estate, within a hierarchical structure which embodied the ideal of continuity, engaged in the transmission of valued property and strategically exploited language of kinship[28], received widespread critical attention from anthropologists in the 1990s (Carsten and Hugh-Jones ed.1995; Waterson 1991), but it was only with Joyce and Gillespie's edited volume *Beyond Kinship* (2000), a collection of ethnographic and archaeological papers, that the essence of the Lévi-Straussian definition, relevance and applicability was debated from an archaeological perspective as well. A number of these essays explicitly addressed the diachronic perspective of house histories, the materialization of continuity in architecture and burial practices, hierarchical relationships between houses and the circulation of heirlooms (Gillespie 2000c; Joyce 2000; Tringham 2000). Nevertheless, contexts in which the recent historical past is extendable through archaeology were seen as the most appropriate contexts for interpretations of house societies (Gillespie 2000a:14). Archaeology was thus still seen as some-

28 ["a moral person holding an estate made up of material and immaterial wealth which perpetuates itself through the transmission of its name down a real or imaginary line, considered legitimate as long as this continuity can express itself in the language of kinship or of affinity, and, most often, of both" (Lévi-Strauss 1979/Eng. trans.1983:174, cited in Carsten and Hugh-Jones 1995; see Gillespie 2000b)].

what supplementary to the ethnographic cause, whereby the cultural, immaterial and contextual richness is supplied by the latter, and the physical details and time depth supplied by the former (*ibid.*,:14).

Recent discussions on the house have become more materialist over time, from Carsten and Hugh-Jones eds. (1995), to Joyce and Gillespie eds. (2000) to Beck ed. (2007). This can be seen in the latest archaeological literature on the house (Ames 2006; Beck ed. 2007; Hendon 2004; Marshall 2006; Rodning 2007; Scattolin et al. 2009; Sobel et al. eds. 2006) which has identified a set of themes dealing variously with social organization, cultural and social change, daily practice, social memory, symbolic behaviour, status inequalities, the construction of time and space, and the production of identities through the material realm of the house. These "enhanced" house models are distinctly archaeological, contributing valuable insights into how house-related practices are integral to an understanding of past societies; a post-processual reformulation of the position that houses (rather than households, *sensu* Wilk and Rathje 1982) are the building blocks of society. However, a proliferation of terms ("H/house" (capitalized and lower case), "household", "*maison*", "*société à maisons*", "house societies", "social house") and their common application in the analysis of complex, middle-range societies, especially in cases where archaeologists have evidence for continuity in built structures, indications that these buildings held meaning for their inhabitants and where there is differential access to valuables or differences in house size (Düring 2006:44) is seen by some as risking the creation of another generic, empty term (Gillespie 2007). Similar concerns have been expressed by Keegan with respect to Caribbean archaeology, which he terms "jumping on the house bandwagon" (2007). This frustration may be related to the fact that many discussions Lévi-Straussian definitions are invoked although he never made any reference to a physical structure in his discussion of house societies (Gillespie 2007:34). Archaeologists, however, are confronted with the physical reality of past structures which they interpret as houses! Whilst I acknowledge the legacy of Lévi-Strauss in many house-centred discussions, I am in agreement with Rivière (2004:106) that such discussions are useful for their heuristic, or expository value, and would *not* argue for a stricter application of the terms (*contra* Gillespie 2007), I do believe there is a necessity to define one's own terms to a come to a context sensitive and historically specific characterisation of a particular past.

2.1.3 Definitions and approach used in the dissertation

The house is a term which attempts to approximate past categories. The archaeological house is nevertheless a constructed unit (*sensu* Ramenofsky and Steffen *"the packages we create to measure the world"*, 1998:3). The extent to which these archaeological constructs are meaningful expressions of the lives of past people is dependent on how we collect and interpret data. Three main terms specific to the interpretation of the domestic context in El Cabo will be used in this dissertation, *house*, *House Trajectory* and *yucayeque*. These take physical structures and material contexts as their starting points. They are defined in the following ways:

2.1.3.1 House

A house is a dwelling structure. The morphology of the architectural plan, characteristics of the life history of the building, and the character and range of functions and practices, both ritual and quotidian associated with the structure are

distinct from other structures in the domestic area or non-domestic contexts. These characteristics, functions and practices are described and assessed with respect to how they relate to a social entity, or the household (one-to-one, one-to-many, many-to-one). To what extent houses represent "*home, the inside, the Us, and the here-and-now*" (Helms 1998:19) should be assessed on the basis of the material remains of and related to the structure/s.

2.1.3.2 House Trajectory

A House Trajectory explicitly refers to the material pathways houses form and how they reproduce themselves. The House Trajectory is a spatio-temporal unit made up of a sequence of houses reproduced over time with express reference to the first house. The House Trajectory is not only more durable than its inhabitants but encompasses their concern with social and cultural reproduction through the formal, structured and explicit renewal of house architecture and house practices. Each renewal is a successful reproduction of the house.

2.1.3.3 *Yucayeque*

Yucayeque is the settlement community. The term *yucayeque* (Wesch 1993; or phonetic form "*inkayeke*", Granberry and Vescelius 2004:122) is an indigenous Taíno word which appears in the Hieronymite Interrogatory (*Interrogatorio Jeronimiano*), written in April 1517 by fourteen Hieronymite priests resident in Hispaniola and charged with advising on improving the *encomienda* system to save the indigenous population from extinction (Anderson Córdova 1990:122-126; Wesch 1993). Their mission explicitly focussed on under what conditions and how indigenous communities could be integrated into the colonial system. Higüey and La Vega were chosen as places to begin this experiment as the only areas with significant populations of native people still in existence. This document refers several times to "*yucayeques e asyentos*", which implies that the Spanish concept of *asyento*, or settlement, was not sufficient to describe the indigenous concept of *yucayeque*. Similar to *hamaca* (hammock), *huracán* (hurricane), *areyto* (ritual song/dance), and *cohoba* (ritual drug ingestion), there was something distinctive and untranslatable about the native concept of *yucayeque*. The question arises why it was not used in the earlier chronicles by Pané or by those who were in Hispaniola from an early date such as Las Casas. This may have something to do with the fact that it was precisely the otherness of the native community structure which was the focus of the Hieronymite Interrogatory, whereas early accounts focused on the desire to find trade partners and valuable exotics (not the mundane domestic). The term *yucayeque* is thus preferred when referring to the Late Ceramic Age community of El Cabo (see Guarch Delmonte 1994).[29,30]

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29 I am grateful to Adriana Churampi for discussions on this and her location of the term in the *Hieronymite Interrogatory*.

30 The use of an indigenous term also avoids certain connotations of the term "village", used often in Caribbean archaeology (Righter 2002; also see Carlson ed. 2007; Keegan 1992:74; Keegan et al. 2007; Rouse and Alegría 1990; Siegel 2007). "Village", with its long association with the beginnings of household archaeology (Flannery 1976), and expression of real social groups rather than imposed archaeological units might seem an appropriate term. However, "village" places a site within a scheme of settlement hierarchy before establishing whether this was the case. In Dominican archaeology, in which settlements are classed according to their *modo de vida*, i.e. the particular niches they occupy (Ortega 2005; Veloz Maggiolo 1993), a "village" would be the equivalent of the *modo de vida aldeana*, which would fit El Cabo into a very specific role

2.2 The house as a unit of analysis in the archaeology of the indigenous Greater Antilles

> *"Necesitamos reorientar nuestros esfuerzos para abarcar la diversidad y comenzara desarrollar modelos históricos que hagan énfasis en la singularidad de la existencia humana en las Antillas antes de la llegada de los europeos."*
>
> (Keegan and Rodríguez Ramos 2004:12)
>
> ["We need to redirect our efforts to incorporate diversity and start to develop historical models which put the emphasis on the singularity of human existence in the Antilles before the arrival of the Europeans." Author's translation]

One way of heeding this cry to focus on the singularity of human existence in the Antilles before the arrival of the Europeans is to focus on the house. A concern with daily life and domestic relations has always been inherent in Marxist approaches, but these have not identified the house as an explicit analytical unit of study.

In the Late Ceramic Age in the Greater Antilles, there are nevertheless two main assumptions at play: (1) that Caribbean houses represented households (i.e. discrete co-residential groups, acting as corporate groups (in terms of economic activities and identity affiliations) (Curet 1992a), and (2) that the indigenous social unit was the family. Both are nevertheless established with respect to colonial sources and ethnographic analogy, and not with respect to archaeology.

What is the relationship between the physical house and the social unit which inhabits it? Cross-cultural studies have demonstrated from early on that there is nothing natural about seeing the house as synonymous with the co-residential group. Social groups do not respect the boundaries of physical buildings and houses generally out-live their inhabitants. This forces us to address the relationship between the material domain of the house, and its inhabitants. This must be done for every context.

The first observation is axiomatic and used as the departure point for discussion. This is shown in Curet's statement on house structure and cultural change: "If it is assumed that in Caribbean prehistory houses represented households, then it is probable that these changes included modifications in the nature, size, and form of indigenous domestic groups" (Curet 1992a:161). This one-to-one relationship between the physical dwelling and the social unit comes from cross-cultural observations about social organization in small-scale societies, anthropological kinship theory and lowland South American ethnography. In mainland ethnography, there is an explicit emphasis on the primacy of the house as a discrete social and architectural unit (Carsten and Hugh-Jones 1995:35; Heckenberger 2005; Lea 1995; Rivière 1995, 2004). This model is used for the conceptualization of Saladoid social organization within houses, so that single large roundhouse dwellings house a whole community (Oliver 1997; Versteeg and Schinkel 1992; Rivière 1995), but is not appropriate for the Late Ceramic Age Greater Antilles, where houses are small, individuated, and hypothetically

(on a par with Juan Pedro or La Union, but not equal to *cacical* sites like Punta Macao or Atajadizo). Although this might be a more appropriate comparison, again, this particular scenario should be addressed before using the term. Lastly, the term "village" seems to be almost a *dismissive* term in the Anglophone Caribbean literature, meaning lacking ballcourts, monumental architecture or elaborate paraphernalia (see for example Righter 2002:353; Oliver 2003 on Río Cocal-1; or Conrad et al. 2008 on La Cangrejera in relation to La Aleta multi-plaza site).

arranged in hierarchical relationships with each other (Curet and Oliver 1998). Moreover, settlements come in different shapes and sizes and range from single houses to towns of hundreds of dwellings. It therefore remains to be investigated what kind of social entity claims membership of a house, and whether single structures distinguish themselves from each other or act communally in clusters or as whole settlements. It is through the materiality of the house and inter-house relationships that we can gain insight into this issue.

2.2.1 The material house

The house is a material entity. This does not mean it is simply a shell, a container of social life, or a static symbol or microcosm, but it is a physical construction, generated by the cultural schemes, history and practices of its inhabitants (Bourdieu 1977; Glørstad 2000; Knapp and van Dommelen 2008; Miller 2005; Meskell 2005). It has become a bit of a cliché, though nevertheless heuristically valuable, to state that houses and households are mutually constitutive (Gillespie 2007; Hendon 2004; Lopiparo 2007; Voss 2008:174). That is the house, including its architecture, the arrangement of its posts, its size and elaborateness; its ephemerality or fixedness, the patterning of related artefacts and structures, and its biography are the product of the social relations, iterative behaviours and moral and cultural dispositions of its inhabitants. Similarly, the house is the location of society and constrains, facilitates and defines the limits and possibilities of institutions such as kinship and the daily and longer term rhythms of social and cultural life. The relationships we create and maintain through the material world are not universals, as Meskell says: "it is surely necessary to undertake study of particular cultural moments to understand particular contextual notions of the material world" (2005:6). Late Ceramic Age houses are such particular cultural moments.

An archaeological examination of the house, with its focus on domestic structures and related artefact assemblages, examines a specific historical and located materiality. The data discussed in the following chapters are used to address issues pertaining especially to the material domain and reproduction of the house and late-phase community in El Cabo. Some of the material aspects of focusing on the house as an analytical unit are the reconstruction of architectural characteristics, deposition of a range of objects and human remains, house lifecycles and the repeated renewal of the house, the temporal and spatial relationships between houses and between house groups across the site, the chronological development of the community, and the patterning of domestic refuse, personal items, social valuables, and colonial goods across houses.

2.2.2 Houses and kinship

Kinship debates have played a large role in Caribbean archaeology of the Greater Antilles (Curet 2002, 2006; Helms 1980; Keegan and Machlachlan 1989; Keegan 1997, 2006, 2007, 2009). This is due to the fact that within the development of anthropological theory, kinship and the particular classificatory systems defined within kinship, were seen as the major constitutive element of social organization (Parkin and Stone 2004:1). And archaeological theory, especially in the United States, follows anthropological theory.

Most writers assume that the indigenous social unit was the biological family. In the Early Ceramic Age this was the large extended family. In the Late Ceramic Age this was a small extended or nuclear family (Cassá 1974; Curet 1992a; Veloz Maggiolo 1991, Wilson 2007). Some authors are explicit about membership of

this family: "el núcleo central es el padre, madre, hijos y a lo sumo abuelo" (Veloz Maggiolo 1991:179), whereas others, such as Keegan describe a more complex scenario in which the "family" was the matri-clan spread throughout different households in different village locations (1997:114-115; Keegan et al. 1998). Nevertheless, there is still a general belief that the house is the fitting container for a nuclear family.

Evidence for specific forms of early historical Hispaniolan kinship is largely based on historic documents of Oviedo, Martir de Angleria and Las Casas, with indications of mythical kinship from Pané. Interpretations of these statements are divided between those who take a literal view that the historic (Taíno) population was matrilineal and matrilocal, i.e. they traced descent and inheritance through the female line (Cassá 1974; Fewkes 1907; Keegan 1991, 1997, 2006; Lovén 1935; Moscoso 1983; Rouse 1948; Sued Badillo 1979; Tabío and Rey 1989; Wilson 2007) and those who take more interpretive or minimal views of the historic evidence that rules were flexible and made to be broken and that any rules the chroniclers did refer to were relevant only for elite Hispaniolan households (Curet 2002; Helms 1980).

Whether or not we are justified in calling Taíno society matrilineal, most scholars agree that elite office was probably kept within the matriline in Hispaniola (Keegan 2006 *contra* Curet 2002; Curet 2006 *contra* Keegan 2006). The implication of this descent mode for the characterization of society is not straightforward, however. There are many different types of matrilineal society and assumptions that they are inherently unstable, associated with certain forms of horticulture, or increase the power of women are unfounded (Parkin 2004:30).

So what can a house perspective contribute to this debate? Because the study of houses was developed as an alternative to kinship, some researchers have seen household studies as the enemy of kinship, or in other words "*the household has achieved the status of an ontological category in anthropology that stands in contrast to the family*" (Hendon 2004:272; see especially Keegan 2007:94-95, who calls this a "conspiracy"). This is despite the fact that, as Helms points out (1998, 2007), the house as the locus of "us" and of lived kinship, fictional or real, is the place where kin relations are played out. Anthropologists have long been busy with a process-based view of kinship, closer to an archaeological or material perspective. This is for example the case in Carsten's account of Malay kinship (or "relatedness") which operates though food, acts of feeding, and sharing of house and hearth, or Meigs' definition of Hua (Eastern Highlands of Papua New Guinea) kin as persons who share the transfer of vital substances (called "*nu*") (Carsten 1997, 2004 and Meigs 1984, 1989, cit. Stone 2004:248, 252). Moreover, Lévi-Strauss is very explicit that house relationships are expressed in the *language of kinship or of affinity* (1983). It is thus assumed that co-residents who express membership of a house are or consider themselves cognatic (kin and affines), and that houses have a key role in integrating tensions inherent in kin/affine relations (Gerritsen 2007; Hugh-Jones 1995). It is simply that archaeologists are more interested in what kinship *does*, in those practices to which we have most direct access, not the intricacies of its terminology or specific forms to which we have no access (Hendon 2007). Or, as Gillespie says, the focus of archaeologists should be how people conceive or enact "kin-like" relationships in joint localization to a "house" (2000a).

Before going more deeply into kinship with reference to Caribbean archaeology, it is worth reiterating some more of Helms' statements on kinship with relation to the house in which she confronts what she also perceives as a misplaced

animosity to kinship among some scholars. *"Just as ichthyologists must, at some point and in some way, take water into account when they study fish, so anthropologists, including archaeologists, must, at some point and in some way, be prepared to take kinship into account as they study traditional human societies"* (2007:491). Helms makes the point that although *"kinship systems have* always *been entirely cultural constructs"*, the ethos and morality of kinship *"provided a basic social foundation and legitimizing ideology for the activities and identities of the house"* (*ibid.*). She goes on to say that the materiality of the house *"does not negate kinship but illustrates some of the dimensions and manifestations of a particular type of kinship-defined and kinship-legitimated life"* (*ibid.*). In fact the most recent archaeological literature on the social house has been anything but hostile towards the role of kinship (see contributions to Beck ed. 2007; especially Hendon 2007:293), but actively seeks to incorporate and acknowledge it.

The problem of discussion of kinship in the Caribbean is that it is restricted to the elite and positions of high office. If we know little about how elites transferred property, office and traced their descent, then we know next to nothing about how the majority did this. This is not an isolated phenomenon – elites are usually more interested in kinship than commoners as there is more at stake (Curet 2005). Moreover, kinship debates are rather synchronic discussions, pertaining to a short era of colonial history, and so the characterization of Late Ceramic Age society in terms of a particular kinship system fossilizes it within certain anthropological categories. As noted by Marshall (2006:38) in relation to a study of Northwest Coast households spanning 2000 years, *"membership in a social group is never finally resolved"*, which is why too heavy a focus on kinship issues is not an archaeological pursuit. Instead we should take seriously the material consequences of kinship as a flexible and constructed category and turn attention to how relevant social groups within Late Ceramic Age Hispaniola expressed themselves through time. Can one define characteristics (size, activities, significance with respect to other institutions) of indigenous social groups within the settlement? Were these stable or instable configurations (variability between houses and house assemblages) or durable entities manifested in transmission of the same? As summed up by Marshall (2000:74-75), *"…the core of a house is argued to be a physical dwelling and the people who choose to occupy it, rather than an abstract set of social connections or positions based on descent, because the corporate identity of a house must be performed into existence by a dwelling's inhabitants through their actions as co-residents."* When this is put into a diachronic trajectory of centuries, it is then that the dimensions and manifestations of kinship come into tight focus. How residence located in a house constructs kin is something which will be addressed in Chapter 6.

2.2.3 House temporalities

Generally speaking, within archaeology, there is a logical relationship which proceeds between units of time and space, and a belief that certain time-scales go with certain spatial units (Harding 2005). The mismatching of units of time and space has justifiably been blamed for shortcomings in theorizing in Caribbean archaeology (Curet 2003), as is the case in many regional archaeologies (Rossenberg 2005). In particular small-scale contexts and shorter time-scales have been neglected and the details of these scales substituted by the synchronic detail of historic sources. This makes intra-site studies, in which domestic temporalities are elucidated desirable in a Caribbean context. However, it should not be thought that these only express short time-scales. This is a bias of our understanding of domestic, rather than how domestic temporalities are expressed.

This dissertation is concerned with the house and its place in a community (i.e. the house and its immediate social context). The domestic context is traditionally seen as representing the smallest of the nested levels of space and time. And indeed, the house is materialized through an aggregate of multiple quotidian events (eating, sleeping, raising children, consulting *cemís*) and the structuring of the domestic environment (house lifecycles, transmission and domestic rituals) (Grier 2006). But household contexts also reveal much longer trajectories, usually of the scale discussed for ceremonial contexts. Cross-cultural, house-centred studies have repeatedly emphasized continuity in building practices, and house and burial locations (Düring 2006, 2007; Gillespie 2007; Hodder 1990; Pauketat and Alt 2005; Rodning 2007; Tringham 2000). Such continuity and longevity are often discussed in terms of elite power strategies of legitimization, or in terms of the creation of place and anchoring of a community history. One example of this which will be described at length in the following chapters is the biography and material longevity of the house. In the precolonial Greater Antilles, people maintained ongoing ties with places in the landscape through mortuary practices, such as the repeated burials of people in certain places, the use of certain caves, petroglyphs or the use of ballcourts and plazas as places of aggregation. How this was done with relation to the built architecture of the house will be discussed in Chapter 6.

2.2.4 Houses, identity and personhood

The principle identity which emerges from the chronicles is that of the *cacique*, the usually male actor, representing the village or polity and interlocutor of the Spanish colonial agent. This would have been one aspect of a *cacique*'s identity, and only one indigenous identity, the only one accessible to the Spanish. Interestingly enough, dominant on the page, the *cacique* is nevertheless one of the most elusive characters in Caribbean archaeology. In fact no *caciques* have been excavated in the Caribbean (Curet 1992b:326-327; Oliver 2009)[31]. The majority of the rest of the general populous are relegated as marginal subjects. This is also the case in recent discussions of "Taínoness" (*Taínidad* in Spanish) referring to the way certain material culture styles were actively and strategically employed as an elite ritual, material strategy (Oliver 2008, 2009:29; Rodríguez Ramos 2007:311-13).[32] One way to recover other social identities is through consideration of the house.

A study of the house reveals a different image of indigenous personhood. This is an "us" identity, not that of individuals, but of the house as a social actor most similar to Lévi-Strauss' *personne morale*. As Gillespie points out this expresses two salient qualities, "morality" and "personhood" (2007:33). These are qualities which can be expressed deliberately and strategically by generations of inhabitants through the aesthetics of the physical house and socialization

31 Here Curet refers again to the possible exception of a chief buried with his (still living) wife from La Cucama, Distrito Nacional, Dominican Republic. This should now be dismissed from archaeological narratives as fantasy. See also Oliver 2009 with respect to this.

32 Although not explicitly confined to elites in Rodríguez Ramos' (2007) original discussion which was more concerned with finding an al;ternitive to the monolithic cultural label "Taíno", Oliver's definition (2008, 2009:29) is explicit that expression of *Taínoness* is confined to the *cemís* (the three-pointers, stone collars) and *cemí*sm of the elite (i.e. networks of *caciques*). Moreover, although he refers to other Greater Antillean regions, it is clear that *Taínoness* is really confined to the Mona Passage area – the Classic Taíno culture area of Rouse (1992). *Taínoness* can thus be ranked (Mona more than the Windward Passage). Moreover, it is still very much defined in accordance with the early colonial documents. The embodiment of *Taínoness* is thus the most active of agents, the *cacique*.

as seen through household behaviours (Carsten and Hugh-Jones 1995:2). This is the concentration and materialization of aggregate persons on multi-generational time-spans in the setting of the house. Personhood in this respect does not relate to the scale of individuals, it is the house which is the recoverable social agent (see Heckenberger 2005). In such a way the house becomes a repository or concentration of values which stabilize and institutionalize over time (Carsten and Hugh-Jones 1995:13; Gillespie 2000a:12-13). One thus gains an image of indigenous personhood expressed through the domestic domain, different from that expressed in the historic documents, or elite culture.

Domestic identities, formulated as "us", are different from external identities expressed outside the household, or village, or at the regional level. As Hugh-Jones has made clear for Tukano houses, ritual and mythology express clan hierarchy and autonomy, whereas daily life and food sharing represent equality and consanguinity (Hugh-Jones 1995). Helms explicitly links this "us" identity and the house:

> *"Considered overall, the house may be regarded generically as a fundamental social, political, ideological, and moral domain that in many ways functions as a distinctive entity defining, protecting, and sustaining its members, both as a group and in the aggregate. The house may be taken to represent in various ways home, the inside, the Us, and the here-and-now"*
>
> (Helms 1998:19).

The material domain of the house represents opportunities to explore house identities and values. These can be expressed publicly in the architecture, rituals and physical reproduction of the house, and expressed daily through the practices and private rituals of the house. Different values are expressed in different contexts, and represent different sides of house identity. One of the principle aspects through which indigenous morals, values and domestic social persona will be addressed is through the aesthetics of the house. The extent to which aesthetics and indigenous sociality are interrelated will be discussed in the following section on Amazonian sociality as a source of analogy for El Cabo.

The consideration of the house can thus provide a historically situated picture of a local Taíno identity and expressions of lived *Taínoness*. However, due to the historical and exclusionary nature of the terms, they are avoided in preference of more local and specific denominations such as "indigenous inhabitants of the Higüey region" (for post-1492) or "indigenous inhabitants of the eastern region" (for pre-1492, see Chapter 3).

2.2.5 Houses, hierarchy and social complexity

In the contact period Hispaniolan societies had a hierarchical social organisation. Despite acknowledging the mosaic of diversity in levels of complexity and the heterarchical differences between regional communities across the Greater Antilles, at contact Hispaniola was divided into hierarchically arranged macropolities known as *cacicazgos* (Vega 1990). This may not have been the case in all regions, as in Puerto Rico where *cacicazgos* were less well defined, or other areas such as western Cuba inhabited by people with a radically different culture and lifeways (*Guanahatabeys*) (Wilson 1990). Most of the information on these indigenous regional formations comes from Hispaniola where the Spanish recognized, especially in the north and west, well-defined areas with a pyramid political structure. The extent, nature and basis of power in Greater Antillean society has long been debated, with respect to the roles of economic, demographic and ideological factors (Curet 1992b, 1996; Moscoso 1983; Oliver 2005, 2009;

Keegan et al. 1998; Keegan and Machlachlan 1998; Siegel 1992, 1999, 2004; Veloz Maggiolo 1993). Moreover, the origin of the emergence of an aristocratic class has been sought with respect to these factors.

Crucially, although we have evidence for historical inequality and status differences, there is almost nothing in the archaeological record to suggest how this worked, among whom and the dimensions of this inequality. As Oliver states:

> *"It is a well known fact among Caribbean archaeologists of all theoretical persuasions that there is a lack of material evidence for social stratification that is independently supported by archaeological data. Among other things, this is because there is severe paucity of well-documented household units, of clear stratification between households and mortuary practices, of evidence of differential accumulation of prestige and wealth items throughout a site (much less groups of sites), and of differential control over the distribution and redistribution of commodities and other resources. This paucity of archaeological data conspires against resolving pressing questions about the emergence and functioning of Greater Antillean chiefdoms, or even of what kind of chiefdom were the cacicazgos of the so-called Taínos."*
>
> (Oliver 2009:254)

Houses are implicated in both the development and expression of this social inequality (Curet and Oliver 1998; Veloz Maggiolo 1976, 1984; Veloz Maggiolo and Ortega 1986). Houses therefore are seen as co-actors in the evolution of social inequality and one of the mechanisms in the maintenance and further institutionalization of social inequality. This role of houses in the establishment of inequality is a common feature of house-centred discussions cross-culturally. Indeed hierarchy is one of the common themes addressed in many house-centred studies (Ames 2006; Gillespie 2000b, 2007). This is partly due to the fact that house studies are most common among "middle-range" societies with evolved or evolving class divisions, rather than a consequence of the fact that societies in which houses are key institutions are necessarily ranked (Ames 2006). Societies considered true house societies (in the Levi-Straussian sense) evolved in both egalitarian and ranked systems (Gillespie 2007:29). Nevertheless, in societies in which houses are ranked, this is usually only the case in the higher ranks of these societies (Ames 2006:18).

Due to the fact that *cacicazgos* are multi-community phenomena, it is assumed that the appropriate level analysis of power relationships within a *cacicazgo* is regional (Curet 1992b). Regionally differentiated settlement systems with multiple tiers may have existed in some areas (Curet 1992b). Regional centres, presumed to be the seat of paramount chiefs may have been surrounded by smaller satellite towns and villages with functionally different roles (marine, trade, agriculture oriented, etc.) and their respective lower ranking elites. So large sites such as Caguana, Tibes, Maguana, Punta Macao, and En Bas Saline are identified as regional centres, and other smaller settlements integrated within their networks. In other areas (Banes, see Valcárcel Rojas 1999, 2002; Río Cocal region, see Oliver 2003) no such hierarchical ranking is proposed between sites within a region per se, although community elites may have formal networks of interaction through exchange and intercommunity rituals.

Hierarchical ordering of social institutions was encoded on many different, lower levels than the regional polity, however, including at smaller scales of analysis such as the settlement. Regardless as to how any particular site, large or small, may have operated or stood within a region, other hierarchies existed within the settlement, within the individual house, within the individual family. The question is: can we see status differentiation at the intra-settlement level? On the village level, if houses were hierarchically arranged, we would expect

this to be visible through a number of variables. From colonial documents Late Ceramic Age societies at contact materially expressed status differences between commoner and elite classes through differences in food choices, access or stewardship of craft items and socially valuable *cemí* items, mortuary treatment, residence and household size, and residential location. On a few occasions such differences have been identified: differences in burial practices, house size, location of high status artefacts and faunal and artefact assemblages have been interpreted as indicating commoner/elite statuses in sites in the Virgin Islands, Bahamas, Cuba, and Hispaniola, although in many cases this is rather tentative and open to discussion (Deagan 2004; Righter 2002b; Sullivan 1981 in Keegan 2007; Valcárcel Rojas and Rodríguez Arce 2002). Other sites have not presented any evidence for intra-site status differentiation (Río Cocal, Oliver 2003).

Therefore, the role the house played in relationships of inequality at the site level has still not been extensively investigated. Assumptions that households should manipulate certain conditions to promote their own line is based on descriptions of inequality in textual sources relating to certain Hispaniolan regions. If households were doing this, then data on the house should elucidate the ways this happened, and whether this was the case in all settlements, or only in large towns considered regional centres. Smaller social formations within one settlement may not necessarily have assumed hierarchical relations with each other. This is not to say that all relationships were equal, as there may have been significant qualitative difference, as suggested by the number of diverse secondary ranks referred to (*nitaínos*, *behiques*, etc.), but this need not necessarily be expressed in terms of unequal power structures. On the other hand, a diachronic view might reveal equality in one phase and unequal relationships in another. Only more detailed scrutiny of social reproduction in the domestic realm can elucidate this. It is also a question in how far the nested hierarchies of social life (house, village, local community, region) are reflections of each other. That is, in how far does the organization of the house reproduce and get reproduced in the broader structures of the village, local community and region?

2.3 Two sources of analogy as reference points in the study of El Cabo

As well as the themes discussed above relating more generally to archaeological considerations of the house and domestic realm, two sources of analogy should be acknowledged as having direct consequences for the interpretations of the El Cabo data. These are anthropological discussions of Amazonian sociality and especially aesthetics, and the fieldwork experience of working in the contemporary setting of El Cabo village alongside local people.

2.3.1 The house and Amazonian sociality: Aesthetics, morals and socialisation

The representation of the Caribbean archaeological past is strongly formed with reference to mainland ethnography. Analogies with lowland South America are second nature to Caribbean archaeologists (Boomert 2000; García Arévalo 2001; Hoogland and Duin 2002; Petersen 1997; Roe 1993, 1995, 1997; Siegel 1990, 1992, 1996; Versteeg and Schinkel 1992). This is particularly the case for Saladoid archaeological cultures which originated from the Lower Orinoco river area several centuries BC. There is no such a direct historical link between the Late Ceramic Age cultures of the Greater Antilles and the mainland, however, and the Ostionoid cultures of Hispaniola are (not undisputedly) seen as hybrid

products of evolution of multiple origins and island ethnogenesis (Allaire 1999; Rouse 1992; Veloz Maggiolo 1991; Wilson 2007). Nevertheless, the Antilles' participation in the historical-geographical area of the circum-Caribbean (Allaire 1999; Steward 1948), the persistent cultural ties documented with predominantly lowland South America (Hofman et al. 2008; especially northeast Venezuela, the Guianas and Orinoco Valley), and the wealth of ethnographic information on indigenous societies in this area means that this greater region in particular is widely accepted as the main frame of analogous reference with precolonial society, both in matters physical and metaphysical, throughout the insular Caribbean right up to the latest cultures of the Greater Antilles. It is accepted that the Arawakan origins of these cultures forms a cultural reservoir with respect to subsistence, settlement, mythology, symbolic repertoire and cosmology, albeit transformed over centuries of history and insular adaptation. This is the case for house and village organization and demography, social organization, cosmology, agricultural intensification, the role of shamans, the function of shamanic paraphernalia, interpretation of symbolism in monumental and portable material culture (Alegría 1978; Boomert 2000; Curet 1998; Lovén 1935; Oliver 1997; 2000; Roe 1997; Stevens-Arroyo 1988; Veloz Maggiolo 1981).

Such systematic analogy-making has brought immeasurable benefits both to Caribbean archaeology and to historical anthropology of the tropical mainland. However, its presence is often hidden, or glossed with the phrase "ethnographic analogies with the mainland show…". If particular ethnographies form one of the bases for imaginaries of archaeological pasts this should be openly acknowledged, made critically transparent and justified on a case-to-case basis. Later in this dissertation some of the specific tensions in the conceptualization of precolonial Hispaniolan settlement and house dynamics will be highlighted with respect to tropical lowland mainland traditions. Now, however, I draw attention to one permeating influence in my image-forming of domestic life in precolonial El Cabo; namely the characteristics of Amazonian sociality.

Stereotypical conceptions of Native Amazonians have been developed through the ethnographies of Amazonian anthropologists which have been distilled into two main opposed camps, labelled by Santos-Granero as "hawks" and "doves" (Santos-Granero 2000; see also Viveiros de Castro 1996 on "the symbolic economy of alterity" and "the moral economy of intimacy'), i.e. those scholars who emphasize the bellicose character of native peoples and have a research focus on (usually male) raiding and predatory activities in the extra-local and political sphere (epitomized by Chagnon's (1977) "fierce" Yanomami), and those who emphasize their harmonious relations and reciprocal generosity in the sphere of everyday, usually equated with the local and domestic domain (see Overing and Passes eds. 2000). In many ways this mirrors the Taíno-Carib dichotomy of the Caribbean in which the inhabitants of the Greater Antilles are stereotyped as noble, and those of the Lesser Antilles as savage. The construction and essentialising of *the* native character in the Caribbean has a much longer history than in Amazonia, however, going back to the first voyage of Columbus (Hulme 1986; Hulme and Whitehead eds. 1992; Hofman et al. 2008; for a new perspective on the debate Samson and Waller in press). Of course, these two images are different sides of the same coin and the face a researcher highlights is dependent on her/his research paradigm, locus and scale of research.

The primary locus and scale of interest in this dissertation is the settlement, and in particular the people who live together and claim membership of a house. It is therefore concerned with communal living, the daily practice of eating, gardening, fishing, working, raising children, learning skills, building houses,

and mourning the dead. These are the priorities of a domestic archaeology of the Caribbean, where domestic is political, ritual and quotidian and where the aesthetic and moral preoccupations of daily life have material correlates.

Native Amazonian peoples pride themselves on their skills in congenial social interaction and their ability to be social, especially in the domestic realm. This is something about which the many contributors in Overing and Passes eds. (2000) are in agreement. This includes a tendency to talk at great length about how to live well and happily in community with others, how to go about creating "good/beautiful" people who can live a tranquil, sociable life together, and the difficulties of achieving this task (paraphrasing closely Overing and Passes 2000:2). The authors continue; "*Their* [i.e. Native Amazonians, original italics] emphasis is upon achieving a comfortable affective life with those with whom they live, work, eat and raise children." The authors emphasise the intensity of indigenous "conviviality", defined as similar to sociality, but with a stress on the *affective* (i.e. relating to emotions) side of sociality, thus giving great importance to amiability, intimacy, peace and equality in social life.

This concentration on the creation of the right conditions for successful social life does not just exist in an ideal realm, as an "unattainable utopia", its setting is the local community, village and co-residential group, and it finds its fullest expression in the growing settlement in which commonly held ideals are manifest (Santos-Granero 2000:283). These principles of domestic sociality within the community have implications for indigenous psychology, personhood and morality. Overing and Passes (2000) stress how culturally constructed emotion is constitutive of indigenous morality (self-control, prohibition of negative emotions/behaviour, intense sociality), aesthetics (maintaining a beautiful, ordered environment), cosmology (represented in their mythologies) and daily life (communal work and socializing) (*ibid*.). Accordingly, "Amazonian peoples adhere to a "virtue-centred ethics" [as opposed to a "rights-centred" moral system of the West] that is primarily centred upon the equality of "the good life" which is engendered through the artful practices and skills of those who personally and intimately interact in everyday life. There is an aesthetics to Amazonian morality, which also centres on intent and desire" (Overing and Passes 2000:4).

As we shall see later on (Chapters 5 and 6), the appearance and treatment of the house in El Cabo bears the material imprint of particular aesthetic choices. It is with the foregoing discussion in mind that these choices will be interpreted.

2.3.2 Present day El Cabo[33]

The use of the contemporary village of El Cabo as analogy needs less justification. Throughout the total of about seven months we spent altogether in the village, our constant point of reference for life and living in El Cabo, was the village. Settlement and household archaeology in particular focuses on daily practice and the quotidian as important sites of analysis. And the archaeological site itself became a setting in which this was encountered and discussed. The villagers in El Cabo share similar material constraints and an environmental setting and ecology to that of the past inhabitants. As an outsider it seems reasonable to privilege the experiences and responses of those who live there now, thus inviting comparisons (from members of the fieldschool and the local people) between the present-day village and the precolonial village. So, for example, we assume and can be fairly sure of a correspondence between such things as water sources,

33 I am grateful to Jimmy Mans for discussions about how the experience of present day El Cabo had an impact in archaeological image-forming.

hurricane and severe weather crisis management, certain overlap and similarities in marine and terrestrial subsistence exploitation[34] and some shared site access routes.[35] Similarly, in terms of technical choices such as house construction and location of activity areas, the villagers whom we talked to had clear explanations and opinions on the range of choices and constraints of the location.[36] One study directly related to this exchange of information is the MA thesis on the local landscape of El Cabo by Erlend Johnson (2009). More extended analogies can be drawn in terms of local networks and household dynamics. El Cabo village had a former relationship with fishing teams from the nearby village of Juanillo[37], occupying a sandy beach 5km to the north. The same location was also the site of a precolonial settlement, Caletón Blanco (Olsen 2001a, 2002). Thus this contemporary situation intercalates with a supposed precolonial relationship between El Cabo site and its neighbour to the north.

A second analogy was between the matrifocal and matrilineal households of the village, in which Margot Rosario (married to Belto Villa) and Juana (by marriage to whom the mayor acquired his position) ran the village shops and controlled family labour (especially that of daughters), gardening, and food related activities, whilst men were often absent, and the kin dynamics of the Taíno domestic realm, in which corporate goods and political office were passed down the matriline, and the matri-clan, or one's mother's kin were arguably the most influential in an individual's life (Deagan 2004; Keegan 2007; Keegan et al. 1998; Sued-Badillo 1979). Matrifocality implies households formed by close networks of kinswomen, who are the focus of domestic relationships and have economic and political power within the kingroup (Blackwood 2006). The ways this was manifested in village relationships was a source of analogy for the archaeological households.

These informal ethno-archaeological analogies inevitably feed back into traditional archaeological research and have the advantage of providing not only place specific information, but historical context and understanding of the development of a particular place. Being based in the village and admitting contemporary El Cabo as a source of reference leads to a greater appreciation of the research location and its development over a longer historical trajectory than the 700 years of archaeological study. As a result, different perspectives come to light on both contemporary and precolonial villages.

2.4 Review of data in early colonial sources

Caribbean archaeologists and historians have been outspoken about the way historic sources are abused to interpret the archaeological record (Curet 2003:21-24; Hulme 1986; Keegan 1992; Sued-Badillo 2003; Veloz Maggiolo 1977:53; Whitehead 1999, 2002). Although archaeologists are not ignorant of source criticism, and many archaeologists are also very familiar with the colonial documents, it is very satisfying to search documents for snippets and excerpts which "confirm" or embellish excavated data, without acknowledging the complex con-

34 On several occasions we ate food together prepared by local people such as Nicolas who cooked burgao (Cittarium pica), and Maria, Manolo's grandmother, who made traditional bread from the root of the guáyiga (zamia) plant, nowadays only exploited in times of hardship.

35 The coastal road was almost certainly also the precolonial road linking up coastal settlements now, and in the past.

36 E.g. the depth of postholes to withstand storm weather and the location of kitchens with respect to the wind.

37 The village of Juanillo has since been forcibly relocated inland with no access to the sea to "Nuevo" Juanillo, due to beachfront development.

dition of the document (Anderson Córdova 1990; Churampi Ramírez 2008). This means that our conclusions about indigenous culture derived from these documents will never be more penetrating than a tourist's use of a guidebook in a foreign land, because it is iterative and anecdotal in nature. These details are seductive, but for a better reading, we need to take into account not only the details, but also precisely the hyperbole, political rhetoric and complex biography of a text and its translations to uncover the misunderstandings and tensions.

The problems, or tyrannies exercised by selective and iterative use of these texts, and re-statement of the same citations to compensate under-researched topics (house form and household dynamics) or give shape to certain intangible religious and social phenomena (*cohoba* ritual, *areyto*) continue. The reverse is also true: historians look to archaeological finds to vindicate their readings of the text (Arrom 1999). And yet there are many tensions between text and archaeology, or questions for which there are no answers in either (why haven't we excavated any famed *cacical* burials? Why were stone collars not mentioned by the chroniclers? Why do chronicles insist on large extended families in houses when archaeological house plans seem to accommodate small, nuclear families?). And moreover, it is precisely where they *do* coincide that we should exercise the most caution.

What follows is not a re-reading or re-examination of these sources. That is the task of another study. It is a selective reading and attempt to situate our present knowledge on the house and household organisation from the colonial documents and their reiteration in secondary literature. It is important to summarise these sources and related discussions, as they inevitably form an important point of reference for scholarship in the area of household studies in the Caribbean.[38] For the sake of geographical specificity, descriptions predominantly come from Hispaniola (also referred to as Quisqueya and Hayti).

2.4.1 Physical descriptions of houses

Both physical and conceptual information can be gleaned about the settlement, house and household from the early historic documents. Physical descriptions of house structures are well known and often cited in literature. Both Curet and Lovén give good overviews of the data concerning number and layout of houses per settlement, construction material and techniques, physical appearance and size and number of inhabitants (Lovén 1935, Curet 1992a, 1998). These are based on descriptions which come mainly from Hispaniola, the Bahamas and Cuba, with the earliest accounts from Columbus (*Diario de navegación*, summarized by Las Casas (Columbus 1990) and first published by Navarrete 1825 ((ed.1922)) and Las Casas (Las Casas 1875, 1992) and later accounts from Oviedo (1851, published 1535, written between 1514-1532) and Anghiera (who never visited the Americas), including the drawings from Oviedo of houses on Hispaniola (Oviedo 1851, bk 1, lamina 1, figs 9-10).

The composite image of native houses from Hispaniola, Cuba and the Bahamas is Las Casas oft repeated "*casas de paja*", that is circular houses with closed walls and domed or conical roofs thatched with plant fibres. The houses had pole frames made of many species of wood, one or two doors, and no windows and no or seldom internal partitions. Analogies with conical military tents (*alfaneque, tienda de campo*), bells (*campanas*), and baldachins or canopies (*pa-*

38 I apologise to those archaeologists who have a far better understanding of colonial documents than I, and am grateful for the collaboration with Adriana Churampi Ramírez, which aided my understanding considerably.

bellon) are used to describe their exterior forms (Anghiera in Lunardi et al. eds., 1992:65; Las Casas 1992:524; Las Casas 1875, bk 1:311; Navarrete 1922:88; Oviedo 1851:163-165). Las Casas and Columbus especially note aesthetic properties such as their loftiness, airiness, the sweet smell of their straw thatch, and cleanliness as well as the use of different coloured barks and woven patterns in the walls as if they were painted (Las Casas 1875, bk 4:335). Columbus in particular was impressed by the swept and clean interiors of houses in the Bahamas (Navarrete 1922:37), as well as the beauty and furnishings of a small house in Cuba, hung with shells, which he mistook for a temple (Navarrete 1922:88). Even Oviedo, generally the most depreciative of the chroniclers, was not immune to the aesthetic points of native settlements and houses on Hispaniola, commenting several times on the efficacy and variety of their materials, noting *"un pueblo muy bueno é de muchos é buenos buhios ó casas"* (Oviedo 1851, bk V, ch. V:143).

Variation in terms of size and quality of houses as observed by the chroniclers is cited in the secondary literature to show that there were considerable regional and status-related differences in domestic architecture (Curet 1992a). Size difference is mainly attributed to status: i.e. the houses of *caciques* were multifunctional, larger spaces for the consultation of *cemís* and for the reception of people, whereas commoner houses were smaller. Las Casas for example mentions a chiefly house on Cuba (Camagüey) which was capable of accommodating 500 people (1875: bk 3:22). Differences in quality are seen as regional. So for example, houses on Cuba were the most beautiful he had seen up to that point (i.e. compared to the Bahamas) (Curet 1992a:161, Columbus 1990:80-81). Oviedo's drawings and these general distinctions are often distilled into two standard types: a commoner and a *cacical* house. This hides the considerable variation present in the chroniclers' descriptions.

Oviedo is the main source quoted on the distinction between commoner and elite houses. In reality he describes a much greater diversity, and his distinctions are based primarily on what he sees as the quality of the structure, which is not necessarily linked to status. It is worth quoting him at length on the construction and details of houses and the particulars of the *caney*, as it is the most detailed description we have of Hispaniolan houses.

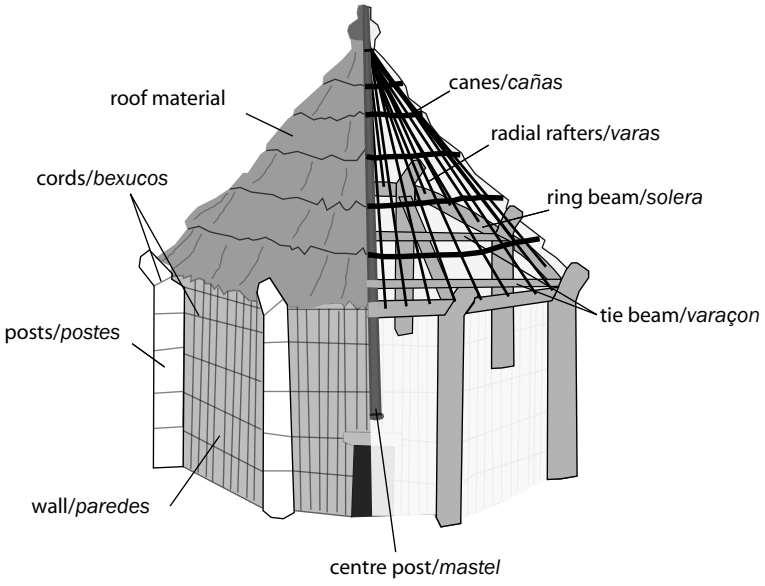

Figure 3. The caney *after Oviedo (1851) elaborated with construction details.*

"These eracras *or* buhios *come in one of two forms, and both are built according to the preferences of the builder. And one form was the following: They set many posts of good, round wood, each one an appropriate thickness, four or five paces between each post, or however far as was desired in a circle. And on top of these, after being fixed in the ground, at head height, they placed the ring beam, and on top of this the tie beams (which takes the tension of the roof). The radial rafters are placed with the thinnest parts uppermost around the ring beam, so that they come together in a point, like a military tent. And over the rafters they put crosswise canes, or laths, a palm's distance* [21cm] *from each other (or less), two by two (or singly), and on top of this a covering of long, thin straw. Others they covered with* bihao *leaves, others with*

bunches of cane, others with palm leaves, and others with other materials. And below this, where the wall is, from the ring beam to the ground, they put canes shallowly fixed into the ground between the posts, and as close together as fingers on a hand, and joined one to the other they make a wall, and they tie them very close together with bexucos*, which are vines or round cords which grow around trees (and also hang from them) like bindweed. These* bexucos *are very good ties, because they are flexible and easy to cut, and they don't perish, and they act to fix and bind instead of ropes and nails to attach one piece of wood to another, and to attach canes the same way. The* buhio *or house made in such a fashion they call a* caney*. They are better and more secure dwellings than others and protect against the wind because it does not strike them so harshly. The* bexucos *or ligatures which I referred to, they get in whatever quantities they want and as thick or as thin as needed. Sometimes they split them to bind delicate things, like they use withies in Castille to fix the laths of barrels. And they don't just use* bexucos *for this purpose, as it is also medicinal. And there are different sorts of* bexucos *as I will discuss later when I discuss grasses and plants and medicinal trees and their properties. This type of house or* caney*, in order that it is made strong and the structure and everything properly built, has to have a centre post or mast in the middle, of a convenient thickness which is fixed in the ground four or five palms deep and which reaches to the highest point or capitol of the* buhio*, to which all the points of the roof rafters are attached. This post is like that which military tents have, like they use in armies and camps in Spain and Italy, because the whole house or caney is fixed by means of this mast. And so that it is better understood, I illustrate the caney here."*

(Oviedo 1851: chapter 1:163-164, translation author, with assistance from Adriana Churampi and reference to Pendergast et al. 2002:64-65 and Oviedo/Turner 1975).

The reference to houses being built "*segund la voluntad del edificador*/built according to the preferences of the builder" is not necessarily a comment on the ingenuity or freedom of the builder, but reflects a real observed diversity. This can be seen in the list of materials which in different circumstances, probably according to availability, were used as house thatch. Moreover, the manner, not just the materials in which houses could be built, seem endless as indicated by the qualifiers between parentheses. It is this diverse type which Oviedo names a *caney*. The defining feature of the *caney* is its better quality in comparison to other *eracras*. This quality seems to reside in the intricacy and close-weaving of the cords (*bexucos*) of the walls to keep out the wind. Next to this plate in the 1851 Madrid edition of the *Historia General* is the "more beautiful and imposing" (*mejores en la vista, y de mas apossento*) house for important people or *caciques* (1851:164). This rectangular structure, with its windows and porch is interpreted by many to reflect the colonial rather than indigenous building tradition (Curet 1992a; Lovén 1935).

There is some disagreement in the secondary literature as to the use of the term *caney*, with some reserving it for commoner houses, others for elite houses, still others for round houses (Lovén 1935:339) and again others for rectangular structures (Granberry and Vescelius 2004: Table 12; et passim., see Prieto Vicioso 2008). This probably stems from Las Casas' use of the term *caney* to refer, non-exclusively, to a *cacical* house (1875, bk 4:468), and Oviedo's explicit depiction of this as a round structure. Thus Lovén is probably correct in treating the term *caney* as a general word for round house, rather than for a house of higher status.

Columbus notes that houses in the Bahamas had crowns or decorative baubles on their pointed apexes (*caballetes ó coronas*) (Las Casas 1875, bk 1, p.311). These are referred to as chimneys (*chimeneas*) in another account (Navarrete 1922:37), perhaps because they were smoke hole covers. The spherical objects

which Oviedo depicts on both the round *caney* and rectangular house may be similar items. Moreover, it is tempting to link these descriptions with Pané's account from northern Hispaniola of a *cemí*, called *Corocote*, placed on top of a prominent man's house at construction (1999, ch. XXI). Arrom's annotation states that the name *Corocote* is similar to Arawakan words for "gold", "reddish metal" or "bronze" which may explain why Columbus refers to these as "crowns" (Pané 1999:28, footnote 114). Oviedo (1851) mentions a lifespan of two to three years for the perishable roof materials and also the tendency of some posts to rot, whereas those built with woods such as *corbana* and *guayacan* do not decay underground, "*por ningun tiempo* (p.165)."

Other structures referred to in the sources include *cemí* houses and Anacaona's storehouse (Las Casas 1875, vol II: 148). *Cemí* houses are described as somewhat set apart from the other houses in the village and smaller, but otherwise exactly the same. The *cacica* Anacaona kept a storehouse ("*recámara*") full of a "thousand things of cotton, benches ("*sillas*"), many bowls and servings vessels for the house, made of wood and beautifully worked". In addition, shelters referred to as "*atarazanas*" or "*ramadas*", made with wood and covered with large palm leaves are mentioned for protecting canoes from the sun and rain (Navarrete 1922:83, 86). Columbus also describes huts in association with wide pathways and fires near cultivated fields and trees which may have been temporary houses near agricultural areas or for the exploitation of timber (Columbus 1990:156). In terms of structures associated with settlements, Columbus particularly notes the abundant lookout posts ("*atalayas*") in Hispaniola to send fire and smoke signals (Columbus 1990:149, 157, 167).

2.4.2 House layout, furnishings and activities

In addition to these physical descriptions of houses in Hispaniola, we can infer a range of activities taking place in and around houses in the settlement from the early colonial sources and from the descriptions of the interiors of houses. Lovén (1935:455-462) divides house contents into furniture such as *duhos* and hammocks, domestic utensils for food preparation, and storage vessels. This latter include wooden plates and bowls, calabashes, baskets and ceramics. Animals such as dogs and parrots were also reported inside houses (Columbus 1990:82-83). Only occasionally do the chroniclers describe how the interior of houses were arranged. Columbus for example mentions the fact that household items were neatly laid out (*"sus adereços muy compuestos"*, 1990:80-81). He also refers to the presence of many fireplaces in houses in Cuba, as well as masks and female statues in a house in Cuba (*ibid*.:78-79). There were no room partitions, but there may have been cotton drapes and screens. Items were suspended from the roof beams, including tools, domestic utensils, fishing equipment, and baskets or calabashes containing the bones and skulls of ancestors (Columbus 1990:135; Pané 1999). Hammocks for sleeping and resting were slung between the posts. The centre of the house may have been a cleared area, at least during certain times, as is indicated by Pané's account of a healing taking place in the middle of the house (Pané 1999). Houses were the location of daily activities such as sleeping, eating, craft production and food preparation (Las Casas 1992: ch II, p.334).

Exceptionally, the house was a place for the reception of guests, healing, storage and consultation of *cemís* (Pané 1999: chs xvi, xxi and xxii). Specifically houses of prominent members of the community could be locations for the performance of harvest rites and tribute, and act as meeting places. Columbus notes that the inhabitants of Hispaniola hardly had any temples, and that consultation and rites involving *cemís* would take place in houses, usually those of prominent

men in the village. This does not mean that only prominent members of society had *cemís* (as Pané notes that almost everyone had multiple *cemís*), but that especially valued *cemís* were located in certain houses. Houses were the location of *cohoba* ceremonies (Pané 1999: ch xix).

The reference to the beauty of some houses, the ordered neatness of the furnishings and the highly crafted nature of household possessions indicates that house interiors and furnishings were arenas of display. Moreover, houses were clearly multifunctional spaces in which the activities of daily life occurred which included those things considered political and ritual.

2.4.3 Settlement layout

There is a lot of diversity in settlement pattern in the "infinite villages" (*infinitos pueblos*, 1992:524) of the Greater Antilles described by Las Casas. Oviedo described settlements in Hispaniola in many different contexts, from coasts and riverbanks, to valleys, plains and hills (1851:163), and ranging from single houses, to small agglomerations of houses, to villages with a *batey* or multiple plazas (Las Casas 1992:525; Oviedo 1851:163). Columbus only witnessed small settlements on the Bahamas, with an upper limit of 12 to 15 houses (Keegan 1992:166-167; Navarrete 1922:37), but on Cuba single houses, villages of five or so houses, and villages of 50 houses (Columbus 1990:95,135, 163).

Settlements are generally described as informal aggregations of houses with pathways and plazas between them. In settlements with one or multiple plazas or *bateys*, the houses of the most prominent persons directly gave onto the swept plaza with other houses more informally arranged. The only settlement with a more formal street plan is that of town in Higüey, which was reported to have been a tree-felled area in the form of cross with the village in the middle (Las Casas 1992:299, 525; Lovén 1935:336).

2.4.4 Household organization

A discussion of house demography summarizing the information from the chronicles is given by Curet (1992:162). On the basis of the chronicles, he and other authors (Cassá 1974; Rouse 1948; Wilson 1990) conclude that contact period houses were inhabited by extended families. This means multiple generations of kin and affines under one roof. This evidence comes principally from a section of Las Casas' *Apologetica* in which he talks of villages with houses in which diverse lineages lived next to each other. And in each house lived "*diez y quince vecinos con sus mujeres y hijos"*. Further down he repeats this again, with a more specific example of one house, 9 to 12m in diameter (*treinta y cuarenta pies*) in which again "*diez y quince vecinos"* lived. This seems relatively explicit and clear, but as Curet points out, Las Casas' reference to *vecinos*, probably only includes adult male members of the household, as this is the way 16th century Spanish would have counted. In this case, the total number of inhabitants would be 30 to 40 people. That such a high number of people could be accommodated in a house 64 to 113m² (based on the diameters given) would be highly unlikely – this is not a question of cultural sensitivity, there is not enough space! On the other hand, 10 to 15 people in a house of this size would be more likely. Therefore, this passage of Las Casas is actually highly ambiguous. Either we have to conclude that his estimate of the floor diameter was far too low, or give another interpretation to the phrase "*diez y quince vecinos con sus mujeres e hijos"*, in which *con*

means *including* rather than *with*. In which case the translation would be inclusive and read as follows; "10 to 15 citizens, *including* their wives and children'.[39] I see this latter as a plausible reading (*contra* Curet 1992a), for several reasons.

Firstly because an estimate of 10 to 15 people per house is the general impression one gains from other statements in the chronicles. Pané mentions numbers slightly higher than this, 16 or 17 people, for the household of a Macorix lord, although they may not all have lived in the same house and this number includes related members and servants and favourites also (Curet 1992a:162; Pané 1999:xxv, xxvi). In another passage from Columbus based on a report from two sailors who went to explore the interior in Cuba, they describe a thousand "*vezinos*" living in 50 houses (1990:95). We have no indication of the size of the houses in question, and it is likely the sailors just made a rough estimate. Nevertheless, the diary entry for this day explicitly refers to men *and* women, so it seems here that *vezinos* refers to the entire population, leaving the sailors with the impression that there were roughly 20 people per house (Columbus 1990:95), and indicating that *vecinos/vezinos* could be used flexibly. Elsewhere on the north coast of Hispaniola he describes a thousand houses and more than three thousand people ("*hombres*"; 1990:163). In another incident described by Columbus (1990:102-105), sailors took seven women, young and old, and three young boys captive from one dwelling. Later that evening the husband of one of the women and the father of three of the children (a boy and two girls), came to beg to be taken along with them. We know that at least ten of these people lived in the same dwelling. If we assume that they all did, and that perhaps not all the men came along, this is an indication of at least twelve people in one house. In the context of these other estimates, ten to fifteen thus seems a considered and reasonable number from Las Casas.

Secondly, this lower number tallies better with the floor sizes of the few excavated late period floor plans, which are generally smaller or within the range of those mentioned by Las Casas.

On the other hand, whichever interpretation is more accurate (the higher or lower numbers), the most important factor effecting the Spanish estimates is their political context. One can attribute a propensity to inflate the numbers in all cases. This is particularly the case with the *Apologética* which was a political treatise to prove the humanity of the native population of the Americas, based on Aristotelian rhetoric. Las Casas was intent on arguing the capacity of the native people to live in peace and harmony and to govern their lives with prudence according to this model (Churampi Ramírez 2008). Thus, inflating the number of inhabitants would add weight to this argument. Las Casas was not trying to convey an ethnographic reality, but the capacity of people to achieve a harmonious existence, illustrated by the large number of people within one house. His estimates of floor size, a drier fact, were less open to distortion.

Secondly, inhabitant estimates are notoriously difficult to calculate because people move! They move according to diurnal (sleeping, eating, working) and periodic (meetings, visits) rhythms and under more exceptional circumstances (flight, warfare). Very often in the chronicles the Spanish happen upon empty houses because the inhabitants have wisely fled. The assumption is not that nobody lived there. Other times chronicles mention large aggregations of people in houses, for purposes of meeting and counsel, not because they were inhabitants. Therefore, taking inhabitant estimates at face value is a red herring, and perhaps one of the typical blind alleys of anecdotal use of historic documents.

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39 I am grateful for discussions with Alex Geurds, Adriana Churampi, Maarten Jansen and Jimmy Mans (Leiden University) on this thorny matter.

Nevertheless, if we take a slight general inflation as standard, and ten to fifteen as the most common estimate for the average commoner house, then we have a picture of a small extended family. That is three generations with senior members living with their married and unmarried children and grandchildren.

Information relating to the organization of the household is scant. There is however good evidence in the historic documents that economic, political and ritual activities were not highly gender differentiated (Deagan 2004; Domínguez 2001; Portorreal 2001; Sued-Badillo 1979). This is contrary to a sexually segregated division of labour assumed for small-scale societies (Murdock and Provost 1973). In the contact period both men and women carried out a range of domestic tasks. Men and women planted and harvested crops from *conucos*, and fished. One of the few sex specific tasks mentioned by the chroniclers is the clearing and preparation of *conucos* by men. For women this was cotton work (hammocks and clothing), basketry and mat-making and the production of some ceremonial wooden items. Women may also have cooked the cassava bread (Las Casas1992:336). It is unknown how other activities such as pottery and lithic production were organised.

As far as political roles were concerned, both men and women could hold political office (as witnessed by both male and female *caciques*). The example of Anacaona amassing, gifting and trading valuable craft items is not matched by any male *cacique*. Women participated in ballgames which shows that it was not just high-status women who were involved in public community activities.

In terms of the settlement, there are indications that this was a matrifocal arena. This is indicated by two comments from Michel de Cuneo: "The women do all the work. Men concern themselves only with fishing and eating" and Columbus: "It appears to me that the women work more than the men." This suggests networks of women carrying out daily tasks were the most visible members of society in the domestic setting. Deagan attributes this to the fact that intensive manioc cultivation on mounds increased the yields which women had to process and simultaneously reduced the labour requirement on men (2004). However, the fact that the Spanish accounts list more women's activities, despite the fact that they were primarily interested in the roles of men, suggests that they were not just referring to the processing of manioc, but to the general conspicuousness of matrifocal households. In the eastern region where zamia cultivation was prevalent, the labour burden on women would not necessarily have been as high as in areas reliant on cassava (Veloz Maggiolo 1992).

2.4.5 Conceptualization and cultural status of house

Houses figure prominently in Pané's account of indigenous religion and beliefs (Pané 1999). One of the earliest texts, written at the time of actually living there (1494-98), rather than years afterwards (like the works of Las Casas or Oviedo), and by someone who understood and spoke native languages, this is an extremely valuable text (Arrom 1999; Stevens-Arroyo 2006). Despite subsequently being lost and only known from a poor translation and summaries in other works, Pané's descriptions of indigenous beliefs and myth cycles is extremely insightful in terms of information on house symbolism and the conceptualization of houses in contact period indigenous society in the village of Guarionex in the north of the Dominican Republic, near Concepción de la Vega.

The house did not just incorporate the dwelling structure. Pané three times mentions houses in combination with *conucos* or land. He, like Oviedo, glosses *conuco* as possessions and inheritance (1999:ch ix; Oviedo 1851:163). This is significant because it indicates that the domain of the house included gardens

and horticultural plots, and that these were part of an estate which could be personally inherited (see also Helms 1980). The term house then should invoke not just the concept of the dwelling structure, but those areas to which people of a certain house also claimed membership, such as their lands. Whether this also includes certain other landscape features or significant places such as burial places, caves, bathing areas, etc. is unknown, but deemed probable.

Houses are the proper counterpart to social agents. In other words, to be a person, you had to have a house. This can be seen from indigenous mythology in which houses were built at the behest or command of *cemís* (Pané 1999:xix, xxiv). *Cemís*, like people, were animated agents, requiring the same treatment as people, such as food, drink and attention. So the proscription here to build the *cemí* a house indicates a more general expectation accorded to all social agents, that they needed houses. The need for a house is the same as the need for a proper social life. Pané, Las Casas and Columbus all note that *cemí* houses were like other houses but somewhat set apart and smaller (Arrom 1999:43-44, 55; Pané 1999: ch xix). *Cemís* also resided together with people in their houses.

The dead had houses just like the living. Not only was it proper for people to have houses, but the dead, who were almost exact copies of the living, had their houses in a place called *Coaybay* (Pané 1999: ch xii). This underlines the similarity of the dead to the living: not only did they look almost identical, but they also had houses, which was an important part of the social identity of the living.

The house was conceptualized as the location of socialization, i.e. the proper place for the upbringing of children, and the context for managing kin tensions. This is seen in two mythic episodes, the first in which the culture hero Deminán and his three brothers built a house to raise the tortoise which gestates on Deminán's back and hatches (*ibid*. ch xi). The second is a more prohibitory account of filial disobedience in which the father of Yayael, a man referred to as Yaya, banishes his son from the familial house, and later kills him on return. The son is reincorporated back into the house by his bones being placed in a gourd and hung from the roof (which later, when smashed, is the origin of the sea) (Pané 1999: ch. ix and x). In the real, rather than mythic world, Las Casas' admiration that households of extended families in Hispaniola, kin and affines, could live their whole lifetimes in one house without separate rooms and without dispute, is interesting, not because it should be taken at face value – the *Apologética* is a political treatise in defense of the natives, and moreover, his comprehension of indigenous sociality was only superficial – but because it shows there were effective social mechanisms in place to manage group tensions and create stable co-residential groups (Las Casas 1992:524).

Houses were not only the location and residence of *cemís*, they were also the setting for the *cohoba* ceremony and figure in certain stages of the hallucinogenic experience. Hence Pané (1999: ch xix) describes how those under the influence of *cohoba* see houses upside down, their foundations in the air, and people walking in the sky. This demonstrates that the house was the context for ritual and ceremonial practices as well as sleeping and eating, and that, moreover, houses as objects were isolated and transformed as markers of stages in the *cohoba* journey.

All in all, these examples show that houses played a particular role in the cultural, social and symbolic repertoire of the indigenous inhabitants of Hispaniola at the time of contact. Houses, whose boundaries also encompassed other locales such as gardens, stood as signifiers of a proper social identity and the mark of a successful social actor. They were also the context for socialization and integration of kin tensions (a characteristic of the culture of Arawakan-speaking

peoples, Heckenberger 2002). Houses were a recognized cultural category, and existed in other worlds such as the transformed world of the *cohoba* reality, or the world of the dead. The estate was an inheritable composite which included house and gardens. The house as a concept therefore was a significant symbol of the cultured and social life.

2.4.6 Discussion

Although a partial account of houses in contact-period Hispaniola, what the colonial sources indicate in terms of physical appearance, interior, furnishings and aesthetics, activities, organization and conceptualization, does present a picture of a significant indigenous institution. Whether this was the case in the preceding centuries and how this evolved will be discussed with relation to data in later chapters. First, however, we turn to how the house has been treated as an archaeological category in the Greater Antillean region.

2.5 Review of house as research focus in Greater Antillean archaeology

There have been a few occasions in which the house as a spatio-temporal unit (as opposed to the broader "settlement") has explicitly featured in discussions of culture or the dynamics of society in archaeology in the Greater Antilles. When this has been the case, the house has been invoked mainly with respect to culture *change*, specifically the transformation from an egalitarian to hierarchical organisation (Curet 1992a, Curet and Oliver 1998, Veloz Maggiolo et al. 1976, Veloz Maggiolo and Ortega 1986, Righter 2002b), and from pre-contact to colonised (Deagan 2004).

One particularly influential example of this is an economic and political model of cultural transformation using a combination of house and mortuary data developed in the 1990s by Curet (1992), and Curet and Oliver (1998) which has since been accepted as a standard model for Puerto Rico against which to compare other settlement data from further afield (Hofman et al. 2001, Righter ed. 2002, Wild 1999, contributions in Delpuech and Hofman eds. 2004, Wilson 2007).

In *House structure and cultural change in the Caribbean*, Curet (1992) proposes a model of evolution in house size for Puerto Rico in which a shift occurs from traditionally large communal dwellings in use throughout 300 BC to AD 900, to smaller dwellings from AD 900 to 1200, and finally small circular houses in the latest Ceramic period between AD 1200 to 1500. Given the assumption of a one-to-one relationship between the house and the corporate group (i.e. households) this implies economic and political changes in household organisation, i.e. from large extended families, to small nuclear families. A decrease in house size coincides with the development of social complexity towards a chiefdom model. Curet proposes that the changes in households both reflected and played a role in the evolution of more complex, hierarchical systems, and thus envisages an active role for these social units within precolonial society. The lack of a reliable, extensive or detailed data set with good chronological control, however, makes this a tentative model, yet one that for the first time isolated the house as a Caribbean archaeological concern.[40]

40 Curet uses data from structures from the Puerto Rican sites of El Bronce, Playa Blanca 5 and Maisabel.

This argument is further developed in relation to other forms of archaeological evidence with the addition of burial data from Puerto Rico (Curet and Oliver 1998). The authors highlight changes in mortuary practices from burial in the central plaza, to burial in domestic contexts. This transformation occurs sometime between AD 600 and 900 and parallels the changes seen in the house data. Both are linked by the authors to the same general trend towards greater social complexity and the development of chiefdoms. The transition in burial and domestic practices are integrated within a larger picture of widespread technological, demographic, socio-political and ideological changes the material correlates of which are summarised as: (1) changes in ceramic technology, from a reduction in the use of paints and slips to more incised decoration, (2) changes in diet towards greater specialisation in marine resources, (3) the intensification of agricultural production, (4) demographic growth and an increase in site numbers, (5) the appearance of functionally specific ballcourts, and (6) the emergence of chiefdoms (1998:226-227). The latter is largely, and one could argue solely (Oliver 2009:26-27, 254) predicated on the colonial sources, but plays an important role in the conceptualisation of changes in the domestic realm.

The household, as the most important social unit below the level of community, is given a prominent role within their model: "*the effective social and economic unit in the emerging social order was not the community or descent group but the household group…"* (1998:231, 233). In effect, the corporate kin-group of the Saladoid and early Ostionoid, in which everyone had equal access to resources, is dismantled and replaced by smaller social institutions, namely the nuclear or extended family. The household as the descent group and unit of social reproduction manages the redistribution of goods and control of labour and resources. The authors see it as a small and logical step from here to propose the development of a hierarchy of households in which (ancestor) ideology is manipulated to legitimise the *cacical* line, and to restrict access to resources. Yet despite the assumption of an exact correspondence between houses and households (stated in the 1992 article), the rejection of the kin-based corporate group in favour of alternative social formulations, and the formalisation and definition of the household unit, the authors stop short of naming the house as one of the material incarnations of this new social order. This is probably due to the insufficient quantity and quality (in terms of definable domestic sequences) of the excavated data on houses at time of writing. They do however stress the need for household research of both elite and commoner contexts, before, during and after the development of complexity as an important future research topic.

The emphasis on daily life (*vida cotidiana*), organisation of labour and domestic relations of production have long made the house an important background feature in the narrative of the pre-Columbian past of Hispaniola and Cuba due to the Marxist perspective. Like for the Puerto Rican case, one of the most oft cited material consequences of socio-economic change is changes in house size, signifying changes in relationships of production (Veloz Maggiolo 1984). In Dominican scholarship, this transition is not inevitable and universal, however, but more a result of ecology and historical conditions: sites with different levels of organisational complexity co-exist in the same regions. Differences are also apparent in the mortuary realm, where opposite to what is reported for Puerto Rico, burials in the domestic area are characteristic of the *earlier* phase, and formalised cemeteries occur in *late* periods (see the sites of La Caleta, La Cucama, Macao, Atajadizo). The domestic data sets are not entirely comparable, however, due to the fact that no house plans have been published for Hispaniola and insufficient data are available to make any substantiated claims about house

size and form. Claims are made on the basis of topographic and spatial characteristics of domestic mounds and the spacing of a very few excavated posts (Veloz Maggiolo et al. 1976; Veloz Maggiolo and Ortega 1986; Veloz Maggiolo 1984; pers. comm. Veloz Maggiolo 2008).

Two sites which have seen extensive research and illustrate the spectrum of diversity in the Dominican data are the archaeological settlements of Atajadizo and Juan Pedro, both published as monographs and both seen as key sites and used as the basis for house-related discussion in Hispaniola (Calderón 1975, 1976; Veloz Maggiolo et al. 1976; Veloz Maggiolo and Ortega 1986; Veloz Maggiolo 1984, 1991:172-174, 1993:70).

Occupation of Atajadizo, Altagracia, is divided into two phases: an earlier *fase Atajadizo* (Ostionoid), with habitation sometime after AD 540 until the beginning of the 10th century, and *fase Guayabal* (Chicoid), from the 10th century until after European contact. The main occupation is interpreted as AD 1200-1300.

The first phase houses are interpreted as seasonally occupied, large, extended family residences, built at ground level and burnt on abandonment. In the later phase, habitation occured in small, circular nuclear family houses concentrically arranged around the plaza on top of artificially constructed mounds (Veloz Maggiolo et al. 1976:283).

Between the two phases there is a change in the exploitation of the environment, exemplifying the transition between two different *modos de vida,* from a *modo de vida aldeana* to a *modo de vida cacical* (village way of life to a *cacical* way of life). In the *fase Atajadizo* settlement people practised slash-and-burn agriculture with minimal marine exploitation, buried their dead under house floors and made simple pottery. Settlement layout was informal and undifferentiated. In the following *fase Guayabal*, slash-and-burn agriculture was abandoned in favour of intensive agricultural mound construction. People now lived in small (nuclear family) round houses in proximity to their mound gardens, while burial had shifted to a designated cemetery area and the village was concentrically organised round a central plaza. There was an evolution and elaboration in terms of material culture. Emerging social stratification is evidenced in the organisation of production and labour (increase of griddles, collective building projects, etc.). Veloz Maggiolo sees the first phase akin to tropical forest culture, and the second to a chiefdom (Veloz Maggiolo 1984:12-13). Significantly, Veloz Maggiolo also sees the switch from larger houses with extended families in *fase Atajadizo* to smaller nuclear family dwellings in *fase Guayabal* as evidence for a cessation of semi-nomadism, due to more efficient exploitation of the environment (*ibid*.: 13).[41]

The settlement pattern and way of life of the single-phased circular village of Juan Pedro, near San Pedro de Macorís stands in contrast to such a developmental trajectory common in other sites in the south and east of the Dominican Republic. It maintains a village way of life (*modo de vida aldeana*) throughout its entire history, and this is reflected in the reconstruction of the houses. Juan Pedro, dating from AD 850 to 1309, consists of a cleared central plaza, surrounded by an irregular ring-shaped midden in an area of 100×120m, upon which of house floors are concentrically arranged. These are interpreted as ca. 20 large house mounds with houses inhabited by up to 30-40 people giving an esti-

41 *"La marcada presencia de* viviendas nucleares *[fase Guayabal], en contraposición a* las familias extendidas *[fase Atajadizo], hace pensar en una casi ausencia de semi-nomadismo que es debida a la transformación de la naturaleza en medio productivo más acorde con el propio desarrollo." Ibid.* 1984:13, emphasis mine.

mated stable population at its height, in the 13th century, of 500 people. Burials occur in the domestic midden area. Unlike other settlement sites in the south such as Atajadizo, Punta Macao and Boca del Soco (the latter two unpublished, but also reportedly with small, late-phase Atajadizo type houses, pers. comm. Veloz Maggiolo 2008; and see Punta Macao plan drawing reproduced in Prieto Vicioso 2008:145; and Punta Macao house reconstruction in Andújar Persinal et al. 2004:171), Juan Pedro does not show a transition in domestic organisation in the late phase. Its singularity is also attested in the ceramic repertoire in which minimal Boca Chica pottery is present with a ceramic assemblage showing more of a relationship with sites in the Cibao Valley in the north such as Río Joba. It is seen as an archetypal, semi-autonomous village which does not develop a *cacical* way of life, but persists in a mixed spectrum, rather than intense, economy based on foraging, fishing and exploitation of undomesticated *guáyiga* (*Zamia*).

The project of En Bas Saline, Haiti, was from the outset designed as a household-scale investigation (Deagan 1989, 2004). En Bas Saline was possibly the town of cacique Guancanagarí. As discussed, this does not necessarily mean the physical house was the main focus of investigation, in this case it was gender and class, although residential structures were identified as socio-temporal units of analysis, along with a burial and feasting pit (2004). Deagan's analysis of the site assesses the native response to the European encounter through changes in the organisation of labour. This is on the basis of the fact that Spanish labour demands effected especially non-elite native men (through *encomienda* and *demora*; ibid.:2004: 608). In a sophisticated argument Deagan (2004:600-601) summarises the ethnohistoric information and secondary literature regarding political, economic, domestic, ritual and craft activities and concludes that gender roles were generally non-exclusive among the indigenous population (i.e. contra Cassá 1974; Stevens-Arroyo 2006; Tabío 1989:107, etc. who assume a natural division of labour along sex lines). Deagan thus proposes that a weakly differentiated gendered division of labour would result in less social disruption after Spanish labour demands than a strongly differentiated system, and focuses on five socio-temporal analytical units to discuss this, including two "ritual events" and three "households". Two "households" are represented by different phases of a superimposed post-built structure, unfortunately not published. The first structure was built shortly after AD 1200, and burnt down. The second structure was burnt down after contact. This indicates that each structure may have been occupied for 150 years. These structures are defined as elite based on their position in the centre of the plaza. The third "household" is a post-contact wattle-and-daub structure of unknown function on the raised earthwork bank.

Results suggested that activities associated with men such as lithic tool and ornament production as well evidence for the hunting of small mammals and possibly some fishing activities slightly decreased after contact, whereas there was a high degree of continuity in manioc processing, shellfish gathering, food preparation and ceramic production, associated with women. It was thus concluded that women continued or took over activities and life continued as normal, rejecting Spanish influence. Ritual practice and the power of leaders to organise these events remained unchanged. Despite the fact that many of the non-elite males may have been drafted into labour regimes, this had little impact on craft production and foodways and ritual activities. There was however marked inequality between elite and non-elite indigenous contexts whereby the elites had more access to a wider range of food and European items.

Thus although house plans are not published, and less than 300m² was excavated in the horizontal plane, and there are problems of equivalence comparing a post-contact structure of unknown function, central plaza elite structures, and pits of different function nevertheless, the approach is significant as it explicitly focuses on household scales and events to elucidate social dynamics in a historical context.

2.5.1 Discussion of the different approaches

What these three approaches have in common is that they all assume an important role of houses, although house dynamics are not the primary research focus. That is they do not elucidate the dynamics of individual houses, or groups of houses as spatio-temporal units of social and cultural life. This is because the data were not available, or not collected on a scale which isolated the house and related features, or the house in relation to neighbouring houses. In other words, units have been constructed in the archaeology of the Greater Antilles, but we do not know how these units worked, or indeed what they looked like with any confidence.

In the last decade there has been acknowledgement of the empirical and theoretical gaps in Caribbean archaeology, in the both culture-historical and Marxist (the Cuban and Dominican variants) approaches (Curet 2003, 2005; Keegan and Rodríguez Ramos 2004; Torres Etayo 2006; Valcárcel Rojas 2002). These gaps are especially data pertaining to the intra-site scale of analysis, as opposed to the regional, inter-island and culture scales of analysis. The rare studies which have been conducted on this level (Deagan 2004) show the potential to reveal aspects of indigenous social dynamics. However, we know very little about the characteristics, meaning and significance of the main material locus in which this occurred, i.e. the house itself. Data from extensive excavations of intra-site domestic contexts can potentially supply information on the spatial and temporal dynamics of indigenous domestic life, the dimensions of social groups, economic, social and ritual practices, indigenous personhood and agency and critically, issues of social differentiation and inequality. The house in an intra-site setting contributes the unit and scale of analysis which has largely been missing from the Caribbean data set (Curet 2003; Curet and Stringer eds. 2010).

2.6 Discussion

This chapter has discussed theoretical and empirical developments in house-centred approaches as well as describing the definitions to be used in this dissertation. Our current understanding of the precolonial house is outlined with reference to historic documents and the archaeology of Hispaniolan sites in which the house is not an explicit research focus. It has been proposed that the house, both as a physical and social unit is an appropriate focus of study for addressing current issues in the archaeology of the indigenous Greater Antilles.

Chapter 3

Regional and local setting of El Cabo

3.1 Research history in the eastern region

The east is one of the most intensively researched areas of the Dominican Republic. This is a large geographical expanse of the Dominican Republic extending just west of Santo Domingo and incorporating the entire eastern peninsula in an area which corresponds to Veloz Maggiolo's zone A and possibly also zone B (the Samaná peninsula) (Veloz Maggiolo 1972:89). This dissertation focuses on a smaller geographical entity, east of the large coastal settlement-cemetery complexes of Juandolio-Guayacanes, La Cucama, Andrés-Boca Chica and La Caleta, in the coastal plains bracketed by the Yuma and Anamuya rivers (Fig. 4). Since the 1970s the *Museo del Hombre Dominicano* has investigated a

Figure 4. Altagracia province with modern (black dots) and archaeological (pink dots) place names referred to in the text. El Cabo marked with star.

large number of sites (including the Cueva de Berna, Punta Macao, Atajadizo, Punta Cana sites, La Aleta, Bayahibe, Iglesia de Macao). In addition to this the *Museo* has carried out numerous surveys in the area, including surveys of rock art by Pagán Perdomo (1976). In particular in the last ten years Harold Olsen Bogaert has conducted frequent walkover surveys ahead of builder development, published in the *Boletín* (Olsen 2004a, 2004b, 2008; Olsen et al. 2007; Ortega et al. 1990). Currently foreign scholars such as from Indiana University have been researching in the *Parque Nacional del Este* and Leiden University in El Cabo. Research with direct relevance to El Cabo and its surroundings will be discussed later in the chapter, but first the earlier research history of the area will be sketched.

3.1.1 Previous investigations

Sir Robert H. Schomburgk was one of the first recorded people to publish archaeological observations on the eastern Dominican Republic. In a letter published by the *Journal of the Ethnological Society of London* in 1854, he mentions finding conch (*Strombus* spp.) shell heaps at the eastern point of Hispaniola at Cabo Engaño which he interpreted as evidence for a Carib presence in Hispaniola (Schomburgk 1854:120). In 1913 the Dutch-American archaeologist Theodoor de Booy, following in the footsteps of Schomburgk, made a trip through Altagracia, using Isla Saona as a base, exploring the Macao area, and recovering Chicoid bottle-necked jars and ceramic stamps from the Salado caves (de Booy 1915; Fig. 5). The Danish archaeologist Gudmund Hatt was another collector active in the eastern region, recovering ceramics near the mouths of the rivers Nisibón, Maimón, Chavón and at La Caleta (near La Romana) in 1923 (Lovén 1935; Rainey 1940).

Later on, at the end of the 1960s, expeditions by members of the *Instituto Dominicano de Investigaciones Antropológicas de la Universidad Autónoma de Santo Domingo* undertook various surveys, test-pitting and making assessments of the destruction of large sites around Santo Domingo and San Pedro de Macorís (La Caleta, La Cucama, Juandolio-Guayacanes) (Mañón Arredondo et al. 1971). They identified new sites along the south coast such as burial mounds and an earth-banked plaza to the west of San Pedro de Macorís. The extensive area

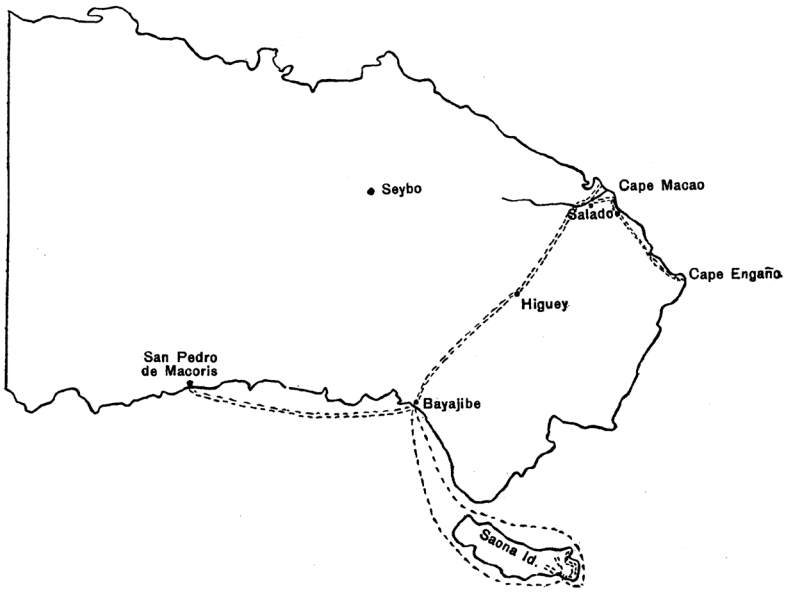

Figure 5. The route taken through the eastern Dominican Republic by de Booy over four months in 1913 on behalf of the Heye Museum, New York City. Reproduced from de Booy 1915.

investigated (Fig. 6; including Macao, Anamuya, Higüey, Boca del Yuma, the south of Isla Saona, La Romana and all the way up to Santo Domingo) is a synthesis of various surveying and collecting activities along the coast and up river courses.

In 1972, the Florida couple Ripley and Adelaide Bullen carried out a surface prospection in the La Romana region (Fig. 7) covering large areas of sugar cane land owned by the American Gulf and Western Company north and east of La Romana (Bullen and Bullen 1973:315-324).

The Bullens recorded 31 sites (one pre-ceramic, four petroglyph sites, and the rest Late Ceramic Age sites), including known sites such as La Caleta and Punta Macao. Although brief, this was a significant investigation as it is one of the few occasions when inland, as opposed to coastal areas, were consciously searched for indigenous sites.

Figure 8 shows that although covering a large area of the east, investigation was limited to coastal and low-lying inland regions. The higher hills of the Seibo Sierra to the northwest of Higüey are relatively under-researched compared to

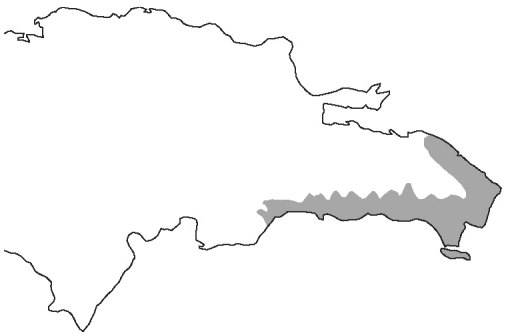

Figure 6. Shaded area investigated by Mañón Arredondo, Morbán Laucer, Manuel García Arévalo, Samuel Pión and Luis A. Chanlatte Baik in 1969-70. Original figure entitled "Mapa de la República Dominicana indicando el area sureste de Santo Domingo de mayor densidad en asientos indigenas y de sus cementerios más importante." Adapted from Mañón Arredondo 1971:129.

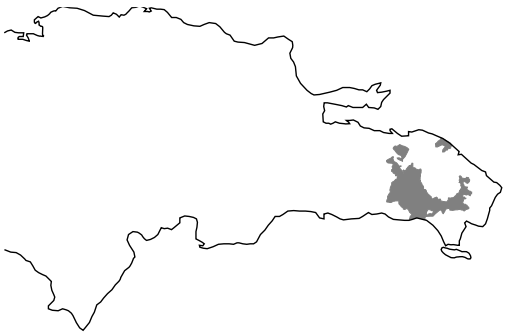

Figure 7. Shaded area investigated by the Bullens on Gulf and Western Company land. Adapted from Bullen and Bullen 1973.

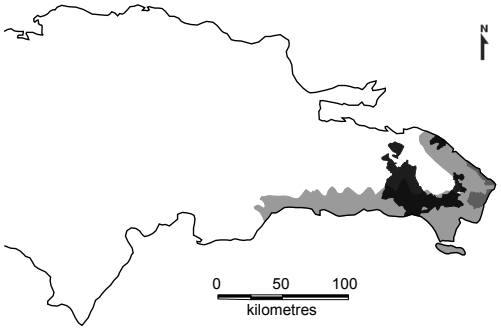

Figure 8. The Mañón Arredondo and Bullens survey areas combined.

the rest of the region. The coastal sites of the eastern plains, as well as the large sites along the south coast researched by the *Museo*, form the basis of the culture history of the region, as will be discussed in Section 3.6.2.

3.2 El Cabo: Site setting

El Cabo is situated on the east coast of the province of Altagracia in the administrative district of San Rafael del Yuma. The orange-segment shaped area of coast, ca. 10×2km, between the Caribbean Sea and the limestone cliffs in which El Cabo sits (Fig. 9), is bounded in the north by private resorts (Cap Cana and Punta Cana) and a narrowing of the coast between the cliffs and the sea, and in the south by Cabo San Rafael, the rocky headland where the sea and cliffs meet. In this sense, El Cabo is the end of the road, for although there are numerous pathways and access points up the cliff and out of the orange-segment, there are no metalled roads and no other villages in this, the extreme eastern tip of the Dominican Republic.

North of this narrower section (as one enters Cap Cana property; Fig. 4) the cliffs swing back inland, leaving an expanse of coastal plain up to Cabo Engaño, Macao and the Seibo coast (Fig. 12). Coastal lagoons, mangroves and savanna used to be common in what is now one of the fastest developing areas of the Dominican Republic, served by a busy international airport and a large population of local workers in Veron. South of the Cabo San Rafael, the cliffs are tight against the sea until Boca de Yuma and the *Parque Nacional del Este*, in a still relatively undeveloped area. The El Cabo site itself occupies the centre of a small (ca. 400m long) jutting, 7m high promontory, one of the highest points in the otherwise low coastal segment. A reef crest where the waves break across

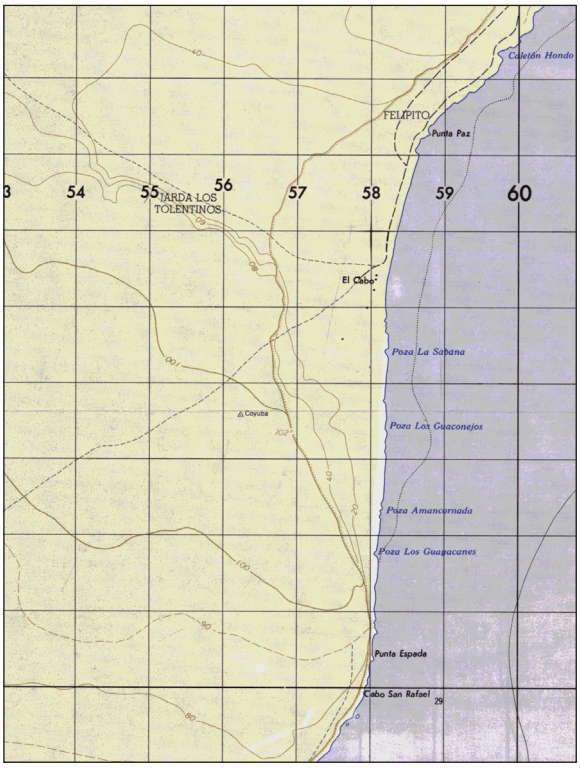

Figure 9. Detail of topographic map showing the position of the village of El Cabo with respect to the Caribbean Sea and the contour lines showing the cliffs behind. Note the orange-segment shape of the El Cabo coastal area.

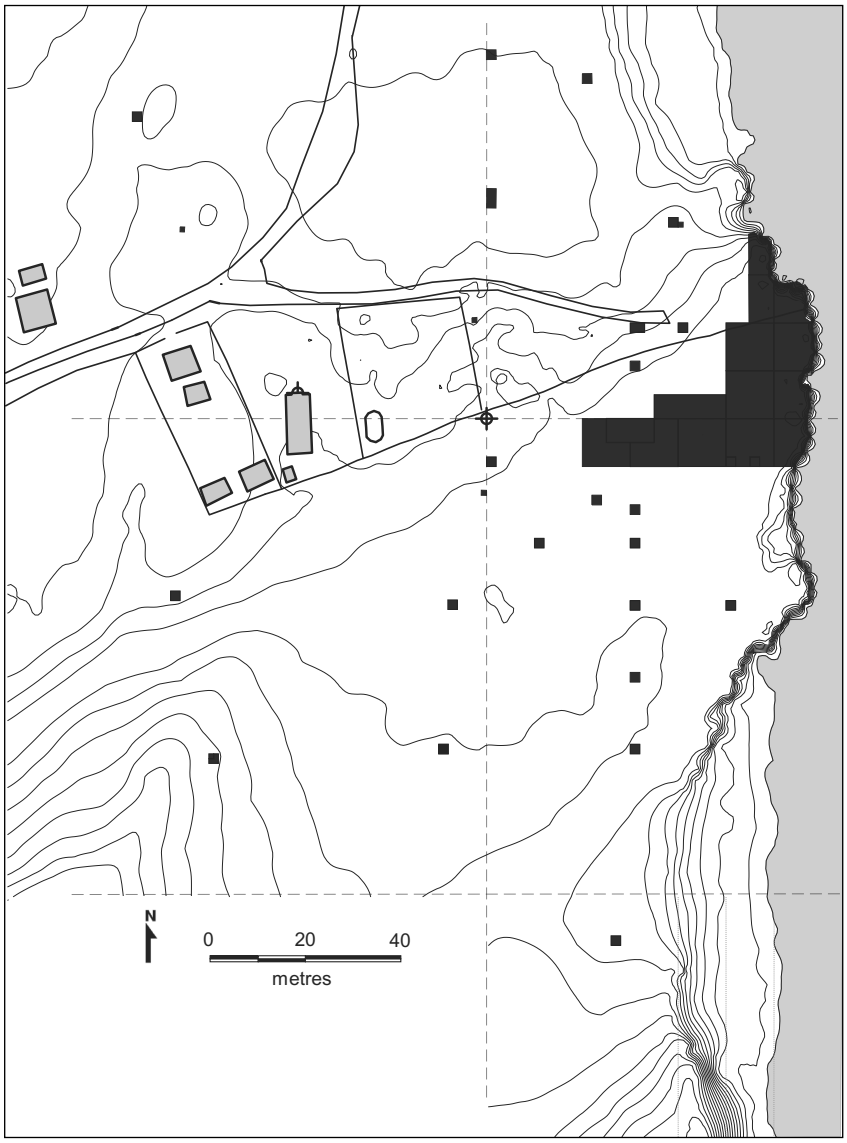

Figure 10. The El Cabo coastal promontory showing the entry to the village (grey buildings, furthest right is the village school) and excavated units (black).

the shallowest part of the coral reef is visible a short distance offshore, dividing the shoreward lagoon and the seaward reef face and forming a protective barrier against the force of the waves and storms (Fig. 10).

El Cabo commands an excellent view of the coast, taking in the peninsula of the Parque Nacional del Este and the Cabo San Rafael to the south and along to Caletón Blanco and Caletón Bobadilla in the north. Although the view out to sea is uninterrupted, one cannot see the small limestone island of Isla de Mona 65km to the east, nor the landmass of Puerto Rico, 120km in the same direction.[42] To the west, inland, the cliffs encircling the site are visible all the way down to Cabo San Rafael in the south. El Cabo enjoys a sea breeze, yet no direct access to the sea for boats or people. Potential access points and launching/beaching points for canoes are an inlet 4km to the south, and two very small sandy beaches, a few metres across, "El Cabo beach" 700m to the north, opposite the former house of

42 Local people said this was also the case at other times of the year.

Sr. Nicolas.[43] The nearest sheltered harbour is Caletón Blanco, 5km north.[44] The Cabo segment is now home to a few families and day labourers concentrated in the village of El Cabo, who tend *conucos* (kitchen gardens of mixed plantings created by slash-and-burn), burn charcoal, extract wood, and keep flocks of goats and sheep against and on top of the cliffs. Thus the area around the village and the whole area under the cliffs along the coast, is a patchwork of active and abandoned *conucos* of various ages, pastures, coconut plantations and areas of re-growth in different stages. The population of the village has dwindled considerably in the last ten years, and noticeably since we have been there, due to the fact that the village, once a bustling centre, is being choked by private property blocking access roads on all sides.

3.3 Geological setting: Dissolving worlds

Hispaniola is the second largest island in the Caribbean island chain (after Cuba). The Dominican Republic and Haiti together cover 80,000km² (twice as big as The Netherlands). Its coastline varies from sandy beaches to raised coral terraces with undercut cliffs and steep mountainous slopes. In contrast to other West Indian islands the physical geography of Hispaniola is characterised by alternating valleys and mountain ranges (Bowin 1975: 502). One of these, the Cordillera Central, in the centre of the island, reaches over 3000m (Pico Yunque), the highest peak in the Antilles (Bowin 1975: 505).

A geological map of Hispaniola shows a complex picture. The many lithostratigraphic units which follow a general northwest-southeast alignment are the result of volcanic, metamorphic and tectonic actions over millions of years. There are three major periods of geologic activity contributing to the construction of Hispaniola: (1) volcanic activity on the seafloor creating the arc of Caribbean islands, (2) continued volcanism (Cretaceous), and (3) a stage which most concerns us, that of accumulations of marine sediments (Pleistocene, i.e. ca. 1 million years ago; Bolay 1997) on top of the older deposits. Tectonic shifts subsequently raised these deposits.

Figure 11. Aerial view of the cliffs inland of Caletón Blanco, 5km north of El Cabo. The sea is just off the foreground. Photograph by Harold Olsen Bogaert (from Olsen 2001a:28).

43 The location 4km south of El Cabo is Olsen's Sitio No. 13, Proyecto Carmelo. This is a small inlet in the cliffs. No archaeological remains are associated with this area. "El Cabo beach" to the north however is in the vicinity of various surface pottery scatters (Olsen's Sitio no. 5 and Johnson's (2009) Site no. 90).

44 The former harbour of the fishing village Juanillo.

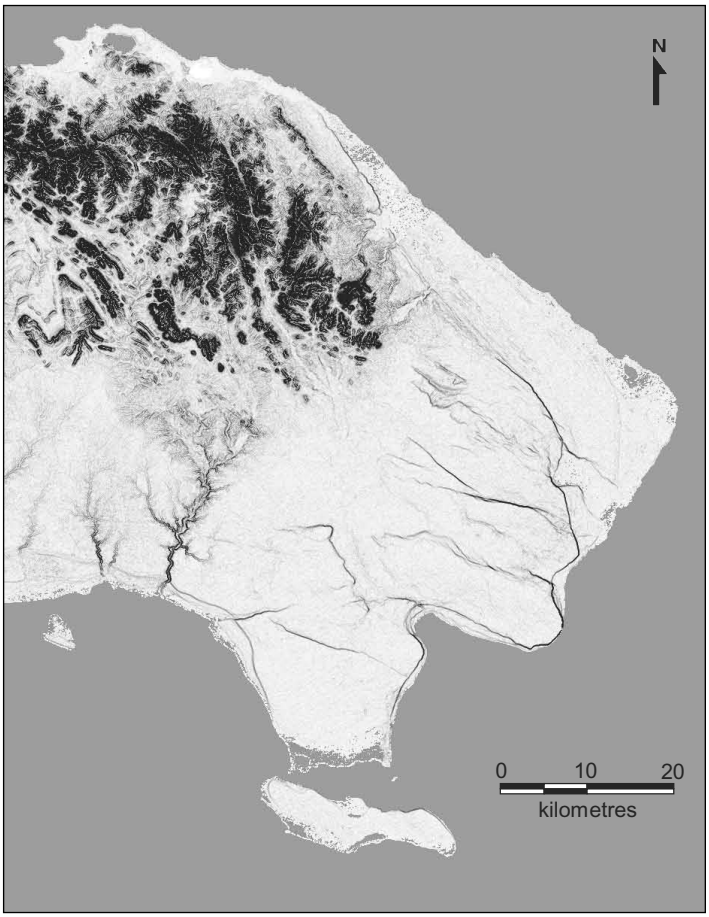

Figure 12. Satellite elevation map of the eastern Dominican Republic showing shaded relief (United States Geological Service). Lower areas are the eastern part of the coastal plains of Seibo, the higher elevations in the northwest are the Seibo Sierra.

Two belts of metamorphic rocks occur in Hispaniola, one diagonally across the centre of the island, and the other along the north coast. These consist of various types of volcanic rocks and mineral assemblages, including marbles, quartzes and serpentinite (Bowin 1975:507-508).

3.3.1 The eastern coastal plains

The low topography of the accumulated marine sediments of the eastern part of Hispaniola is very distinct from that of the rest of the island (Bowin 1975: 505). This was also noted by Las Casas who wrote detailed descriptions of the physical geography of the eastern region (Las Casas 1992, Ch. 3). El Cabo is situated within these eastern coastal plains, the coastal plains of Seibo. This is a 180km long and 65km wide carbonate platform with karst formations and thin soils stretching from the north coast of El Seibo province, the whole of the province of Altagracia, and along the south coast to Punta Palenque in San Cristóbal. Isla Mona and Isla Saona are part of the same tectonic unit as the eastern Dominican Republic.

This large carbonate platform is made up of a series of stepped limestone sediment platforms, former coral beds and lagoons, which rise from the coast. The first major fault line, i.e. the one which forms the backdrop of the site of El Cabo, runs from the north coast El Seibo, far inland from the low-lying Cabo Engaño to just behind El Cabo, and tight along the coast all along down the eastern peninsula of the Parque Nacional del Este (Figs. 11 and 12).

Elevations along this plateau range from 15m above sea level, to 100m near Higüey (Bolay 1997; Bowin 1975; USGS website; Vaughan et al. 1922/1983:43). Higher elevations can be found in the Seibo Sierra, including Los Haitises National Park, to the northwest of Higüey (dark areas on map in Fig. 12). This is a broad raised area of reefs and reef sediments and reaches a height of 450m above sea level, which nevertheless makes this a low topographic feature for Hispaniola (Bowin 1975:505).

It was this distinction between the hills and the plains which Las Casas described (Las Casas 1992: Ch.3). He divided the east into two parts: firstly, vast coastal plains and grassy savannas (*zabanas*) with woods, and secondly, the higher stepped karst plateaus and hills to the north and west of Higüey (Lovén 1935:73). Las Casas remarks on the predominantly rocky nature of the soils, comparing the exposed limestone which covers 95% of the surface to dog's teeth and diamonds, and marvels at the fact that the inhabitants not only survived in this area, but flourished.[45]

45 Children from El Cabo today run barefoot across these jagged rocks with no hesitation.

Several rivers (Ozama, Ocoa, Haina, Chavon, Yuma) cross the coastal plains and drain into the Caribbean Sea, and many areas between Higüey, San Pedro de Macoris and La Romana are key sugarcane production regions and cattle grazing land (Bolay 1997). East of this area, however, from Boca de Yuma to Macao, are no rivers at all. Again, this was a feature remarked upon by Las Casas, who noted that local people took water instead from *xagüeyes* or natural sinkholes and *manantiales* in the karst (Las Casas 1992: Ch.3).

The limestone deposits of the coastal plains are worked into a range of landscape forms, namely caves and underground cavities and tunnels, by the action of climate (rainfall and temperature) and vegetation, base level (elevation above sea level), original relief of deposition, age, lithology (fabric), and structure (Choquette and James 1988). This dissolved calcium carbonate is known as karst, i.e. the carbonate geology formed by dissolution of original deposits. In geological terms karst forms rapidly, at the timescale of tens of thousands of years.[46] In the tropical and sub-tropical climes of the Caribbean, karst is mainly formed as the result of rainfall ("autogenic recharge").[47] Karst physiognomies are highly variable and dependent on local conditions. For example, Los Haitises National Park, on the north coast of the Dominican Republic, south of Samaná Bay, is a karst expanse of steep-sided hills (*mogotes*) separated by valleys (Rivera et al. 2000). This karst landscape is formed by rivers and thus very different from the karst platform of the southern coast where there are no rivers.

3.3.1.1 Geomorphology of the coastal plains

The landscape of the southern karst platform is one full of local variation – blowholes, undercut cliffs, and sea caves are some of the coastal features. Wet and dry pit caves (vertical shafts), rock shelters, cavernous systems replete with stalactites, stalagmites and flowstone (*speleothems*: precipitates deposited in spelean settings; Choquette and James 1988:3; Frank et al. 1998), vegetation-filled depressions of various dimensions, water-filled *cenotas* and subterranean rivers[48] are all common phenomena within the micro-tectonic unit of the El Cabo segment and the cliffs which surround it.

Figure 13. Typical small dissolution pockets in the vicinity of El Cabo. Note the plants taking advantage of the natural "flowerpots".

46 As is the case on the Bahamas; see Mylroie and Carew 1995/2003:10.

47 As opposed to "allogenic recharge" which concerns dissolution by large volumes of water such as rivers and streams. Dramatic landforms such as the tower karst in Guilin, China, caused by allogenic recharge, do not occur on the carbonate islands, where the dominant forms are closed depressions and caves (Mylroie and Carew 1995/2003:5).

48 One such subterranean river supplies water to the whole of Cap Cana which covers 160 sq kilometres.

Figure 14. Dissolution pit filled with weathered rock and soil from various filling events (Adapted from Mylroie and Carew 1995). Size of pits ranges from a few centimetres to several metres.

The etched karst ground surfaces of El Cabo, formed by rainfall, action of the sea and biological agents (invertebrates, algae, etc.) are pitted surfaces forming "natural flowerpots" (Bolay 1997; Figs 13 and 14). Although a dry zone, this type of karst is capable of significant water storage due to soil infill and the large surface network of dissolved pockets which hold water by capillary action (Mylroie and Carew 1995). The home gardens of the inhabitants of El Cabo village testify to this fact. Moreover, Las Casas describes this karst agriculture as a characteristic adaptation of the inhabitants of Higüey and Isla Mona different from the mound agriculture used to produce cassava. Despite the hard, dry and rocky conditions, the soil in the pockets was very fertile. Both large depressions filled with *terrarossa* (soil deposits rich in iron and aluminium), and also the smaller pockets in the bare karst were used for crop cultivation. A staple in the eastern region was the undomesticated cycad *Zamia* spp. (*guáyiga*), an alternative to cassava and used to make flour (Las Casas 1992: 299: Ch.3).

The terraces further away from and progressively higher than the coast have been exposed for longer and thus their karst formations are more dramatic (longer exposure to rainwater, greater distance from water table, see Johnson 2009; Olsen 2000, 2001a). Caves open to the cliff face are common in the formations which provide a backdrop to El Cabo (Fig. 15). These are probably flank margin caves formed at sea level when the carbonate platform of the eastern coastal plains was emergent. Flank margin caves are dissolved oval or linear chambers with no natural entrances which form along the flank of carbonate platforms where fresh water and seawater mix. Later sea level falls led to the formation of speleothems, infilling and collapses, and eventual tectonic uplift drains the caves to leave them in the current position (Frank et al. 1998). The exposed cave entrances are evidence of cliff retreat which helps maintain the cliff vertical, i.e. mechanical collapse of the cliff from the base upwards due to bio-erosion (see Frank et al. 1998, citing Jennings 1985; Mylroie and Carew 1995 on Isla Mona and the Bahamas). Massive boulders noticeably dot the base all along the cliffs of El Cabo, evidence of the base-upward collapse model (Frank et al. 1998:81). Some of these boulders were foci in the pre-Columbian landscape with abundant shell and pottery remains, including reports of burial (the so-called "Indian cemetery" under the cliffs to the south of El Cabo site being an example of this) around their perimeters and petroglyphs on their flanks (Johnson 2009). On Isla Mona, such flank margin caves date to before the start of the second Quaternary, about 2 million years ago (2Ma).

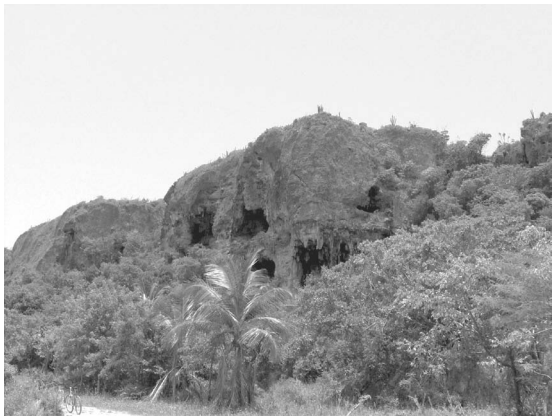

Figure 15. Flank margin caves en route to El Cabo. Note collapsed face exposing the void and speleothems which formed inside.

On top of the cliffs, further inland, the karst is more mature, with well-developed soils of *terrarossa* and deeper and larger karst voids. This may be due to a greater elevation above sea level with respect to the platform below the cliffs, as karst landscapes erode down to the level of local water bodies, and could also

be related to micro-climatic differences as the rainfall on top of the cliffs is generally more abundant than down on the El Cabo plain (Choquette and James 1988:1-21).

Although compared to the richness of the older formations such as the Cordillera Central, the karst landscape appears mineralogically rather monotonous and there seems to be a paucity of local lithic raw materials. Exceptions are a type of greenstone, serpentinized peridotite, which as well as occurring in the Cordillera Central and along the north coast, can be found near Higüey (Bowin 1975:525). This may have been used for greenstone artefacts in El Cabo, although there were undoubtedly a variety of sources, including exposed greenstones in the Cordillera Central (Bowin 1975:540). Granites also occur to the northwest in the Seibo Sierra (Bowin 1975:528).

Other local materials which may have been exploited are bauxite, an aluminous laterite which is present either as a fertile red soil (*terrarossa*), or forms seams of red concretions in limestone cavities. It is encountered especially on top of the cliffs of El Cabo.[49] This may have been used as a pigment or to temper pottery.

Occasionally local and small areas of re-crystallised limestone (Bowin 1975:512), ranging from a white to light brown, can be observed in the cliffs. This is similar to material used for a number of artefacts from the site.[50]

Speleothems (stalactites, stalagmites and columns) in the vicinity were occasionally sites of rock art, especially in the twilight of entrances. In addition, rare erratics or dropstones (the result of glacial action) are also present in the area, such as the nodule, no more than 30cm across, of dark grey/green metamorphic rock embedded in the karst formation on the road leading to El Cabo. Spherical iron-rich calcite concretions are often found in the landscape of El Cabo, and have also been recovered with excavated material at the site. This is the case with other sites in the vicinity. Although these elements were formed naturally, they may have been brought to the site as manuports.

3.3.1.2 Geomorphology of El Cabo

The geomorphology of El Cabo is heterogeneous. The northern portion of the site represents a topographic low with respect to the southern portion. A small fault-line separates these two zones (Hofman et al. 2005). The geomorphology of the southern portion, in which the main excavation unit was situated, reflects it's submerged past as a carbonate lagoon. Whereas the raised El Cabo promontory now dominates the topography of the coastline, 100,000-200,000 years ago it was the bottom of a lagoon (Branko Mušič, pers. comm.; see Nichols 1999:175 for geological description).

The southern portion of the site consists of upraised carbonate sediments from algae and molluscs living in the lagoon. Beds of intercalated limestone and sandstone ca. 20cm thick of differential consistency (east to west) lie as a sediment packet on top of a layer of sand at differing depths across the site. There has been lateral transformation of these sediments so that they dip at an angle of ca. 45 degrees. In the north, thicker deposits of beachrock (lithified beach sediment), sand (blown deposits, hurricane events?) and humic soils (anthropogenic) form a thick packet over a metre deep at the cliff edge. This is underlain by bedrock and yellow sand.

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49 *Terrarossa* (as solid deposits called bauxite) occurs on limestone in an irregular belt from Panama and Costa Rica, across Jamaica and Hispaniola (Bolay 1997:298). These deposits are mined in the area of El Cabo (see Project Carmelo, section 3.7.2.1).

50 Including a brown quartz micro-trigonolith and a small incised face.

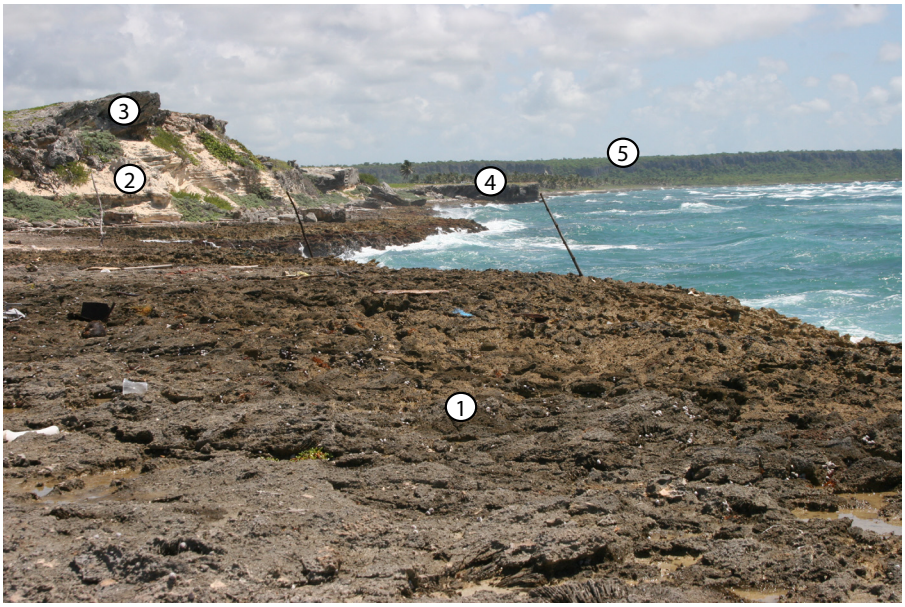

Figure 16. The local landscape of El Cabo showing aspects of its geomorphology. (1) coral limestone, (2) sand layer of intercalated deposits of former lagoon, (3) bedded limestone of intercalated deposits of former lagoon, (4) ibid.*; extending to the promontory of El Cabo, (5) limestone terrace of the cliffs behind El Cabo.*

The carbonate sediments of El Cabo are surrounded by fossilised coral, the former coral reef, much harder than the lagoon deposits of the site (Fig. 17).

The fossil record contains shell and coral species which are extant today in the area such as *Cittarium pica* and *Sidereastrea* sp. (Johnson 2009).

3.3.2 Summary

The eastern coastal plains have a very particular geology characterised by karst topography, thin soils and subterranean water sources. The local landscape of El Cabo is a product of dissolved limestone, the fertility and hospitability of which is not immediately apparent, but whose "flowerpots" and hidden water sources were available to inhabitants. El Cabo itself occupies a promontory of soft, raised lagoon sediments, different from the harder, jagged coral deposits on either side.

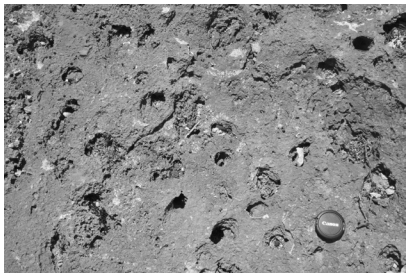

Figure 17. Coral limestone beach south of El Cabo.

3.4 Ecology and palaeoecology

Hispaniola, of which the Dominican Republic is the eastern part, is an island on the margin of the tropics, in the Northern Hemisphere, with its northern coast facing the Atlantic and its southern coast the Caribbean Sea. Zoo- and phytogeographically, Hispaniola was isolated through a long geological time period which contributes to a high degree of endemism. Over 10 million years ago the Greater Antilles were still attached to the Central American mainland and each other. Otherwise marine currents and human propagation have been the main agents effecting the flora and fauna of Hispaniola. The normal distinctions made between endemic, native and introduced flora and fauna (i.e. see Bolay 1997) are simply categories of timescale and historical interest, with *endemic* referring to a geological timescale, *native* referring to pre-European contact, and *introduced* post-European contact. Since the first colonization by humans in the 5th millennium BC humans have had a huge impact on their ecology through the importation, cultivation and exploitation of plant and animal life.

It is arguable the extent to which the current ecology of the eastern region, one of the areas of the Dominican Republic with the lowest historical population densities, is a legacy of the pre-Columbian, or so-called "native" ecology. Naturally people and their environments are in co-evolutionary symbiosis, and a constant state of change. Nevertheless, horticultural and culinary traditions, the continued impoverishment of the rural population and the relatively late impact of large-scale construction development in the area mean that not only are archaeological landscapes still observable in certain areas, but that the present-day ecology should be considered in terms of its departure from and potential similarity (continuity) to past ecologies. In other words small-scale slash-and-burn mixed plantings and staple crops have a lot in common with the precolonial indigenous past.[51] This is a position long adhered to by Dominican archaeologists (see Vega 1981). The untamed relocation and transformation of communities and places into tourist units (*unidades turísticas*) marks a definitive incision in this relationship. This is in no small measure because the elite discourse of tourism and privatization excludes working Dominicans and communities and consciously writes a narrative of a pristine nature ("pure jungle", "with no access roads" as one local *unidad turística* puts it in its promotional material) with no human history for vast swathes of the country.

3.4.1 Current ecology of the eastern Dominican Republic

Flora and fauna. The eastern Dominican Republic has a varied phytogeography from mangroves and vegetation of coastal lagoons (depressions below the average high tides) to the humid (wet) to hyperxerophytic (dry) forests around and to the north of Higüey which are mostly now settled and cultivated for sugarcane and cattle grazing. Such forests associated with karst topography occur in all of the Greater Antilles and parts of Central America (Kelly et al. 1988, cited in Rivera et al. 2000). Subxerophytic forests (elements of both humid and dry) dominate the east from Punta Macao down to the peninsula of the Parque del Este and Isla Saona (Bolay 1997:103). Hyper- and subxerophytic forests are characterized by low, irregular rainfall in which plants depend on extremes which may only occur every few years. In hyperxerophytic areas, open woodlands with cacti and thornbushes dominate on thin alkaline soils. Subxerophytic forests are semi-open forests with alkaline soils deeper than those of the hyperxerophytic forests. Nevertheless, conditions are topographically highly variable with characteristics from different phytogeographic zones found close to each other in the same area (Brewer et al. 2003). For example, deep, red soils (*terrarossa*) and tall stands of broadleaf trees can occur next to areas of low bush and no soils. These forested areas are rich in species but suffer degradation from charcoal burning and free running goats (Bolay 1997:105, Rivera et al. 2000).

The Dominican Republic has an insular fauna with birds as the largest vertebrate group and a high degree of endemism. Endemic fauna such as iguanas and the *solenodon*, a rare insectivore, have their nearest neighbours on Madagascar and demonstrate the high degree of isolation of the Caribbean (Hofmeester 2008; Bolay 1997:112).

The flora and fauna of the Parque Nacional del Este (Bolay 1997), a protected national park since 1975, is informative on the character of the biota of an area relatively free from the intensity of deforestation, exploitation and destruction.

51 The main products produced for domestic consumption in the Dominican Republic include: cassava, maize, peanuts, beans, batata, *yautía*, pineapple – all pre-Columbian staples. The population also relies to a large extent on the later introduced plantains and rice (Office of National Statistics 2007).

The park, its cliffs visible from El Cabo, and in the same climatic and coastal zone, has escaped the irrevocable destruction of the landscaping in Punta and Cap Cana (where the lagoons have been artificially drained, the cliffs dynamited and the natural topography razed for golf courses) and the much more minimal, yet characteristic impact of charcoal burning and goat grazing activities in the area of El Cabo.

The Parque Nacional del Este is a peninsula which forms the extreme south-east of the country with an area of 310sq km (Fig. 4). Like the region of El Cabo it is a flat carbonate terrace with cliffs rising from the coast at about 1km inland. There is no surface fresh running water in the park. Underground sources such as the Manatial de la Aleta and other rainwater traps provide drinking water (Atiles and Ortega 2001). The vegetation, characterised by 1000-2000 mm annual rainfall, forms two layers: a strata of broad-leaved taller trees (7-15m) such as giant figs, mahogany and *guayacán*, and a dense underbrush of younger trees and bushes. Epiphytes (plants attaching to other, larger plants) and lianas (long-stemmed climbers) are abundant. Over 500 different plant species have been reported for the park of which 50 are endemic (Ortega and Atiles 2003:18). The interior also has lagoons with mangrove swamps. The coastal areas, which are unfortunately unprotected, are dominated by sea grape and other bushes (Bolay 1997).

About half of all known Dominican bird species, including eight endemic to Hispaniola, occur in the park. Ortega and Atiles (2003:19) give a figure of 144 different species present in the park. The park's lagoons attract birds such as ducks and doves, coming from North America in the winter which would have been attractive to hunt (Mañón Arredondo et al. 1971:85). Small endemic mammals such as the *hutía* and *solenodon* are also reported in the park. Iguanas thrive in the dry environment. Bats are common in the caves in the park, and manatee and turtles occasionally graze the sea-pastures offshore. Pigs, goats, cattle, mongoose, mice and rats are important introduced elements and destroy the island biota. Isla Saona, an islet extension of the park, has barrier reefs lying to the south, dominated by *Acropora palmata*, brain corals, *Porites* spp. and *Montastrea annularis* which house many fish species. These are the same corals found in the fossil and living record of El Cabo.

Today, because it is protected from intensive human exploitation, much of the interior of the park is impenetrable. The fact that tropical forest has been allowed to regenerate does not mean that this is more akin to the "natural" pre-Columbian landscape. Far from it. The large number of significant archaeological sites within its boundaries testify to an extensive indigenous presence in the past which would have had a significant impact on the environment and ecology, including the opening up and cultivation of large areas (Atiles and Ortega 2001; Conrad et al. 2001, 2008; Guerrero 1981; Ortega and Atiles 2003). Moreover, studies of late Holocene vegetation dynamics from lake sediments elsewhere in the Haiti and the Dominican Republic show that Ceramic Age deforestation is reflected in the pollen records (Higuera-Gundy et al. 1999; Lane et al. 2009). As a more general remark in this respect, a very frequent observation of Columbus is the existence of extensive pastures and agricultural fields of the natives, bigger than those in Castille (e.g. Columbus 1990:149-157). Nevertheless, if not the image of a precolonial landscape, the legacy of pre-Columbian and more recent horticulture is doubtless responsible for the current species diversity within the park. More research on the current phytogeography of protected areas of the Dominican Republic could potentially shed more light on precolonial ecology.

Flora and fauna local to the site. The vegetation around El Cabo site consists of copses of coconut palms, livestock grazed grass, and low bushes and fruit trees belonging to the village.[52] Seagrape and *guáyiga* line the road along the coast into the village and beyond the El Cabo promontory along the coralline shore to the south. Outside the garden and house plots of the village, the vegetation between the rocky shoreline and the cliffs includes dense brush, occasional coconut stands, and towards the cliffs, taller trees such as *guayacán*. Now little-used tracks cut through the undergrowth, usually via *cenotas* and caves, which allowed access to and from former properties, to allow wood to be transported to the coast and access to the cliffs. Here and there differential areas of regrowth can be observed in areas of former pastures and abandoned *conuco* sites. Studies carried out in Los Haitises National Park indicate abandoned *conucos* develop closed canopies and a high density of trees in approximately 20 years (Rivera et al. 2000). The only reasons people come to this area now is to herd livestock, burn charcoal, collect coconuts, honey, bathe, fish, dig for artefacts and other more nefarious activities (drug and people trafficking).

Although now rare, El Cabo villager Belto Villa occasionally sells *guayacán* logs (ca. 1.5-2m long, 30cm diameter) which he sources from near the village, below the cliffs.[53] There are immature small trees and stumps of *guayacán* growing on the site. Another tropical hardwood which grows on top of the cliffs, is princewood, *piñi piñi* (*Exostema caribaeum*). Botanist Máximo Peña Roca (*Coordinador Gerencia Ambiental de Cap Cana*) and Belto Villa informed us that both species, endemic to the Caribbean, were common and dense in the area above and below the cliffs thirty years ago. Belto also identified other fragrant wood types which occur as flotsam washed up in El Cabo.

Climate. Exposure to trade winds and elevation are the two major factors influencing Dominican climate (Bolay 1997). The diverse landscapes of the Dominican Republic mean that the climate is varied. Mean annual rainfall on the east coast is less than 1000mm (see Bolay 1997: Fig. 9). Precipitation concentrates in the wetter, hurricane season from June to October, whereas January to April are dry, with some rain in May. Average temperatures in the Punta Cana area are between 22º and 31ºC, the hottest months occurring in July and August, the coldest in January and February (Tactuk 2007).[54] Annual temperature oscillations are minimal (about 5ºC around the mean) and daily temperature oscillations are higher than seasonal (Bolay 1997). Climate diagrams of the Altagracia area show that the precipitation curve rarely falls under the temperature curve (temperature and rainfall are related and together indicate evaporation potential) which means that although the area does not have much rainfall, it is not classed as arid, and therefore always humid (80% average humidity; Tactuk 2007).[55] This is typical for tropical climates (see Walter climate diagrams in Bolay 1997:68).

Trade winds blow from the east over the whole island. This, together with sea breezes (currents of air created by the differential temperature rises on land and sea), mean that during the day there is always an easterly wind from the sea which blows over the area. In December winds sometimes come from the north. At night the reverse effect, the *terral*, blows from the land seawards. This moderates the hot, humid temperatures on the coast (Bolay 1997).

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52 See Ortega (2005:115) for a similar description of the environment in the late 1970s.

53 He sells these for DR $ 125 (about 2.5 euros) a piece to middlemen to make "native-style" figurines (*muñecas*) for the tourist market.

54 The Office of National Statistics publishes average highest temperatures per year from the Punta Cana weather station (Tactuk 2007).

55 Arid climates are those in which precipitation falls under the temperature curve.

There is another kind of wind which affects the Dominican Republic: hurricanes. These are provoked by the collision of air masses of different temperatures, when large amounts of water evaporates over the sea, which rise and cool quickly at altitude and spin along with the earth's rotation (Bolay 1997). The Dominican Republic has a greater than 10% annual chance of experiencing a hurricane landfall. This is in contrast to the rest of the Greater Antilles, Lesser Antilles and Central America where chances are 5 to 10% (Dr Lisa Kennedy pers. comm.). Between 1900 and 2003, seventeen hurricanes (categories 1-5) crossed the Dominican Republic. For example, Hurricane Georges, a category 3 hurricane struck the eastern Dominican Republic in September 1998, killing more than 400 people and leaving 155,000 homeless. During this time, the people in El Cabo who were directly in the path of the hurricane, fled to the caves in the cliffs and sheltered there for three days until the storm had passed.

Landscapes. The area in which El Cabo is situated comprises approximately 1300km² in which there are no terrestrial water sources. There are only two rivers east of Higüey. The Río Yuma which meanders south from Higüey and empties into the Caribbean Sea at Boca de Yuma, 17km as the crow flies from El Cabo (25km along a coastal route). Secondly, the Río Anamuya is a smaller river which meanders north from the direction of Higüey to empty into the Atlantic Ocean some kilometres west of Punta Macao (40km from El Cabo) (Fig. 4). The rest of the coastal Caribbean plain also has no major river systems. What rivers there are, are deeply entrenched in the soft underlying rock and have narrow valleys and virtually no floodplains (Bullen and Bullen 1973). The underground water supplies in the karst, and rainfall are thus important water sources. People not connected to the mains supply (i.e. the majority in rural places) rely on rainwater collection in rainwater butts outside their houses, and take advantage of the rainy months to time plantings.

3.4.2 Palaeoecology of El Cabo

Palaeoflora and fauna. In the Archaic, although there is some evidence for management of plants (manioc, maize, grasses, etc.), there is no evidence yet for the introduction of animals (Newsom and Wing 2004). Remains of *Zamia* spp. associated with ashes from hearths were found in layers dating from 1890 BC in the Cueva de Berna, on the edge of the Parque Nacional del Este (Veloz Maggiolo et al. 1977).

From the Ceramic Age in the Greater Antilles there is much more evidence for the use of wild plants and cultivation of fruit trees and crops. Evidence from Puerto Rico and Haiti (En Bas Saline) suggests that in the Ceramic Age "Caribbean home gardens were diverse with multiple strata incorporating herbs, vines, shrubs and trees" (Newsom and Wing 2004:154). Food crops and staples such as manioc and maize were introduced or developed in the islands. Mammals such as the *hutía* were managed from the Ceramic Age and dogs were the most widespread domestic species. An important staple characteristic of the ecology and precolonial subsistence in the eastern region is the cycad *Zamia*. Zamia flourishes in karst areas, close to the sea. It has already been mentioned that in historic times Las Casas was struck by its use in Higüey as an alternative to cassava. More significantly, as well as a source of carbohydrate, bread made from *Zamia* was also a source of protein. This was due to a production process in which fermentation encouraged maggots to hatch in the dough (Veloz Maggiolo 1992). The use of this undomesticated plant as a food source in the eastern region from the second millennium BC to the arrival of the Europeans shows not

only a remarkable cultural continuity of Archaic and gatherer lifeways into the later period, but because of its enhanced protein content is seen as a superior staple food, and characteristic of the Mona Passage area (Veloz Maggiolo 1992).

Local palinological data present in archaeological deposits come from the Project Juanillo excavations (Olsen 2002). Stratigraphic units from probable settlement contexts revealed the presence of fruits and crop plants such as prickly pear (*Opuntia* spp.), locally known as *tuna brava* or *guazábara*, papaya or *lechosa* (*Carica papaya*), guava or *guayaba* (*Psidium guajava*), cocoplum or *hicaco* (*Chrysobalanus icaco*), tobacco (*Nicotiana tabacum*), *pitajaya* (*Hylocereus* spp.), *zamia* or *guáyiga* (*Zamia debilis*), trees such as guayacán (*Guaiacum officinale*), as well as other beach plants, grasses and weeds possibly associated with land clearance.

In terms of the faunal assemblage excavated from Juanillo, of the sixteen different areas (total of 370m²), 65% of all gastropods recovered were terrestrial species (*Polydontes* spp. and *Caracolus* spp.), and the vast majority of these *Polydontes* spp.[56] Of the marine shells, *Strombus* spp. was the most abundant (40% of the marine shell remains), followed by *Cittarium pica* (25%), with *Murex* spp., *Vasum muricatum*, *Conus* spp., *Chiton* spp., *Fissurella* spp, *Nerita* spp., *Purpura patula*, making up 1-10% with several other identified species as negligibly present. There are no data on the other faunal remains.

Another site in the area for which published faunal data are available is El Barrio, 17km up the coast from El Cabo (Rímoli 1996). In both the lowest levels of the El Barrio site (*fase Punta Cana,* 340 BC-440 AD) and in the second phase (*fase El Barrio,* AD 400-700) marine and terrestrial gastropods dominate the faunal remains (almost 90%), the majority in both phases being *Strombus gigas* (30-70%) (with *Cittarium pica, Murex brevifrons*, bivalves and other species being less common).[57] A large 25-40% of the gastropods were land snails (*Polydontes* spp., *Caracolus* spp. and *Cerion* spp.). Reef and deep sea fishes represented less than 5% of the faunal assemblage (with less in the later phase) with birds, mammals and other vertebrate fauna contributing less than 1%. Of these, endemic dove species, turtle and dog remains were minimally present. The picture is similar for both phases. The faunal remains suggest very little exploitation of terrestrial fauna. Rímoli concludes a reliance on the exploitation of the coral reef and near-shore net fishing.

Interesting in both the Juanillo and the El Barrio excavations are the high numbers of terrestrial gastropods in coastal contexts. Landsnails were also very common in the archaeological deposits of El Cabo. These are generally evidence of a wet, wooded environment (Rímoli 1996; Veloz Maggiolo et al. 1976). The present landscape in these areas is deforested, and these shell species are now largely absent, except when inhabited by hermit crabs. As commensal animals, attracted by human rubbish, their presence in the immediate area of human activity sites, may indicate open midden piles in the past. Perhaps the presence of such snails is also cyclical and dependent on rains. This does not preclude the fact that the surrounding areas were wooded, but simply that the density of terrestrial snail remains may be an indicator of density and coverage of midden material. The abundance of terrestrial gastropods and the sea snail *Cittarium pica* in midden deposits in El Cabo led us to speculate that all three species are regularly

56 In the report (Olsen 2002 unpub.) the shell remains are reported separately for each excavated layer. Seeing as these layers are arbitrary and not dated and the stratigraphy is mostly shallow, I have lumped all the remains together to enable rough comparisons. It is not clear how the samples were counted, I assume by MNI.

57 Again, it is not clear how the samples were counted. Percentages are directly quoted from the published text.

inhabited by hermit crabs, and that this may account for their presence in midden heaps. Again, whether they were deliberately collected for food or present as scavengers is a matter for future research (Hofman et al. 2005:18).

In summary, landsnails, *Strombus* spp. and *Cittarium pica* are most common in the Juanillo and Barrio sites, followed by smaller marine molluscs, and a long way behind this by deep sea fishes and terrestrial fauna, indicating a predominantly marine-oriented protein diet, as would be expected from coastal locations.

Palaeoclimate. Data from lake sediments, trace metals, isotopes and pollen sequences allow reconstructions of climate history. The evidence generally points to a moist climate in the circum-Caribbean until the middle Holocene, with drier conditions from the middle Holocene from 3400 BP, punctuated by moister periods (e.g. 1600-900 BP). This "late Holocene drying trend" (Kennedy et al. 2006) has been noted in high-resolution records from Haiti, the Bahamas, the Dominican Republic and Puerto Rico (Lake Miragoâne, Church's Blue Hole and Lago Enriquillio, Laguna Tortuguero) and more widely across the Mesoamerican and Caribbean region (Beets et al. 2006; Bertran et al. 2004; Bonnissent et al. 2007; Kennedy et al. 2006).

Over the last 2600 years, 200-year cycles of drought episodes superimposed themselves on these longer term cycles. These have been documented for AD 585, 862, 986 and 1051 with an extended drought between AD 700/800-850/1000 (Beets et al. 2006; Bertran et al. 2004; Curtis et al. 2001 and Hodell et al. 2001 cit., Newsom and Wing 2004:12-13, Lane et al. 2009). The impacts of drier conditions on the late Holocene ecology, although contingent upon local conditions, were the loss of forests and extinction of some mammal species (Newsom and Wing 2004). Climatic variation also had an observable impact on human population dynamics. For example, lakes in the Las Lagunas area of the foothills of the Cordillera Central, Dominican Republic, first showed evidence of human occupation during a severely arid period (Lane et al. 2009), and further afield the abandonment of the settlement of Anse à la Gourde, Guadeloupe, has been attributed to worsening climatic conditions (Beets et al. 2006). Conversely, earlier migrations, such as the Saladoid colonization of the Antilles, has been linked to favourable climatic conditions (Bonnissent et al. 2007).

It is worth citing the climate summary from the Las Lagunas study (Lane et al. 2009: Table 5) as this offers a dated chronology for late Holocene palaeoenvironmental change from the interior of Hispaniola. Although Las Lagunas is an interior site at a much higher altitude than El Cabo, the high-resolution data can be used as a basis for considering human/climate interaction in sites such as El Cabo until more local data become available.[58] Citing only those periods relevant to the occupation of El Cabo: after mesic (wet) conditions from 300 BC to AD 430, Lane et al. record an arid phase from AD 430 to 1060 with a severe drought between AD 750-950. This is followed by increasingly mesic conditions between AD 1060-1250 which get wetter still up to AD 1600.

As far as coastal environments are concerned, with reference to Haitian data, Keegan remarks that the drying trend led to sea level decline of two metres at the beginning of the Ostionoid era (ca. AD 500-750, Keegan 1995:97). This may have exposed narrow shelves and sand beaches. This drier period continued to AD 950, after which wetter conditions returned (Curtis 1992, Curtis and Hodell

58 In future we may learn a lot more about the immediate local Holocene climate (i.e. the last 10,000 yrs) from ongoing research by Lisa Kennedy and colleagues, Virginia Tech, who are reconstructing hurricane history over the past few to several thousand years, through the study of coastal lagoon sediments from Laguna Bavaro.

1993, Hodell et al. 1991 cit., Keegan 1995, Lane et al. 2009). This means that the sea level may have been 50cm higher than present in the Late Ceramic Age (Keegan 1995). In terms of impact on El Cabo, this may have meant that at the time of first settlement (ca. AD 600), more beach areas may have potentially been exposed and thus have facilitated canoe travel. The abundance of Chicoid ceramic remains along the coast testifies that this was also the contemporary coastline. Perhaps even more significant than this is the possibility that in the first few centuries of settlement in El Cabo, sinkholes in the immediate vicinity of the site, which nowadays contain water too salty for human consumption (Johnson 2009), may have periodically been sources of sweet water in the past, particularly during the Ostionoid (3.7.3).

The coastline itself has been relatively stable for the last 2000 years and the tidal range in the Caribbean is relatively low. Despite the erosive impact of high-energy storms on limestone bedrock, and visible fracturing and shearing-off of large chunks of the cliffs onto the beach and into the sea, the archaeological evidence from El Cabo demonstrates that this is not the case in the immediate vicinity of the site where archaeological features take account of the contemporary cliff edge, showing that the coastline here was much the same. Evidence for this will be discussed later on.

3.5 Land use history

In order to understand the multitude physical factors acting on the site of El Cabo throughout its history so as to better understand the taphonomical processes effecting the archaeological deposits, it is important to reconstruct the history of land use and historical trajectory of the area in the post-colonial period over the last 500 years. We can do this through a combination of census data, oral and material history.

3.5.1 Material history

There is evidence of absence of occupation for the 500 years between European contact and the contemporary village. A number of looter's pits, cement house bases and the iron remains of the base of a loading bay for tropical hardwood are the only physical remains testifying to past activity between 16th century abandonment and late 20th century re-occupation. What occupation there has been, has had little lasting impact on the landscape – no large-scale building projects, no intensive agriculture or industry.

3.5.2 Census data and reconstructed history

In official administrative terms, the village of El Cabo belongs to the district of San Rafael del Yuma, in the province of Altagracia. How long it has been recognized as an official place is difficult to determine. On a map published by the *Instituto Cartográfico Universitario* from 1975, the location of El Cabo is marked by a place dot labeled *Cayuba* (see map page in Veloz Maggiolo et al. 1976:10), although we have never heard anyone in the village refer to it by this name.

Population density maps from throughout the 20th century show the population of Altagracia province to be consistently one of the lowest in the Dominican Republic (<20/km²) (Sagawe 1996).[59] From demographic data the land seems to have been occupied by dispersed cattle farms and single families burning

59 With a population of 182,000 and 60 inhabitants per km, this is still the case (census data 2002, *República Dominicana en cifras 2007*, publication of the Office of National Statistics).

charcoal and practicing subsistence farming.[60] Sub-tropical mature forests would have been common in the area until 30 years ago (Maximo Peña and Belto Villa. pers. comms.) when there was still enough hardwood to support a logging industry. The loading bay on the coastal promontory of El Cabo, the remains of which are referred to above, was active until it was abandoned in the 1970s or 80s (Belto Villa. pers. comm.). Logging was common in the east in the 19th and early 20th centuries. For example, there was a sawmill on Catalina Island built in 1934 to cut mahogany (*Swiettenia mahogoni*), *guajac* (*Guauacum sanctum*), *quiebracha* (*Krugiodendron ferrum*) and other trees (Bolay 1997:207).

The eastern region is now one of the fastest developing regional economies in the Dominican Republic due to tourist and private development of the coastal zone. This is something which over the last few decades has irrevocably changed the face of the area. Until present the boundaries of this development stop just short of El Cabo, which sits like an island in the middle. When the legal disputes over the land around El Cabo have been resolved, it too will disappear.

3.5.3 Oral history

The history we know of El Cabo village, now the last settlement at the end of the coastal road, is repeated in similar ways in various parts of the Dominican Republic and represents the encounter of Dominican rural village life in an era of globalization.

When we came in 2005, there were about 30 house compounds and maybe a population of 70 permanent residents. There were two rival shops (*colmados*) run by the two main families in the village – the mayor, Lionel Avila's family, and Margot Rosario and Belto Villa's family. Over the years, these are the two families with whom we have had most contact, who we know best, and through whom we understand El Cabo.

El Cabo has probably been settled for about 50 years (Johnson 2009:20, 54-55). Belto came there as a boy, when there were 60 or so families, and has lived there for 25 years. Manolo Acosta, another Dominican colleague, lived there for 22 years, when he moved down from the cliffs. Margot also said that they used to live on top of the cliffs, and subsequently moved down into the village. She mentions that the heart of the village used to be nearer the cliffs, on the coast, but retreated due to fear of storms. Elpidio Ortega (1978a:83) mentions señor Amado Sanata, *nacido y criado en el lugar* ("born and raised in the area"). This all suggests that the village operated as a kind of magnet several decades ago, pulling people in from smaller farms and households in the area. Margot suggested this happened after a particularly bad hurricane, but there could have been any number of other reasons and local economic incentives.

There used to be at least three churches, one of which was still active, and a small state primary school which is one of the only signs of official recognition, as well as its inclusion on topographical maps of the *Instituto Cartográfico Militar*. There is no running water or electricity, no metalled road and no regular motor transport or access to medical services.

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60 Bolay cites a typical example of this kind of economic activity of a peasant farmer in the 1980s selling charcoal he burned from a hectare of land on Club Med property next to Punta Cana. He sold this for $1 per bag to a middleman who sold it in Santo Domingo. Twenty percent of the charcoal income went to the landowner. Soldiers arrested the peasant, but not the landowner, who supplied the peasant with credit during his arrest. After two years of using the cleared land as a *conuco*, the soil was depleted and given back to the landowner to graze cattle. In this way landowners clear their land and do not get charged for deforestation of green trees (Bolay 1997:139).

In the four years we have worked in El Cabo, there have been huge changes. The inhabitants, cast as illegal squatters of disputed land, are gradually being bought out (if they are fortunate), or forced to leave as the coastal zones of the eastern region get eaten up and turned into private enclaves. Since 2005, we have noticed a dramatic decrease in population and reduction in activity in El Cabo. The mayor moved to Higüey because of ill health and the village school has closed. Only the most marginalized families still live there, and Belto and his family act as caretakers of the land for a local landowner who also houses his workers in the houses of former villagers. This was a process which was well underway by 2005, as it was clear from accounts and abandoned properties that the village used to be much bigger with more streets, gardens and businesses. Gradually houses were abandoned, children sent to live with other relatives, homes built elsewhere with some in the village maintained as weekend fishing lodges. The villagers do not own the land on which the site sits, but they do graze animals on it, build houses over it and the village school is reportedly in the area of a burial concentration and midden deposits over one metre deep. The road into the village cuts through these midden deposits, and children in the village regularly collect adornos from their family *conucos*. The part of the site we investigated is oriented more seawards of the present-day village and extends to its north (Fig. 10).

3.5.4 Summary and discussion

In summary then, material, official and oral history of the village indicates that the archaeological site of El Cabo has not undergone any significant changes or degradation since precolonial indigenous occupation. The lack of a significant material footprint related to the last 500 years, the low population density of the region in general, and the minimal impact of the current population mean that the site is in a very good state of preservation. This concurs with Olsen's impact assessment of the site in which he deems the quality of the remains excellent and the state of preservation of the site moderate, based on presence of looter's pits in the north of the site (2000).

3.6 Regional setting: Pre-Columbian and colonial Higüey

3.6.1 The archaeology of the eastern region, post-AD 600

The Higüey region, or the eastern Dominican Republic, to which El Cabo belongs, is significant in narratives of *becoming Taíno*. It occupies an important place in the culture-historical narrative of the Greater Antilles and the epistemology of the evolution of native populations in the area. In the Late Ceramic Age the eastern region (the modern day province of Altagracia and parts of La Romana, i.e. the low-lying area east of the Seibo Sierra and the Chavon river) comprised a number of settlement sites with long occupations and very similar ceramic sequences (Hofman et al. 2007; Veloz Maggiolo 1972). This sequence has been recently summarized as an early Ostionoid (AD 600-900), a late Ostionoid (AD 900-1200) and finally a Chicoid phase (AD 1200-1500)

(Hofman et al. 2007: Table 3).[61] The possibility of an even earlier, pre-Ostionoid ceramic phase from 300 BC is in need of further investigation. There is a marginal presence of Saladoid ceramics in the area, at for example La Caleta (Veloz Maggiolo 1973; Veloz Maggiolo and Ortega 1996).

On a larger scale, the eastern region is incorporated into the cultural-geographic region of the Mona Passage (Rouse 1992). This is a difficult stretch of water, 120km wide, connecting the Atlantic Ocean with the Caribbean Sea and separating the Dominican Republic from Puerto Rico. This strait has been conceived of at different times and by different scholars to have represented an impediment, conflict zone or a positive facilitator of relations for populations on either side of the water. As a cultural area in the Late Ceramic Age it encompasses the western half of Puerto Rico, and the whole of the eastern part of the Dominican Republic up to Santo Domingo. The Mona Passage area was first identified as a major cultural sphere by Rouse, who noted that the boundaries between ceramic styles occur within islands, rather than between islands (Rouse 1951, 1982, 1992). This suggests connections across bodies of water and closer cultural ties between peoples on either side of a passage than within the same island.

From around AD 600 until colonial times the Mona Passage was an area of proposed cultural convergence and cross-fertilization, important in the development of the Chicoid ceramic series and the rise of political hierarchies, ceremonial complexity and social inequality. Ostionoid ceramics appeared almost simultaneously (in an archaeological sense) in the Mona Passage area and the rest of the Greater Antilles and Bahamas from the 6th or 7th century (Curet 2005). This was just one element in a suite of material culture changes attributed to demographic growth and migration (Curet 2005). At this time, the Mona Passage was conceived of as a reception area for migrating groups, and at the forefront of cultural innovation. By the terminal phase from AD 1200, it is generally seen as the heartland of the "Classic Taíno" (*sensu* Rouse 1992). Some of the oft-cited material culture traits are Chicoid ceramics, large settlements, agricultural efficiency, stone-lined plazas, exotic and highly crafted items such as elaborate stone three-pointers and stone collars, *cemí* statuary and paraphernalia related to the *cohoba* ritual. The Mona Passage is seen as the source of appropriation, emulation and the focus of what some see as prestige relationships between elite networks in many other parts of the Greater Antilles (Oliver 2009).

El Cabo thus belongs to the heartland of what are seen as the most complex societies in the Caribbean before European contact. The developmental trajectory of the well known historical end product, the "Taíno", however, is much debated and based almost exclusively on text and pottery.

Rouse saw this trajectory from primitive to civilized as a rather seamless progression from Saladoid to Ostionoid in Puerto Rico, followed by migration and displacement of Archaic peoples in the rest of the Greater Antilles via the Mona Passage, and subsequent development of the Taíno in this same area (1992). Other models, however, give far more agency to the already existent Archaic

61 Veloz Maggiolo's (et al. 1973) general use of the terms Ostionoid, Mellacoid and Chicoid are preferred over the more complex nomenclature of Rouse (1992) who uses a combination of series and sub-series names to describe ceramics. Veloz Maggiolo's terminology has the advantage of being more locally specific to Hispaniola and moreover he disputes the Linnaean genealogy of ceramic styles as presented by Rouse. Veloz Maggiolo's use of multiple regional names for very local and transitional styles will be avoided however, and the simplified chronology for the eastern Dominican Republic (Hofman et al. 2007) referred to instead. However, it is recognized, as stated by Veloz Maggiolo, that local diversity is a hallmark of ceramics in the eastern region (Veloz Maggiolo 1977).

populations and to diverse, new, migrations of non Puerto-Rican origin. An example of this is the cultural hybridization hypothesis of Chanlatte Baik (2003) who credits the Ostionoid series to Archaic acculturation with pottery-producing Saladoid farmers in Puerto Rico. These new Ostionoid groups subsequently migrated out of Puerto Rico and in turn acculturated Archaic populations in other islands. Veloz Maggiolo points to centuries of migration, hybridization and population growth occurring before the proposed Ostionoid expansion from Puerto Rico, processes well underway by the 5th century AD (Curet 2005; Veloz Maggiolo et al. 1991; Veloz Maggiolo and Ortega 1996). The presence of pottery production several centuries BC in the eastern Dominican Republic (El Barrio, El Caimito, Musiépedro) is seen as evidence of island ethnogenesis and multiple separate migrations from the South American mainland (Veloz Maggiolo 1976; Veloz Maggiolo et al. 1974, 1991; Veloz Maggiolo and Ortega 1996).

Others (Curet 2005; Keegan 2000:150; Keegan and Rodríguez Ramos 2007) propose variations on these complex histories, incorporating diffusion, migration and hybridization. These scenarios take the agency away from the Saladoid horticulturalists as culture bringers, and see the Chicoid as a mix of mainland, endemic and Ostionoid traditions (see also Rodríguez Ramos et al. 2008). The models become more complex over time to emphasize a multiplicity of actors and origins. What they have in common is a consensus that there was a change which occurred sometime around AD 600 which led to the adoption of Ostionoid ceramics and the development of monumental architecture, especially in Puerto Rico. The development of the Chicoid occurred in southeast Dominican Republic, between AD 800-1000 (with the earliest occurrence in Juandolio around AD 825; Veloz Maggiolo et al. 1973). By AD 1200, Chicoid-related ceramic and lithic artefacts are spread over the Mona Passage area and much of the rest of the Greater Antilles, evolving into diverse regional forms (Oliver 2009; McGinnis 1997; Veloz Maggiolo 1993; Wilson 2007:139-146).

The only one who attempts to explain these developments in terms of local conditions and contingencies is Veloz Maggiolo. His picture of the historical diversity of Tainan origins is united round the hypothesis, specific to the karst zones of the eastern region and western Puerto Rico, that complexity was the result of an adaptive response to the local ecology (Veloz Maggiolo 1992). This complexity is seen as ceremonial and religious in nature. His model is based on interpretations of native ecology and organization of labour. Distinct from the intensive mound cultivation of cassava, which is a tropical lowland tradition, undomesticated *zamia* was exploited in the eastern region. *Zamia* did not require intensive farming methods, not even slash-and-burn, but was collected directly from the wild. This significantly reduced labour costs. Moreover, its processing produced a staple rich in both carbohydrates *and* proteins. Veloz Maggiolo sees this as a more efficient exploitation of the environment which, combined with centuries of migrations, gave cultures in the eastern region an adaptive advantage, promoted demographic growth and the opportunity to develop sophisticated ceremonial and religious structures (Veloz Maggiolo et al. 1976; Veloz Maggiolo 1992; Veloz Maggiolo and Ortega 1986). Karst environments are not limited to the Mona Passage however, and there is growing evidence that *Zamia* was exploited across a wider area of the Greater Antilles than just Higüey in precolonial times (Pagán Jiménez and Oliver 2008; Rodríguez Suárez and Pagán Jiménez 2008). Nevertheless, this is one of the only attempts at a more situated, Antillean and social perspective on regional complexity.

Sites in Higüey are therefore of significance in hypotheses of the evolution of the historic Taíno. They are also illustrative of how these debates have until recently occurred on the population level, on the basis of ceramic traits, or outside the settlement. By relying on this kind of data, the trajectory which leads to the complex stratification of the historical period is seen as inevitable but poorly understood in terms of its social processes. What is happening at the level of the individual settlement, household or local settlement group, and how these contributes to the bigger picture, is unknown. Curet's work on precolonial demography deconstructed the idea that the social processes of episodes of significant culture change in the Caribbean can be understood simply in terms of macro-processes such as migration, and with recourse to ceramic sequences (Curet 2005). He sees similar changes in Puerto Rico as a result of multiple processes involving actors and contexts at smaller scales. In the next section the settlement pattern in Higüey will be examined in more detail to give context to the intra-site analysis in the following chapter.

3.6.2 Settlement patterns

Over 180 Ceramic Age sites, ranging from intensively excavated settlements to GPS points marking a few surface sherds have been identified in the Higüey region (Fig. 18). The distribution gives both an impression of Ceramic Age site density and location, and research intensity in the eastern region. An in-depth discussion of the dynamics and demographics of this distribution are beyond the scope of this chapter. The discussion here serves to place El Cabo in a diachronic regional setting within a network of local sites.

The denomination "settlement", marked by large white dots, is based on published interpretations or the reported presence of midden mounds. Clusters of points such as in the Punta Macao, Boca de Chavon and Cap Cana beach areas may not represent discrete sites, but the extension of large settlements, or settlement-related activity halos. This is probably the case with the Punta Macao site, which covers 1km^2.[62] Caves either denote sites of rock art, human or other cultural remains, and plaza sites are precisely that; sites with reported, usually stone-lined plazas. One site in particular should be treated with caution, the plaza at Punta Espada, at the southeast tip of the island, below El Cabo. A plaza was reported in this location in the 1950's by the then director of the *Museo del Hombre Dominicano*, Emile de Boyrie Moya, well acquainted with Dominican plazas, having conducted an island wide survey. This site has been referred to in publications (Mañón Arredondo et al. 1971:91; Ortega 2005; Veloz Maggiolo 1972), but subsequent visits by ourselves, Ortega (2005:147) and Johnson (2009) failed to relocate the plaza, although Chicoid ceramics were found in the area.[63] The plaza is left on this map, although its existence should be treated with a caveat.

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62 Although it is difficult to conclude anything regarding the archaeology of Punta Macao. This is a multi-component site spanning a thousand years which has since become a golf course and remains largely unpublished (Andújar Persinal et al. 2004:171; Prieto Vicioso 2008:145; Ortega 1978a; Ulloa Hung 2008; Veloz Maggiolo et al. 1972; unpublished reports: Olsen 2004a; Tavarez Maria and Calderón 2007).

63 Despite the fact that the Mona Passage plazas are more like the stone-delimited ones of Puerto Rico, generally plazas in Hispaniola are delimited by earthern banks (e.g. Chacuey, En Bas Saline, corral de Las Cabuyas). If the purported plaza at Punta Espada consisted of raised earth banks, it may well be that hurricane damage inflicted in the intervening 50 years between de Boyrie Moya's and later visits, such as that from hurricane Georges which passed over El Cabo in 1998, razed the evidence.

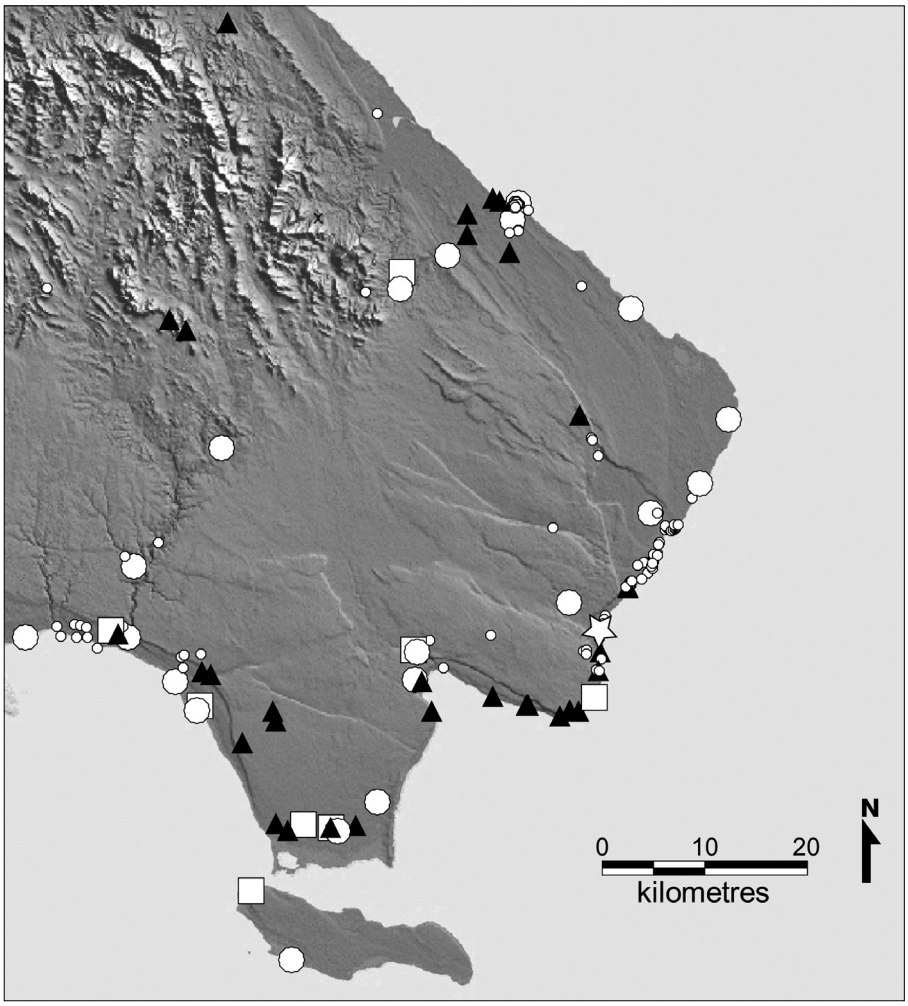

Figure 18. Archaeological sites in the eastern Dominican Republic. Legend: Large white dots: settlement sites; black triangles: cave sites; squares: plazas; small dots: sites ranging from individual finds to multi-component sites; white star: El Cabo.

Previous research singles out the eastern coastal plains as the most intensively investigated and most densely populated zone in the Dominican Republic with a regular spacing of sites along the entire coastal plain (Arredondo et al. 1971:106). And indeed, the first impression is one of overwhelming coastal settlement. This picture bears out the observation by the Bullens that "*In every place where we found a beach, even a very small one, we found evidence of a presence in the past of Amerindians*" (Bullen and Bullen 1973:317). This is not just limited to the sandy beaches, however, which are scarce in the eastern region, but is also the case along the more common raised and rocky shoreline.

Hardly any sites have been identified in the interior except along river courses. Dry access points from the coast, i.e. pathways through the cliffs to the higher plateaus, also have sites along them. The Seibo Sierra northwest of Higüey seems to form a barrier, and few sites have been identified here apart from cave sites with rock art (Pagán Perdomo 1976).

That this picture is a bias of research intensity, due to builder development along the coast and the high visibility of coastal sites (generally more exposed than those inland) cannot be ignored, but surveys which explicitly looked for sites in the interior also note the predominance of the coastal settlement pattern. The Bullens for example expressly searched the sugarcane field of Higüey, without result. Olsen's research on top of the inland coastal plateaus didn't locate any significant sites here either (Olsen 2001a). However, subsequent surveys by Leiden University did locate a couple of sites, including a potentially significant

settlement (El Bartolo) on top of the cliffs, again related to an access point from the coast (Johnson 2009:79). It is significant that these inland sites are either related to river courses, and if not, are along access points from the coast.

This seems to be at odds with Las Casas' description suggesting that the higher regions were more densely populated than the coastal regions in Higüey ("*en medio de estos montes hacian los indios sus pueblos…*" Las Casas 1875:259, Ch.3:299). Although it is precisely these higher areas in the Seibo Sierra which have not been intensively researched. One of the most detailed descriptions of a town is of one such inland settlement in the hills of the Higüey area. Las Casas describes four broad streets, 50 paces wide and a crossbow's shot long (i.e. several hundred metres) cut through the trees in the form of a cross. According to Las Casas, these streets were used for staging battles, and the town itself sat at the intersection, in the middle (Las Casas 1992: Ch. 3:299).

The coastal settlements are relatively regularly spaced along the coast, 10-15km apart and interspersed with smaller sites (Fig. 18). Moreover, one can pin-point hubs where settlements occur together with diverse site types such as caves and plazas. This is the case around Punta Macao, Punta Cana-El Cabo, Boca de Yuma, south Parque Nacional del Este/Saona, the Bayahibe and Boca de Chavón areas. The same is true further west along the south coast from La Romana to San Pedro de Macorís and Santo Domingo (not on the map).

It is difficult to gain a reliable picture of the demographic dynamics through time represented by the site distribution. This is due to the over-representation of Chicoid ceramics with their tell-tale incised decoration, and probable under-representation of earlier ceramics, which bear fewer diagnostic traits. Moreover, many sites were identified on the basis of surface remains and thus earlier buried deposits would not have been observed. There is, however, enough chronological information to make a broad distinction between Ostionoid and Chicoid for ca. 55 sites (Fig. 19). Moreover, early colonial material has been recovered from at least four or five sites. For some of these, including El Cabo, this can be seen as evidence for continued indigenous occupation during colonial times.

As mentioned in the previous section, long occupations and similar ceramic sequences can be seen in sites across the Higüey region. Almost all sites with an earlier occupation (n=14) were also inhabited or used in the later period.[64] If we look specifically at settlement sites, we see that settlement histories reveal continuity with successive ceramic populations occupying the same areas. This indicates continuity in settlement location. Care should be taken in attributing this to continuity of settlement population, however, and the relationship between earlier and later stratigraphic sequences must be established on a site-to-site basis. Too little is known about the majority of sites to conclude anything about settlement dynamics in terms of occupation phases. Nevertheless, two sites indicate differences between early and late occupations either in terms of intra-site settlement location or spatial organisation (Atajadizo, and El Cabo). This suggests a break or significant realignment and reorientation of settlement practices between the early and late phases. What Hofman et al. (2007) refer to as Late Ostionoid ceramics, are referred to locally under a multitude of site- and phase-specific names, each interpreted as different transitional types between Ostionoid and Chicoid, and representing diverse ancestries (Hofman et al. 2007; Veloz Maggiolo et al.1973). Combined Ostionoid and Chicoid traits are considered common at sites in the eastern Dominican Republic from around AD 800 to 900 (Hofman et al. 2007; Ortega et al. 2003). The nature and dating

64 Sites for which this is not the case have generally not been intensively researched.

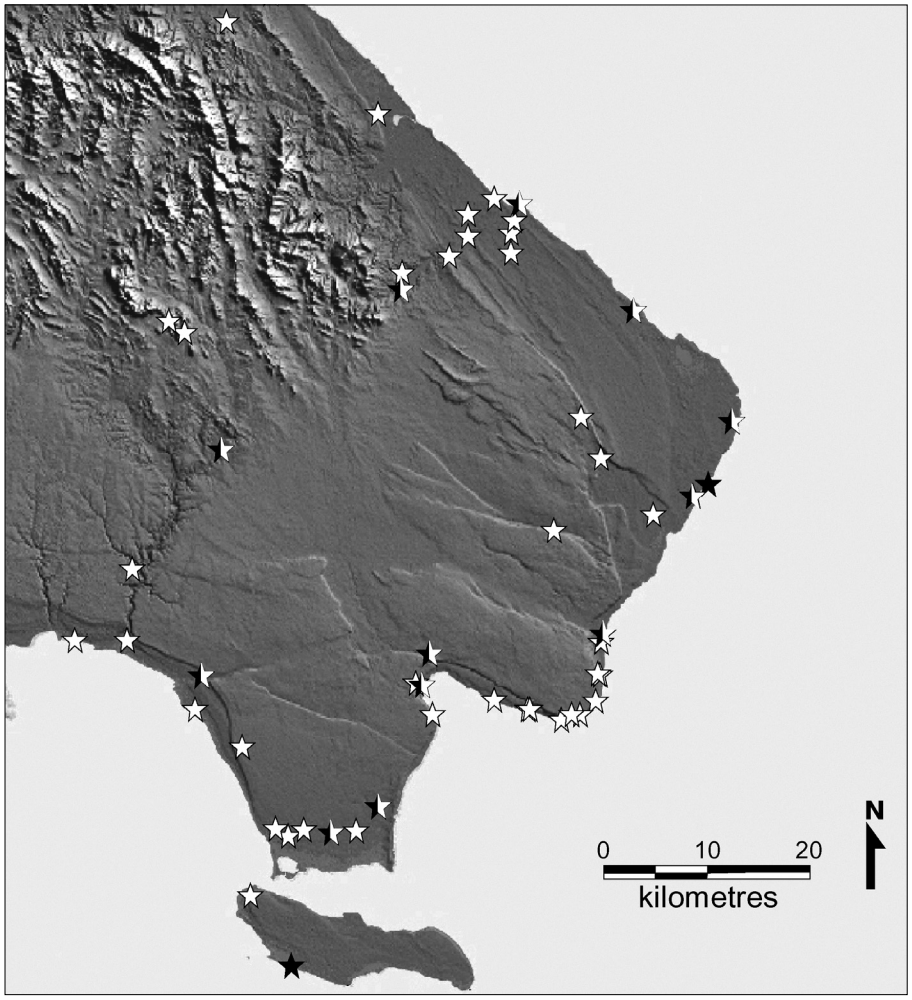

Figure 19. Diachronic distribution of sites. Legend: Black stars: Ostionoid; white stars: Chicoid; black-and-white stars: Ostionoid and Chicoid.

of this transition however needs further investigation, and given the multiple hypotheses about the origins of Chicoid this would be an important line of inquiry on a site level.[65]

The majority of the new sites, i.e. those which only appeared in the late period, seem to be cave sites. Some new settlement sites also appear, however. This all gives the impression of diversification of landscape use, with many more places being frequented than in the previous phase, and possible population increase.[66] The preference for coastal locations will be discussed later with reference to the location choice of El Cabo. This may have to do with a multiplicity of factors including exploitation of marine resources and strategic positioning for communication.

65 Chicoid ceramics in El Cabo are associated with house structures which based on a relative chronology presented in Chapter 6, begin as early as the 9th century AD, i.e. earlier than AD 1200 suggested by Hofman et al. 2007 for the El Cabo Chicoid.

66 This observation is significant with respect to the demographic trends for Puerto Rico, in which Curet notes a population decline in AD 1200-1500 in four study regions, including site abandonment (Curet 2005). One of his proposed explanations for this is migration to Hispaniola.

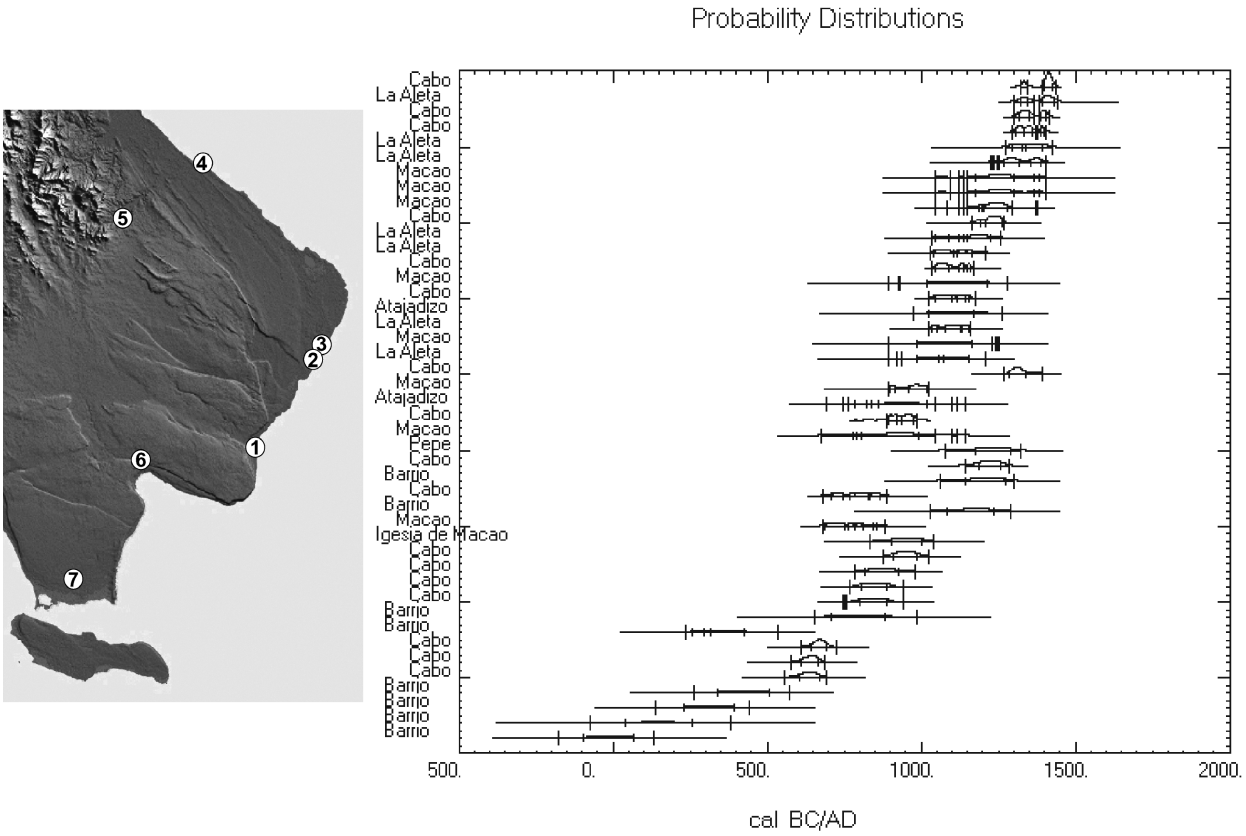

Figure 20. 14C dates from: (1) El Cabo; (2) Sitio de Pepe; (3) El Barrio; (4) Punta Macao; (5) Iglesia de Macao; (6) Atajadizo; (7) La Aleta. (CALIB Radiocarbon Calibration Program, Stuiver and Reimer 1986-2005).

A closer look at the dated settlements reveals the long duration of these sites and the chronological span of Ceramic Age settlement in the eastern region in general. Forty-four dates, predominantly from settlement contexts, including the dates from El Cabo, have been plotted in Fig. 20.[67]

The earliest securely dated contexts with Ostionoid ceramics in the eastern Dominican Republic come from El Cabo, beginning in the late-6th to mid-7th century. At the other end of the scale, El Cabo also shows the latest dates for a Chicoid context in the region. These early-15th century dates are more or less contemporaneous with the dates from waterlogged wood from the Manantial de la Aleta (Beeker et al. 2002; Conrad et al. 2008). It is noteworthy that no indigenous sites reveal 16th century dates given the presence of European material, such as olive jar fragments, in El Cabo, Atajadizo, Playa de Bavaro and Chavón sites, and probably Punta Macao.[68] Regarding the lack of indigenous colonial-dated contexts, a radiocarbon date from the Mona Passage area comes from charcoal and bone deposits from the site of Cueva Negra, on Isla Mona which had a calibrated range between AD 1480 and 1655 (Frank 1998). The mixed sample however is far from ideal.

67 The shell samples have been corrected for the marine reservoir effect (which otherwise give dates several centuries younger). Other samples were from charcoal, human bone and shells. Unfortunately, insufficient context is known from many of these samples to be able to conduct too much detailed analysis (mixed bulk samples taken from arbitrary layers, original laboratory dates sometimes not published). Discussion is limited to Ceramic Age sites (i.e. not Cueva de Berna and Musiépedro) and excludes the broad ranges for Barrio.

68 Assumed to be the Macao mentioned by Las Casas, although no colonial material has been reported from the excavations. However, the excavation history of this site is far from ideal.

3.6.3 Discussion

The eastern region is traditionally seen as an area of ethnogenesis and a reception zone, channelling pre-Arawakan and Arawakan influences into Hispaniola from northeastern South America via Puerto Rico and directly from various mainland destinations. The early start of the Ostionoid sequence in this area in the late-6th century, the plethora of local variations in ceramic styles attested in the literature, and the coastal distribution of sites do not dispute this. Many settlement sites experienced century's long occupation which resulted in varied use of especially the coastal landscape and the development of local coastal networks. Broad ceramic sequences, despite stylistic diversity, are shared throughout the area across many sites (Hofman et al. 2006, 2007, 2008; Ortega 1978a; Ortega et al. 2003; Ulloa Hung 2008; Veloz Maggiolo et al. 1973, 1976).

All in all, and especially in the late phase, the site patterns suggest networks of local settlements, linked to isolated dwellings, fishing spots and gardens, with the inhabitants using local caves for a variety of purposes. Human remains were deposited at various sites throughout the landscape, including both settlements and caves. The relationship between the settlements and plaza sites is not clear. Some sites such as La Aleta and Atajadizo have large and multiple plazas in (possibly) settlement contexts, and other settlements have no identified plaza at all. Whether we should see these as regional centres of aggregation, serving multiple communities, needs more research. The possible although problematic location of a plaza at Punta Espada, with access only possible from the settlement of El Cabo is particularly intriguing in this respect.

Some of these coastal settlements connect to other sites inland along access points up rivers and from the coast through the cliffs. The Bullens (1973) also noted this pattern, inferring a coastal-inland economy with an exchange of farm products for marine produce at shore villages, transported upriver by dug-out. They also note the clustering of sites in distinct ecological zones: small sites at every sand beach along the predominantly rocky coastline, sites on the first inland terrace where good agricultural soils start and inland sites along river banks and at elevation. In contrast, they note an absence of sites in inland areas away from rivers (i.e. they were unable to locate sites in sugar cane and grazing lands).

More work is needed to refine this picture and shed light on the local dynamics. This has recently started with ceramic and clay provenance studies, one of the results of which suggest ceramics (or clay) from Punta Macao were widely represented at other sites in the area, such as El Cabo, and sites in the Parque Nacional del Este (van As et al. 2008, Conrad et al. 2008).

As mentioned, several sites in the area witnessed colonial presence. Contact and colonial Higüey is discussed in the next section.

3.6.4 Higüey: The last cacicazgo *and the pacification of the east*

Higüey or Caizcimú ("nose" or "beginning") is one of the several cultural-geographical entities of Hispaniola named in the historic documents. This *cacicazgo* covered the entire eastern portion of the Dominican Republic, the western boundaries being along the line of Santo Domingo to Los Haitises and the Bay of Samaná in the north (Vega 1980). The map of the cartographer Morales (1508; in Vega 1980) includes Higüey as a province within Caizcimú, whereas Las Casas (1992, Ch 3:298) sees Higüey as a separate kingdom, of which

Macao was also part.[69] That Higüey was populated by ethnically diverse people at the time of contact is indicated by references to "Ciguayos" in the Samaná area, distinct from other groups (Veloz Maggiolo and Ortega 1980). The local political elite significant in Spanish accounts were Higuanamá (a powerful queen), Cotubanamá (a significant *señor* and warrior from the Parque Nacional del Este region), Cayacoa, Inés de Cayacoa (wife and successor of the former), Agüeybana of Saona, and Andrés of Higüey (Anderson-Córdova 1990; Las Casas 1875: Bk 5:356; Bk 3:263; Oliver 2009:191; Tavarez María 1996; Vega 1980). Discrepancies and confusion about the relationship between both the place names (what was a region of what?) and historical personages (who was subordinate to whom?) indicates not only the selective encounters and fragmentary comprehensions of the Spanish colonists, but also the fact that the eastern region was probably not a unified *cacicazgo*, but a historically contingent region with shifting networks of peers. The protean geography and list of historical characters reflects the 18 or so years of changes which took place in the region during the time the various chroniclers were present. The ambiguity in the accounts may also be due to the fact that whereas some *caciques* (Cotubanamá) may have risen to prominence in times of conflict, others (Higuanamá) may have held more stable positions. The region may therefore have been transformed as a military confederation (as Oliver 2009 terms it) only in colonial times, whereas previously it may have been a regional community based on a different set of relationships, such as local networks of reciprocity as suggested by the settlement patterns and regional ceramic distributions in the last section. This historical area will henceforth be referred to as Higüey to discriminate between the westerly half of the *cacicazgo* (comprising the modern-day provinces of La Romana, El Seibo, Hato Mayor, San Pedro de Macoris, Santo Domingo D.N., and Monte Plata), from the eastern coastal zone (present day Altagracia including Isla Saona) which is the subject of this dissertation.

That Caizcimú was seen as the beginning of the island is recorded by Martir de Angleria who states that Hispaniola was conceived of as a *"monstrous living beast of the female sex"*, of which Caizcimú was the head (Harris cit., Keegan et al. 1998). In Harris' analysis of Angleria and the 16th century political geography of the island, Hispaniola was divided into eight pairs of *cacicazgos* with topographical features representing the eyes, mouth, forelegs, hind legs, and vagina (Keegan et al. 1998: Fig. 9.3). The eyes were two caves in the eastern region.

The "taming of the east" (Olsen Bogaert et al. 2007) occurred relatively late. There was a period of more than ten years in which the people of Higüey, although well aware of the traumas and exploitation in other parts of Hispaniola, was mercifully free of direct colonial intervention. Until 1502 there were only 300 Spanish in Hispaniola, and they were limited to the north, central and western parts and Santo Domingo (Anderson-Córdova 1990). It was in these parts, gold rich areas, that the Spanish policies of *repartimiento* and *reducción* forcibly removed the indigenous communities to Spanish towns and placed native people under the ownership of individuals (Anderson-Córdova 1990; Moya Pons 1992). Higüey was not of interest because it was without gold. The physical ill treatment, starvation and demise of the native population to the northwest probably ensured that the dominant response in the east was "horror and disgust at European civilization" (Lévi-Strauss 1955/73:74).

69 Although there are also discrepancies between Las Casas' works in this respect.

However, under Ovando's governorship from 1502, Spanish numbers and their labour demands increased. The newly established town of Santo Domingo relied on a supply of bread from Isla Saona, the trade in which persisted until in 1503 an infamous incident sparked the first war of Higüey, recounted in detail by Las Casas. A Spanish mastiff, probably after deliberate incitement, attacked and killed an indigenous *cacique*. Spanish soldiers were killed in return whereupon Ovando sent hundreds of troops to wage war, resulting in the death of many hundreds of native people (Anderson-Córdova 1990; Churampi Ramírez 2007; Las Casas 1875; Oliver 2009). The heads of local villages eventually brokered for peace and accepted to serve the Spanish, continuing to supply them with bread, and building a fort for them in the area (Oliver 2009:196-197).

It was unrelenting ill-treatment which in the end broke the Higüey *cacicazgo*. Following the truce, the colonial abuses wrought on the local people bred resistance which culminated in the second war of Higüey in 1504. The indigenous people of Higüey had been witness to the course of Spanish-native relations in other parts of Hispaniola. They had seen how strategies of flight, acquiescence and compartmentalization ultimately did not work (Anderson-Córdova 1990). In Higüey, in contrast, the opposition was impressive and attacks and counter-attacks lasted ten months (Churampi Ramírez 2007). The new war again led to severe loss of native life and the execution of among others, Cotubanamá. This second war marked the definitive end of the *cacicazgo* of Higüey. Afterwards the remaining population was divided among *encomenderos* and two Spanish settlements, Salvaleón and Sancta Cruz de Aicayagua.

One final incident in the colonial history of the region was a plan by local *caciques* to destroy the fort town of Salvaleón (Boca de Yuma), spurred on by resistance to the Spanish in Puerto Rico in 1510/1511. This was meant as part of a wider coordinated attack on colonial interests in Hispaniola but was quashed (Oliver 2009:214). Anderson-Córdova (1990:286) estimates that there were only 2000 native people in Hispaniola by 1529 (not including those people imported from other islands to swell a dying work force) out of an original population which she estimates to have been between 250,000 to 500,000 (1990:156).[70]

El Cabo would have been witness to these traumatic events, possibly sheltering those who fled Isla Saona and their villages in the Parque del Este during the first war in 1503, and contributing warriors to resist the Spanish. The community would have been only too aware of the incidents and plight of the neighbouring communities, as well as the rest of the island, and keen to avoid disruption on the scale seen elsewhere. The senior members of the El Cabo households probably took the decision to assist Higuanamá and Cotubanamá by sending inhabitants to resist the Spanish in 1503 and 1504 in the periods of warfare which lasted over a year. In the short-lived truce period, they may also have provided labour and produce to try and mitigate the impact of the Spanish demands on the networks of communities as a whole. In the end, after the defeat of the second war and the round-up of the rest of the Higüey population, El Cabo may have been abandoned. This sad history would have been typical of the way native communities were exterminated by attrition, in which reserves, morale and population were worn down and extirpated by two years of direct conflict and the pressure of *demora* labour demands (Anderson-Córdova 1990:281).

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70 Estimates for the contact period indigenous population based on colonial sources range from 60,000 at the lower end, to 8 million at the upper end (Verlinden 1973 and Cook and Borah 1971, cit. Anderson Córdova 1990:196).

The material evidence for the native response in El Cabo to the Spanish presence will be discussed further in Chapter 6.

3.7 El Cabo archaeological research history

"You don't want to dig there, it's already been done."

Frequently heard assessment of our endeavours from locals during the first year of our investigation.

El Cabo has not been an isolated focus in previous research. Rather, it has always been incorporated in larger research areas and characterized as one of the numerous coastal sites which occur along the coast at regular intervals between Cabo Engaño and Santo Domingo. A more or less continuous coastal transect over 30km long (and of varying widths) from south of Cabo San Rafael to Punta Cana has been more intensively investigated by survey in recent years. This land is in private hands and subject to beach urbanization and mineral extraction. Although these surveys have been only rather superficial and largely limited to the coast, the results allow one to tie El Cabo into the material history of the immediate area and provide site characteristics for comparison.

Certainly El Cabo has long been recognized as a site by looters, collectors and local *buscadores*. Less institutional, but very thorough artefact retrieval has been carried out over the years concentrating in the northwest of the site. Those commissioning collection from the site include Dr. Estrella, who has artefacts probably from El Cabo in his private collection, and also possibly Samuel Pión whose collection from the east of the Dominican Republic now fills the Museum of Altos de Chavón.[71] Harold Olsen also reports looting by foreign tourists (Olsen 2001a). In the years we worked on the site, we met Hector Nuñez (as mentioned in Chapter 2) who regularly digs the zone with a team of friends and sells artefacts. We mapped some 25 pits in the site of El Cabo ranging from 3 to 18m² which had been dug to remove artefacts, some reportedly associated with burials. Spoil heaps still surround these pits.

The site attracted the official attention of the *Museo del Hombre* in the late 1970s. Two test-pits were dug by Museum researcher Elpidio Ortega under the direction of the former director of the *Museo del Hombre*, Bernardo Vega, and with the local field workers from El Cabo village, including the then future mayor of El Cabo Lionel Avila[72] (Olsen 2004; Ortega 1978a, 2005). This test-pitting was part of a series of investigations carried out by the Museum in sites along the east coast (Ortega 1978a). Over twenty years later, El Cabo was again identified in surveys (Project Carmelo and Project Juanillo) carried out by Harold Olsen Bogaert of the *Museo del Hombre*. These investigations and their results are discussed below, as well as the latest investigation of the immediate area of the site by Erlend Johnson, then MA student of Leiden University.

71 This collection consists of 3000 unprovenanced objects, said mostly to come from the Río Chavón area (see Bluhdorn and Kaplan eds., 1992; Mañón Arredondo et al. 1971).

72 Pictured at a sieve in Ortega 1978a. Lionel was the mayor of El Cabo throughout our fieldwork 2005-2008.

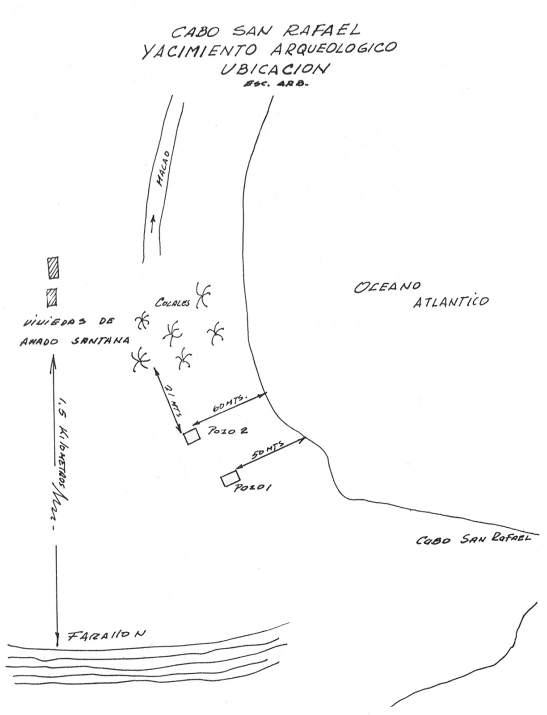

Figure 21. Sketch of the location of the site of El Cabo in relation to Amado Santana's former property and the Museo del Hombre*'s test-pits (copied from Ortega 1978a; reproduced in Ortega 2005:118).*

3.7.1 El Cabo in 1978

Ortega described El Cabo as an extensive midden with a modern house on top (Ortega 1978a, 2005). The location of this house, now gone, is probably the looted northwest part of the site, now a coconut grove where donkeys are tethered (Fig. 21).

Two test-pits were excavated, the exact locations of which are rather difficult to determine from Ortega's sketch.[73] The first, *pozo no. 1* (1×1.25m), was probably excavated more or less on the line of a present day fence in the shallow, later occupation area of the site. Ortega encountered only 20cm of dark, humic, sandy soil before hitting bedrock. Ceramics, including *adornos*, were Chicoid-decorated, with incised and punctuated designs. Faunal remains included *Cittarium pica*, landsnails (*Polydontes* spp.), limpets (*Fisurella* spp.) and fish bones.

The second test-pit, *pozo no. 2* (1.2×1.2m), was probably in the vicinity of our 1×1m unit 85-44-00 (Fig. 27).[74] Five arbitrary levels of 20cm were excavated. A calcareous layer, interpreted as a house-floor was encountered at 15cm bsl. Below this, to a depth of 69cm bsl, was a layer of dark sandy soil with ceramic and faunal remains. At 80cm bsl large stones were encountered which covered the bottom, and the last 10cm was yellow sand with scant ceramic remains. Ortega notes that the top 60cm contained incised-punctated Chicoid sherds, and a stone bead. A section of a stone collar was encountered at 60cm bsl. This led Ortega to speculate about the presence of a ceremonial plaza (*ibid.* 2005). In the last levels ceramics are red and burnished with appliquéd zoomorphic deco-

73 He notes for example that the Cabo San Rafael headland is 2km away from the properties depicted as *viviendas de Amado Santana*, when in fact it is more like 5km.

74 The location of this unit early in 2005 was chosen to compare to the *Museo*'s findings in Ortega's report.

ration, i.e. Ostionoid. Faunal remains again included *Cittarium pica*, landsnails (*Polydontes* spp.), *Chiton* spp., limpets (*Fisurella* spp.), bivalves (*Codakia* spp.), and fish bones.[75]

All this led Ortega to conclude that two different occupations were present at the site: the first characterized as transitional, and representing either late Ostionoid or early Chicoid. A second, later occupation is that of the Chicoid. Ortega speculates that this was a minor *cacical* village under the dominance of Higüey (*ibid*. 2005:115).

3.7.2 El Cabo in 2000

Nearly 25 years later, in 2000-2002, mineral extraction and private development in the El Cabo region gave the Museum the opportunity to conduct semi-systematic walkover surveys with GPS. This work was part of the Carmelo and Juanillo projects, and was carried out by Harold Olsen Bogaert (Fig. 22). Olsen's predictive modelling based on bibliographic, cartographic and photographic sources was very successful; archaeological remains were encountered in over 20% of predicted locations in the Juanillo project and almost 50% in the Carmelo project.[76] It is thanks to his detailed maps and descriptions that so much is known about this section of the Cabo coastline. Olsen's inventorying surveys, later supplemented by Erlend Johnson's survey (Johnson 2009) provide

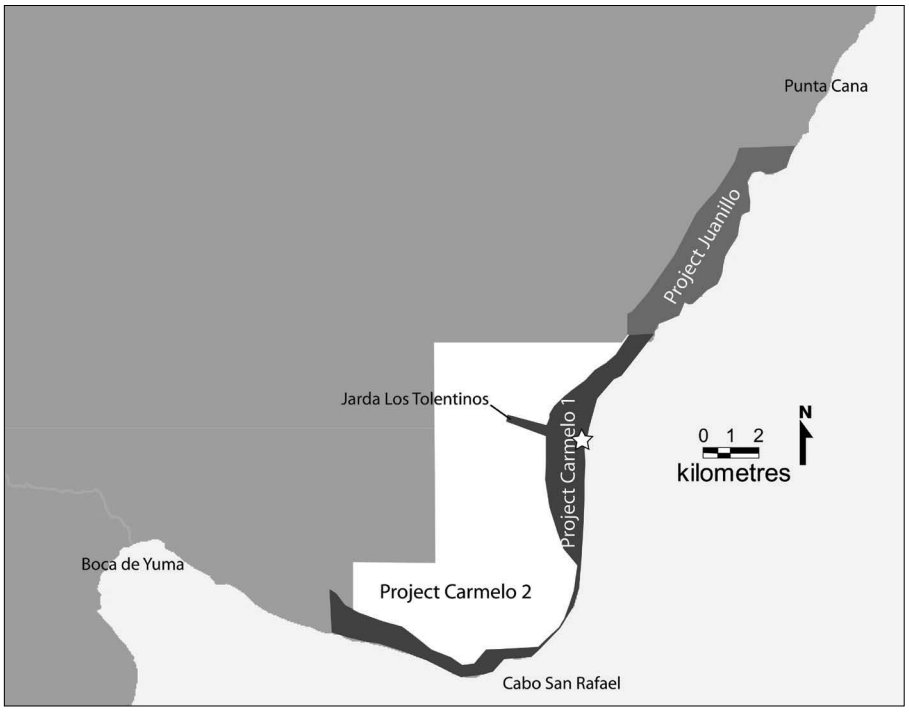

Figure 22. Areas surveyed in previous projects. Johnson's survey in 2008 covered the same area as Project Carmelo 1 as far as Cabo San Rafael. Legend: star: El Cabo site.

75 As a note on Ortega's observations, it is more likely that the calcareous level encountered in *pozo no. 2*, rather than representing a house-floor, is a layer of beachrock, or lithified beach sediment, i.e. a natural layer rather than one anthropogenic in origin. Similarly, the large stones found at the bottom of the test-pit, on top of a near sterile layer of yellow sand, form another, naturally occurring, geological layer. Although the stratigraphy and depth of the deposits described roughly correspond to what we also encountered in 85-44-00 and the adjacent 2×2m² unit (85-34-97), the neat distinction between the upper 60cm of Chicoid material and the lower 40cm of Ostionoid ceramics does not correspond to the somewhat more mixed assemblages and the intersecting of features and archaeological layers we found.

76 This goes some way to countering remarks made by those engaged in informal digging at archaeological sites about how archaeologists do not have an understanding of where archaeological sites are (Hector Nuñez, pers. comm. 2007).

Sitio No.: 9	NOMBRE: Yacimiento Arqueológico No. 5. El Cabo
Localización: Provincia: La Altagracia. Municipio: San Rafael del Yuma. Sección: Boca de Yuma.	
Coordenadas: 19Q0558133, UTM2035586	**Plancha:** 6571 III.
Altura sobre el nivel del mar: ± 7 mts.	
Descripción general: Área monticulada a orillas del camino, cercano al mar. Presenta abundante fragmentos de burén, cerámica chicoide, caracoles, etc. Los moradores del lugar reportaron la presencia de osamentas humanas en el área cercana a la escuela. Al parecer fue un sitio de viviendas y de entierros durante la prehistoria.	
Actividades realizadas: • **Reconocimiento de superficie:** positivo.	

Figure 23. Site record of El Cabo from the Proyecto Carmelo prospection report (Olsen 2000).

a very good documentation of surface archaeological deposits and other sites from which to gain an impression of the demography, dynamism and gamut of exploitation of the area. Sites comprising single sherd drops, settlement sites, fishing spots, gardens, burials, caves, rock art, and flooded sinkholes and caverns attest to a wide-ranging indigenous presence throughout the Late Ceramic Age.

3.7.2.1 Project Carmelo

The 2000 Project Carmelo survey (project name: *Proyecto de Explotación Minera Carmelo*)[77] covered a coastal transect between the sea and the cliffs and extended from the end of the Cap Cana property southwards to several kilometres round the Cabo San Rafael headland. The survey went up into the cliffs at a point behind El Cabo called Jarda Los Tolentinos, one of the only access points inland from the coast (Project Carmelo 1; Fig. 22). The focus of the survey was on previously documented sites and areas of potential interest (water sources, etc.) identified from aerial photos and topographic maps. Sites were identified from surface remains and 50×50cm shovel tests were made to check stratigraphy and depth of deposits when surface remains were not present where predicted. Fifteen locations tested positive for archaeological remains.

One of these was the site of El Cabo, already published by Ortega (1978a). Olsen recorded El Cabo as location no. 9, archaeological site no. 5: El Cabo (Fig. 23).

Twenty-two years after Ortega's visit, El Cabo was described in much the same terms: as an area of raised midden deposits along the edges of a road, next to the sea at 7m above sea level. The site showed abundant fragments of griddles, Chicoid pottery (food vessels) and marine shells. Local people reported the presence of human bone material close to the school. Olsen did not make any shovel tests, but concludes from the high density of surface deposits and anecdotes describing human remains, that this was a village settlement in which Taíno groups practised horticulture and exploited the marine and land-based resources in the area.

In 2001 the survey area was extended to include an area on top of the cliffs (Project Carmelo 2; Fig. 22). This transect ran from the cliffs inland, covering a polygon 4-8km west of the cliffs. Only three superficial surface scatters were documented which were negative in shovel-testing. Due to the aridity of the

77 To extract high quality limestone for bauxite production.

cliff-top area and its thin soils, as well as scant archaeological remains, Olsen interprets this as an area of transit and occasional exploitation for collecting and minimal horticulture, in much the same way as it was exploited by farmers at the time of the survey. He does not see this as an area worthy of permanent habitation. However, in 2008 members of the Leiden team visited the site of "El Bartolo", within Olsen's survey area (Johnson 2009:79), and in 2007, outside the survey area, the site of La Aleta[78] to the north, both of which had the characteristics of settlement sites.

In total, the 2000 and 2001 surveys covered ca. 70km² in the immediate coastal and inland vicinity of El Cabo.[79]

3.7.2.2 Project Juanillo

Project Juanillo was an inventorying survey carried out by the Museum in 2001, north of El Cabo, again under Harold Olsen, in the former village and surrounding area of Juanillo, now Cap Cana property (project name: *Proyecto Inmobiliario Juanillo, Cap Cana*). This transect adjoins the Project Carmelo survey area (Fig. 22). Cap Cana property in turn adjoins Punta Cana to the north, the location of the sites of El Barrio and Sitio de Pepe.

The Project Juanillo survey ran 8km along the coast from Punta Cana to Caletón Blanco in the south, and 1.5 to 2km inland. This is an area of approximately 12km², much of which was dominated by a coastal swamp (Cinega de Pantanal), and includes numerous bays and entrances to the sea. In total 39 archaeological sites were recorded. These 39 separate sites clustered into 16 areas, at least two other settlements at Caletón Blanco, the location of the former village of Juanillo, and Caletón de Bobadilla from the clustering of GPS points in natural beach areas.

The majority of sites, mostly open air, but some in caves with sources of water, were situated within 250m of the sea and all had early and late ceramics. This was followed up in 2002 by rescue excavations (most the archaeological sites had already been degraded due to landscaping and the circulation of heavy vehicles) in each of the 16 areas. In total about 370m², mostly in 2×2m units, was excavated down to bedrock or sterile sand.

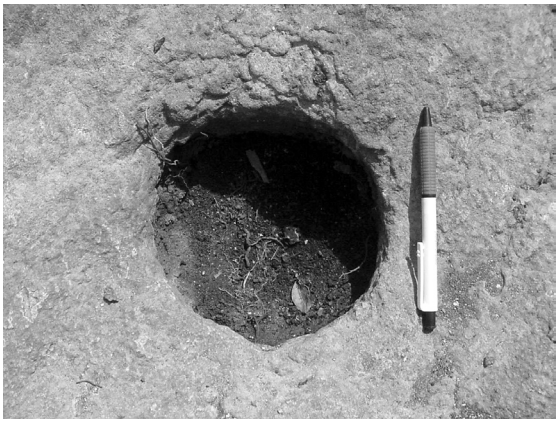

Figure 24. Posthole from Caletón Blanco (Olsen 2002).

Like in El Cabo, archaeological remains were either on the surface or very shallow (<5cm). The stratigraphy of the excavated units mostly consisted of a thin layer (5-50cm) of humic sand on top of bedrock. In some cases, where the underlying geomorphology was not shallow bedrock, the archaeological remains reached depths of 150cm bsl. Remains recovered consisted of marine and terrestrial gastropods, Chicoid and Ostionoid ceramics, including griddles, tools and some paraphernalia. Olsen reconstructs the vessel forms as small bowls, boat-shaped open bowls and jars. Chicoid ceramics are in the majority.

The crouched primary inhumation of a young woman was excavated on the coast by Caletón Blanco. Chicoid sherds in her vicinity led to an interpretation of a Chicoid

78 Not to be confused with the Manatial de la Aleta and the Plaza de la Aleta in the Parque Nacional del Este.

79 Olsen's reports recommended fuller archaeological investigation of these sites and a protection zone radius of 1km from the centre of each site as well as no mineral extraction within a 1.5km radius of the sites (see Olsen 2000: Chapter 6).

date for the burial. As mentioned, this was probably a settlement context. Features interpreted as postholes were also encountered, cut into the bedrock, also evidence for settlement (Fig. 24).

No radiocarbon dates were obtained from the investigations, but the presence of both early and late ceramics (with the majority being later) and the lack of European material indicate activity at least throughout the Ceramic Age, and especially in the Chicoid period.

3.7.3 El Cabo in recent fieldwork and historical reports

Survey work in the local El Cabo area by members of Leiden University and Alfredo Coppa from La Sapienza University, as well as an MA thesis by former Leiden student Erlend Johnson increased knowledge of the cultural landscape of the site. The latter study in particular focused on the precolonial use of the landscape of the immediate area of El Cabo (Fig. 22), especially with respect to water sources and landscape features (Johnson 2009).

In an informant-led survey of the El Cabo segment (and minimally on top of the cliffs), Johnson (2009; Fig.6.6) identified 52 sites with archaeological remains which together with sites identified by Olsen brings the total to 66 sites. Sites ranged from single sherds to more dense remains around water sources, in certain caves and around large boulders.

Johnson's results indicate that certain types of landscape features, such as large caves, boulder zones and flooded caverns, were actively sought out by local inhabitants for domestic uses and bathing.

There are no drinking water sources in the immediate vicinity of the site today. Two sources near-by, one 1.5km away from the site, are technically drinkable, although brackish, and are used as non-preferential sources by some local inhabitants today (Johnson 2009:97). Most water sources in the karst, even the wells dug by the present-day villagers, are saline and used for purposes other than drinking. This is due to the proximity of the sea and salt water/fresh water mixing (Johnson 2009). However, the lower sea levels documented in the Ostionoid (Keegan 1995) may have affected the salinity of karst water sources in the past, and even very small and local fluctuations may have made the difference between potable and non-potable. Higher rainfall and lower sea levels may have tipped the balance in favour of past inhabitants and meant that these water sources were drinkable (3.4.2). If this was the case, then local water sources (<1km) would have been potable from the start of habitation in El Cabo up to AD 1000 or 1250 when wetter condition returned and sea levels rose (Keegan 1995; Lane et al. 2009).

The best and most potable sources today are on top of the cliffs at a distance of 5km in the vicinity of the Bartolo site. Modern inhabitants collect rainwater in plastic drums, and rainwater collection would have been a likely activity of past inhabitants also (Johnson 2009:99). Johnson interprets the myriad flooded caverns and caves in the area predominantly as bathing places, and indeed, these are the landscape features with the most evidence for past use (*ibid*.:97).

A transect (30×540m) made in the north of Johnson's survey area, running from the cliffs to the sea, in an area otherwise devoid of sites, led to the recovery of over 200 sherds, showing that there is generally a thin carpet of human activity even in "off-site" areas. These sherds, as with the other sites in the segment, cluster either along the base of the cliffs, or more often along the coast, and permit one to infer pathways along these routes as the major arteries of access in the segment. Doubtless other pathways connected various sites to the El

Cabo settlement. El Cabo is the largest and only settlement site in the coastal segment, with other possible settlements located on top of the cliffs at La Aleta[80] and El Bartolo.

In terms of the diachronic picture, Johnson identified a few sites with early (Ostionoid) ceramics, and the majority with late (Chicoid) ceramics (2009:109-112). This indicates continuity in landscape use with a diversification in the later period.

A conglomeration of non-habitation sites in the southern end of the El Cabo segment before the Cabo San Rafael headland, which includes rock art sites such as incised faces on speleothems and large isolated boulders and possible human remains (anecdotal), suggests activities of a more ceremonial kind (Johnson 2009:112-113). This is also the location of de Boyrie Moya's purported plaza site. Other non-settlement activities are evidenced by caches and isolated finds. This is the case with 3000 dog and seal teeth with incised Chicoid motifs found by local children near a rock overhang in the near vicinity of El Cabo in the 1970s (Ortega 1978b:285; 2005:116). Although the precise whereabouts of this cache is not known, it is thought to come from within the El Cabo segment. In connection with this, an almost identical perforated, incised dog's tooth was recovered from a posthole from excavation in El Cabo (Fig. 25; and see Structure 29, Chapter 5).

Tantalizingly, local resident Belto Villa reported the find of a stone *duho* from a cave in the area some years ago. He and other villagers also report sporadic finds of trigonoliths and other such paraphernalia which they passed on to collectors.

The map (Fig. 26) gives an overview of the sites mentioned in the text. The cultural landscape of El Cabo presents a full and diverse picture.[81] As in the wider eastern region, the concentration of sites is mostly coastal (a range of 1.5 to 6km between the sites from El Cabo to El Barrio), although the identification of larger, possibly settlement sites on top of the cliffs, and in other propitious inland locations (such as indicated by the name Punta Salinas, on the edge of a coastal lagoon) indicates that more research might change this picture. Settlements, surface scatters and an incised monolith at Hoyo de Ramón (10km to the west of El Cabo) (Veloz Maggiolo et al. 1976:246, 321) indicate that this ecological zone may have been just as intensively lived as areas on the coast.

El Cabo is the settlement focus of a small stretch of coastline, including the hinterland of the coastal segment. Its immediate neighbours were El Bartolo, 3.5km away on top of the cliffs behind, settlements at Yuma ca. 15km to the west (not shown), and a probable settlement 5km to the north at Caletón Blanco. These sites were linked to each other via coastal routes and through access points in the cliffs.

The row of cave sites to the southwest, round the San Rafael headland, some with petroglyphs, and others with ceramic and human remains, is equidistant between sites in the Yuma Bay area and El Cabo. Such sites, as well as the possible Punta Espada plaza at the San Rafael headland, and the monolith mentioned above, may have linked multiple settlements both on the coast and further inland. More research is needed to define these local relationships.

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80 NOT the same as the Parque del Este sites of the same name.

81 Sites mapped are from a database of published literature and unpublished reports from the *Museo del Hombre* (Olsen 2000, 2002) compiled by the current author. The location of El Bartolo is taken from Johnson (2009). For a detailed map of all recorded sites in the El Cabo segment see Johnson (2009: Fig. 6.6).

At a smaller scale, other sites in the El Cabo segment should be seen in relation to this settlement. Johnson identified flooded sinkholes used as (non-drinking) water sources and sherd scatters within half a kilometre of the centre of the site and which could be interpreted as peripheral to the settlement (2009:92). Other more distant ceramic scatters represent activities associated with water sources such as bathing spots, fishing points, and beach launches, and others around caves and locations with human remains or rock art. In other places, sherd concentrations, especially of griddle pieces may have been isolated houses or temporary shelters (Johnson 2009:73). The communities who lived in El Cabo, both throughout earlier and later periods, chose specific locations for a gamut of domestic, subsistence, mortuary, and ritual activities. Despite the apparently non-optimal conditions of its setting in terms of lack of agricultural soil and potable water, El Cabo was far from marginal - it is embedded in a fully lived landscape.

The immediate landscape of El Cabo is reiterated in the similar hubs or nodes which are visible at the larger, regional scale along an 80km stretch of coastal settlements between the larger centres of Atajadizo in the west, and Punta Macao in the north. El Cabo's settlement history is one shared by indigenous sites across a wide region. Of course each was characterised by its particular landscape and social setting, dependent on its position within the local settlement network. A characteristic peculiar to El Cabo is its location on a coastal cliff with no easy access to the sea. By contrast, Caletón Blanco, Caletón de Bobadilla, Sitio de Pepe, and El Barrio are all on natural sandy beaches. The settlement location of El Cabo may therefore be partly explained in terms of its position in a network of coastal settlements, and this was more important than access to the sea. Whether this is the case is something which can be examined by a closer look at the site itself.

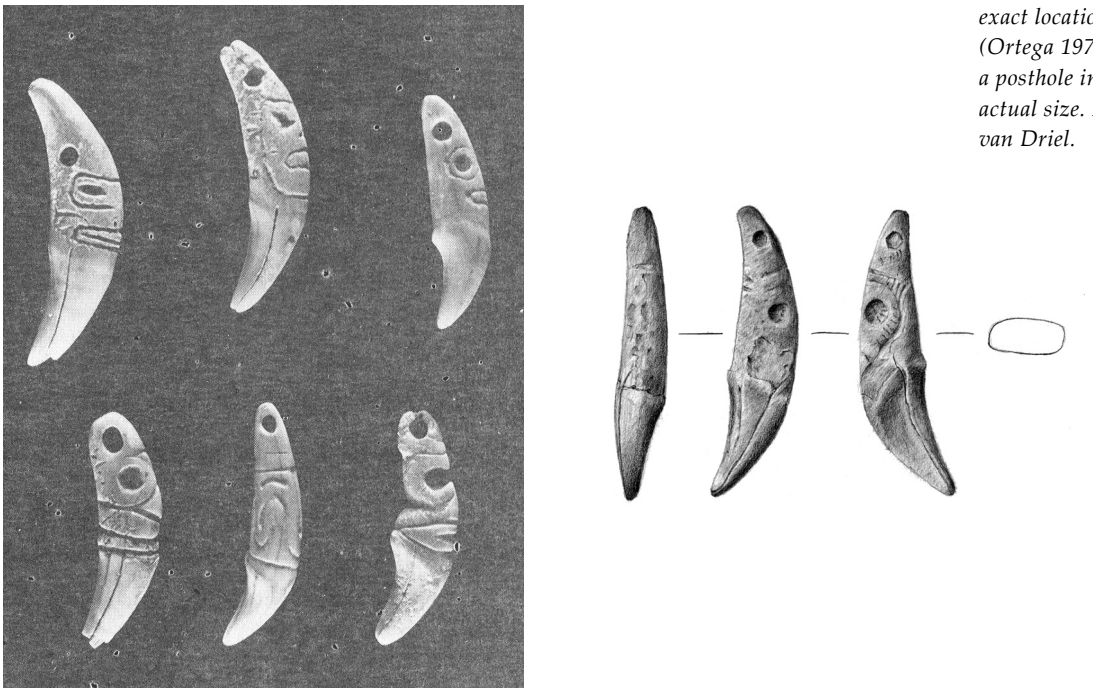

Figure 25. Incised and perforated dog's teeth. Left: from a cache of thousands of teeth in the El Cabo site environs, exact location unspecified (Ortega 1978b); Right: from a posthole in El Cabo site, actual size. Illustrator Erik van Driel.

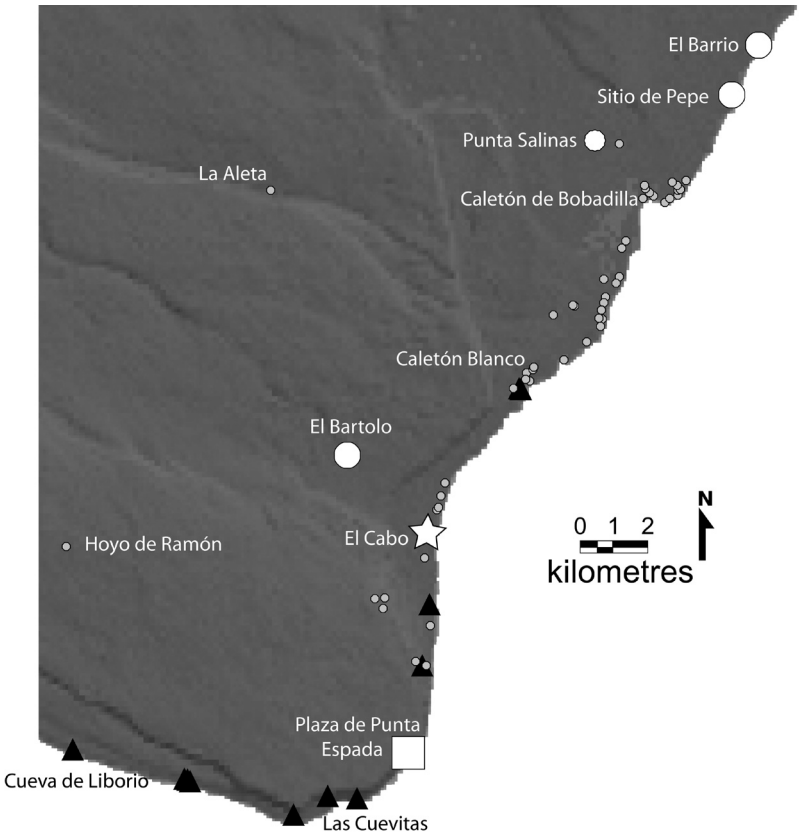

Figure 26. Distribution map showing 65 archaeological finds and sites in the immediate area of the El Cabo site. Unnamed caves and find spots are those recorded in Olsen surveys. Legend: black triangles: cave sites; squares: plaza sites; grey dots: surface scatters; white circles: settlements.

3.8 Discussion

In terms of their ecology, culture-history, settlement dynamics and colonial history, the eastern coastal plains of Higüey emerge as having a specific identity. The top or head of the island in Amerinidian sacred geography, the riverless and rocky environment offered hidden fertility in its limestone pockts and underground water sources. Another characteristic of the zone was the exploitation of uncultivated *zamia* from the Archaic, which did not necessitate the intensive mound agriculture of other parts of Hispaniola, and which at least by colonial times was eaten as a protein and carbohydrate rich staple. How much the ecology of the karst environment (i.e. a reliance on *zamia* and marine resources) was responsible for the predominantly coastal distribution of sites, or a product of research bias in site identification is not completely clear, however, what is clear is that both settlement dynamics and ceramic sequences indicate that habitation locations were stable through time. In the later, Chicoid period, there was a diversification in use of other areas of the landscape such as caves and plaza sites. Moreover, clustering of special activity sites around settlements creating local hubs, as well as relationships with sites further afield, suggests an intensive coastal network, which probably extended across the Mona Passage to Puerto Rico. It was possibly a combination of factors, as well as the openness of this region to external migrations and centuries of ethnogenesis, and possible continued demographic growth (not the decline seen in other areas of the Greater Antilles and northern lesser Antilles in the late period) which resulted in the development of and complexity documented in the Chicoid populations of this area.

That the coastal location of sites is not just related to marine exploitation, but also social factors such as the position of a local settlement within a wider network, is attested by the fact that El Cabo does not have direct or easy access to the sea but instead appears to serve as both a link in a coastal network as well

as with sites accessible from the coast in inland locations (El Bartolo). The indigenous inhabitants of Higüey had over a decade to witness and prepare their response to colonisation, although they were eventually reduced in numbers and resources and suffered social collapse due to sustained periods of warfare.

The historically low population density of the eastern region has meant that precolonial sites and landscapes have remained relatively intact, especially in the protected area of the Parque Nacional del Este. This situation is currently changing dramatically with the advent of large-scale coastal development.

The next chapter homes in on the site of El Cabo itself, and the excavation stratgeies employed at the site.

Chapter 4

Current research in El Cabo

Understanding an archaeological site is always a process which develops over a number of seasons. Hence the methods employed in each season at El Cabo were different, but ultimately focused on the main research question to reconstruct the spatial, temporal and material aspects of domestic life. The contingent methodology was documenting the organization of settlement space and domestic deposits, and the main fieldwork focus was excavation of horizontal units by hand to document artefacts and features.

4.1 Introduction: the processes of discovery or *rediscubrimiento* in El Cabo

From 2005 to 2008 fieldwork was carried out on the site of El Cabo in the months of July and August by a combined field team from Leiden University and the village of El Cabo (predominantly members of Belto Villa and the mayor, Lionel Avila's families) under the direction of Dr Menno Hoogland and Professor Corinne Hofman (Leiden University) and in collaboration with the *Museo del Hombre Dominicano*.[82] The team in the field numbered approximately 20 people at any one time.

Additionally, two geophysical assays using magnetometry and ground penetrating radar were carried out on the site: the first, a pilot-study in the spring of 2006, and the second a fuller survey in the spring of 2007, funded by the National Geographic Society. Both projects were carried out in collaboration with Dr Branko Mušič of Ljubljana University, Slovenia. The results of this research are pending and will appear in a forthcoming site monograph.

What follows is a brief chronological summary of the fieldwork seasons to give an impression of how excavation strategy and site interpretation developed over the course of the four seasons. The focus of interpretation is on the archaeology of the main unit and its built structures as this is the subject of this dissertation. Thereafter follows a more detailed description of the fieldwork procedures, field strategies and results.

4.1.1 Summary of 2005 fieldwork[83]

The excavations in El Cabo in the summer of 2005 were carried out between July 21st and August 12th. A total area of approximately 70m² was excavated by hand. The aims of the fieldwork were:

(1) To document levels of site preservation.

(2) To open large units to recover features, houses, burials, etc.

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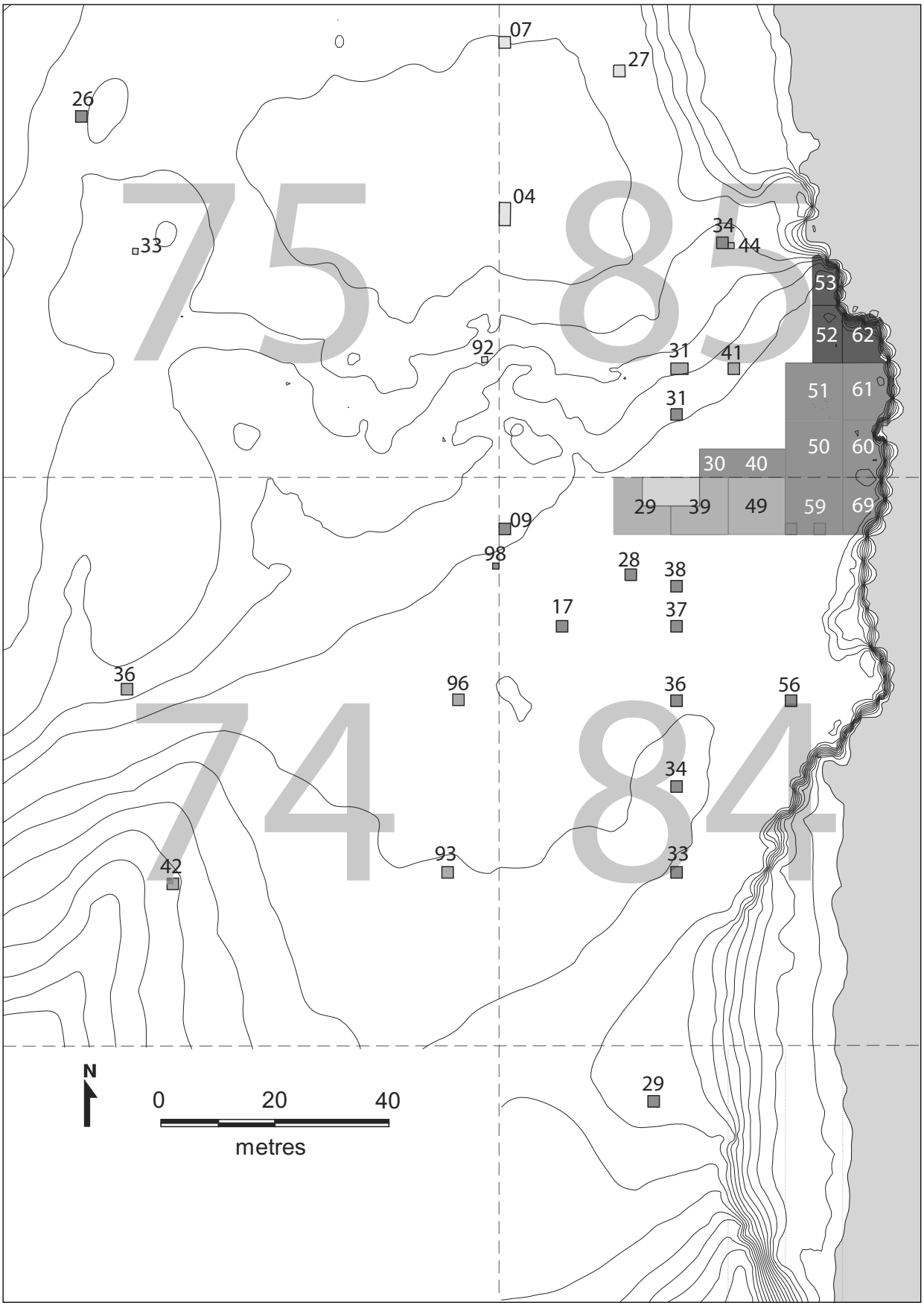
82 From 2005 to 2007 under its director Lic. Carlos Hernández Soto, in 2007 and 2008, Dr Marcio Veloz Maggiolo.

83 See also Hofman et al. 2005, 2006 on the preliminary results of the 2005 excavation campaign in El Cabo. "Block A" in this report refers to unit 85-04 and "Block B" refers to unit 84-29/39.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(3) To open smaller units in order to verify the stratigraphy and chronology of the site that was reported by Ortega (1978a).

(4) To collect a sample of the range of artefacts including ceramics, lithics, shell, coral and animal remains.

(5) To gain a first impression of the geomorphology.

A grid system was set out over the terrain and a series of eight 1m² units were excavated based on: (a) proximity to test-pits dug by the *Museo del Hombre Dominicano* in the late 1970s; (b) auger test data; (c) assumed site limits; and (d) areas of geological/soil variation (Hofman et al. 2005). Two of these units were later extended because features were encountered. The first was a 2×4m (85-04) unit in the northern portion of the site. Clear and regular posthole features were encountered at 30cm bsl. The second, a 5×10m (84-29/39; see light coloured rectangle in the main unit, Fig. 27) unit on the highest part of the raised coastal promontory of El Cabo revealed features cut into the bedrock, overlain by a thin packet (10-15cm) of humic sandy soil containing midden material (faunal remains and ceramic sherds), including part of a lithic belt or stone collar. All features were fully excavated and documented.

Over 200 features, in both the sand and bedrock units, were documented and excavated in this first season revealing a palimpsest of pre-Columbian occupation over a wide area of the site. In terms of the material assemblage, a similar trajectory was witnessed in the ceramics as in the rest of the eastern region, with lower levels producing red, thin-walled, plain Ostionoid ceramics, and upper levels producing the more baroque, coarse Chicoid pottery. A horizontal segregation of these ceramic phases was also tentatively forwarded on the basis that in the northern portion of the site both styles were present, whereas the shallower southern part produced mainly Chicoid, and the 5×10m unit exclusively so. Based on these observations, and to investigate the Chicoid domestic setting, it was decided in future seasons to concentrate on this upper, southern part of the site, which thereafter became the focus of the excavation in 2006-2008.[84]

4.1.2 Summary of 2006 fieldwork[85]

Excavation in summer 2006 was carried out on the site of El Cabo between July 4th and August 11th. A total area of approximately 307m² was excavated by hand. Questions enumerated for the 2006 field season were the following:

(1) What is the extent of the posthole features in the bedrock in the southern/Chicoid part of the site? Are any structures discernible in enlarged trenches?

(2) Can we refine the site extents as inferred from the 2005 auger and test-pitting campaign, i.e. estimating the western limits of the site?

(3) What is the relationship between the two cultural components witnessed at the site? Do the differences in pottery styles represent a continuous occupation sequence through time? Are there two spatially and chronologically distinct periods of habitation?

Figure 27. Overview of units excavated in El Cabo and referred to in the text. Large numbers are zones, smaller numbers are sectors. Units coloured from light (2005) to darker (2006, 2007, 2008).

The fieldwork was concentrated on two fronts: extension of 84-29/39 (5×10m) to a 10×30m unit (Fig. 27; sectors 29, 39, and 49), and excavation of 2×2m units mainly in the southern part of the site (to answer research question (1)).

84 Eventually becoming a unit of 1030m².
85 See Hofman et al. 2008.

The decision to continue enlarging unit 84-29/39 based on the dense clustering of features and the presence of latest phase pottery here was bolstered by a radiocarbon date from charcoal from the fill of a posthole (F84-29-30) which gave a date (calibrated, 1 sigma) of AD 1399-1428 (GrN-29035). The preservation of the features in this area was excellent, the marks of manufacture (vertical chiseling) often visible on the inside walls of the postholes. However, material recovered in 2006 and a second 14C date (AD 797-912, calibrated, 1 sigma, GrN-29932) from a C*ittarium pica* from layer 1 (84-39-29) showed that the situation was far more complex than initially anticipated. A small number of Ostionoid sherds also appeared in this mainly Chicoid unit, in particular to the western end. As more surface area was excavated, overlapping circular structures and post alignments became increasingly apparent. The burial of a neonate was recovered from a shallow pit in this unit and differential clustering of sweeping accumulations of midden material was observed in the excavation of the squares.

On a site level, Corinne Hofman's pottery analysis sought to come to terms with the huge array of local terms (i.e. *Punta, Anadel, Macao, transicional, Atajadizo, Guayabal, Morro, Corrales* etc.) not only in the ceramics of El Cabo, but across the entire eastern region. Dating the sequence, which roughly moved from burnished, red, plain surfaces in the lower levels through to pottery bearing anthropomorphic *adornos* with appliquéd limbs and coffee bean eyes, to full-blown Boca Chica pottery with linear incised and punctated and modeled *adornos* with bat and simian faces was a priority. The Boca Chica layer appears to form a shallow veneer across the entire site, covering a much larger area than the other components, but nevertheless occupying less vertical stratigraphy.

To ascertain the extent of the dense feature clustering on the brow of the promontory, and to learn more of the spatial articulation of the other ceramic components, a series of 15 2×2m units[86] were excavated in arbitrary 10cm layers. Excavation was carried out until bedrock, or sterile yellow sand was reached. What these units also made clear was that the geomorphology of the site is extremely variable.

4.1.3 Summary of 2007 fieldwork

Excavation in the summer of 2007 was carried out between July 11th and August 27th. In total an area of 663m² was excavated in 2007.[87]

Questions enumerated in the 2007 field manual distributed at the start of the season were the following:

(1) What is the extent and spatial characteristics of the posthole features in the bedrock in the large unit (84-29/39/49/59)?

(2) What are the characteristics and possible interpretations of the features to the eastern (i.e. coastal) extent of the unit?

(3) What are the characteristics of the structures discernible in the field?

(4) What evidence is there for internal organisation in the structures (entrances, hearths, etc.)?

(5) What evidence is there for external organization of space (work areas, ancillary structures, storage pits, middens)?

86 Units 74-42-28, 83-29-60, 84-09-00, 84-17-03, 84-18-68, 84-28-22, 84-33-00, 84-34-05, 84-36-00, 84-37-03, 84-38-00, 84-56-00, 84-59-00, 84-59-50, 85-31-00.

87 In all 33m² of 2×2 units, and the rest in the main trench in zones 84/85, 630m²

(6) What is the (temporal and spatial) relationship between the different areas of habitation on site?

(7) Was there continuous or interrupted occupation?

(8) What is the relationship between the data derived from the geophysical survey and the archaeological data?

As in 2006, excavation was concentrated on two activities: excavation of 2×2m units and enlargement of the bedrock unit, for the same reasons as in 2006.

In addition to excavation of the abovementioned units, a surface survey was carried out over the southern half of the site. In previous seasons various members of the field direction had noted that surface artefact clustering and carpet midden densities were easily observed on the surface, and referred to in conversation ("the griddle clusters on the mound", "coastal midden spread", "the mounds by the school/fence"), yet no systematic record had been made of this other than personal notes and impressions. The area of the surface survey was more or less that also covered by magnetometry and georadar in May 2007.

Throughout the course of the campaign, three human burials were encountered and excavated. In 85-34 a crouched inhumation with no grave gifts was excavated from a small pit dug into the sterile beachrock. The grave pit is spatially associated with posthole features. The stratigraphic relation of the features with the surroundings was not recorded as the burial was not visible in the profile. The boat-form vessel recovered from the bottom of the western profile of the adjacent unit in 2005 is thought to have been associated with the burial – possibly placed on the top edge of the grave. Some midden material was mixed with the grave fill indicating that the Ostionoid midden was formed or forming at the time of digging the grave pit. The vessel recovered in 2005 was surrounded by dense midden material and crab parts. This indicates that the grave was dug through the second (Ostionoid) midden layer. A second burial, also crouched and in a worse state of preservation, was recovered from a small, stone-covered pit from 85-40, spatially associated with posthole features. A third crouched inhumation was recovered from a 2×2m unit (85-31-08), later enlarged to 2×3m. Unfortunately for the spatio-contextual interpretation all three burials were either recovered from small units or from the edges of units.

The main unit was extended eastwards to meet the cliff top. Approximately 40m of cliff edge was excavated. This was done to investigate the relationship between the structures in this unit and the features visible on the cliff edge. Indeed it was found that the habitation features stopped two or three metres shy of the edge, followed by an "empty" strip, and then a few isolated features on the edge. In much of this area material was not collected as the bedrock was either exposed or covered by unstable sand. At this stage it was thought that the few features probably belonged to discrete cliff top structures associated with marine activities such as fishing. One feature in particular (85-62-F13) was a set of grooves on the edge of the cliff, apparently caused by repeated rope action in one spot. A month of the field team hauling buckets of seawater three to four times a day over the cliff did not produce any noticeable abrasions (Fig. 78). Hence F13 must have been produced over a longer period of time, or by an activity of greater intensity.

One of the major discoveries of the season was the recovery of early contact material in site deposits of the main unit. This material consisted of a number of glass beads and green and white glazed ceramics. Dr Kathleen A. Deagan

(Florida Museum of Natural History) identified Nueva Cadiz beads and olive jar pottery, both dated to the initial phase of European contact, AD 1500 to 1550 (pers. comm. summer 2007). This material was recovered from the same context as Chicoid artefacts. Pig teeth and bones as well as metal (iron) objects were also recovered from this and more dispersed areas of the site.

In addition a large number of shell and stone artefacts were recovered, including approximately 30 ground stone beads, incised shell adornments, many bearing the frog-leg motif, micro-trigonoliths, a shell *guaíza*, part of a stone collar (from 85-41-08, layer 1) with a small knob on it and with heavy secondary use as a tool, and a large decorated trigonolith made of local sandstone. This was in addition to hundreds of ceramic *adornos*.

4.1.4 Summary of 2008 fieldwork

Fieldwork in the summer of 2008 was carried out between June 30th and August 17th. The focus of this season was find processing in the laboratories in Punta Cana, rather than generating additional excavated materials. The aims of the 2008 season were therefore the following:

(1) To complete the documentation of all materials and deposit the material in the *Museo del Hombre Dominicano* in Santo Domingo.

(2) To check whether the horizontal confinement of colonial material to the northeast of the main unit was an artefact of researcher bias or the real state of affairs, i.e. re-opening bags of material excavated in 2005-2007.

(3) To minimally extend the main unit to complete documentation of a circular structure (Structure 3).

(4) To conduct a survey the indigenous presence in the immediate surroundings of the site (MA thesis project, Johnson 2009).

However, we were fortunate enough to expand upon and map an additional 124m² in the main unit. This meant that as well as documenting the remaining part of Structure 3, we were able to excavate parts of three sectors, extending approximately 25m along the edge of the cliff and 5-11m inland. Work progressed fast because the bedrock in this area of the coast was at the surface and devoid of soil and artefacts.[88] With some trowel-cleaning the features in this area were laid bare, mapped by Total Station (TS) and drawn.

In addition, we commissioned local divers to troll the waters below and on either side of the site to observe the extent (parallel to the coast and out to sea) of archaeological materials on the seafloor. We asked them to collect exotic stone and ceramic material. This they did, all three divers (on separate occasions) indicating that the spread of material was very limited extending perhaps no more than 100m parallel to the site and not far out into the sea. Material they collected was mostly small, including very eroded pottery sherds and larger complete, and near complete greenstone tools.

4.2 Fieldwork procedures

An overview and description of basic fieldwork procedures is necessary at this point to understand the standards and methods used during excavation, collection, documentation and processing of the archaeological materials. The ba-

88 A shame one could not say the same of the goat droppings, however! This is the favourite late afternoon sleeping place of the local flocks.

sic sampling and excavation procedures are those consistently employed by the Leiden Caribbean Research Group under Menno L. P. Hoogland and Corinne L. Hofman at sites such as Anse à la Gourde, Guadeloupe, Kelbey's Ridge, Saba, and various sites on St. Martin, and informed by the first large-scale excavations of habitation areas in the Caribbean at Golden Rock, St Eustatius (Hoogland and Hofman 1993; Hofman and Hoogland eds. 1999; Versteeg and Schinkel 1992). Research questions as well as local and logistical conditions mean that this methodology is adapted to each site. In El Cabo, with the exception of the first year of fieldwork, the procedures were stated in field manuals for each season.[89]

The basic fieldwork procedures employed in El Cabo were excavation of 2×2m units in arbitrary layers across the site, and the excavation of a larger unit in the later habitation area of the site for the exposure of features. Additional activities undertaken to complement this approach included an auger campaign, topographical mapping, a surface survey of the southern portion of the site, surveys in the local surroundings, engagement with local people, and a geophysical survey.

4.2.1 The site grid

A local grid was established with a TS. Points in the grid were marked with plastic tubes set in concrete or bedrock. GPS coordinates were taken later which were matched to points in the local grid.

The grid divided the site into units of zones (100×100m), sectors (10×10m) and squares (1×1m). There is a direct relation between the *x* and *y* coordinates, so that in a grid of 1km² (100×100m), each 1m² (1×1m) has a unique digit reference (Fig. 28). This has the advantage of making the grid infinitely extendable and once fieldworkers are used to the system, can locate themselves anywhere on the site. The site grid was the basis for locating all units, features and finds.[90]

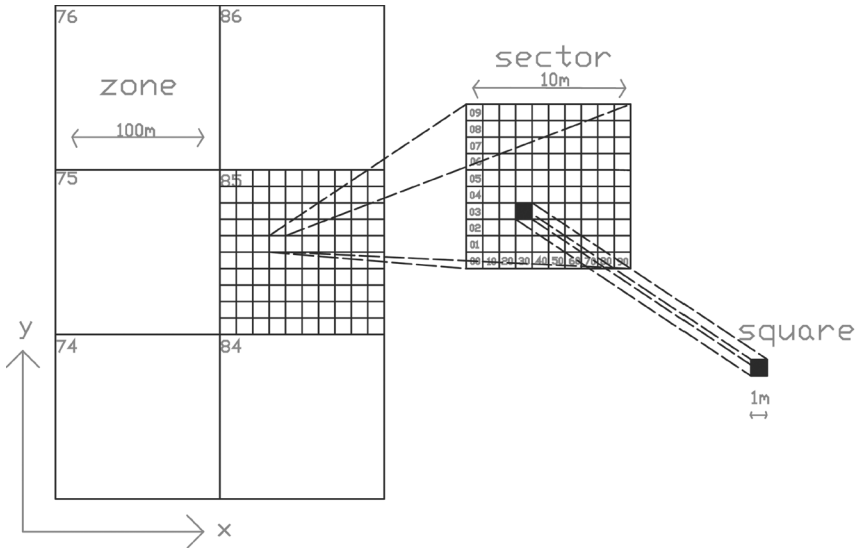

Figure 28. El Cabo site grid system. The location of the black 1×1m square can be referenced as 85-35-33 (i.e. Zone 85, Sector 35, Square 33). Nb. The bottom left-hand square is 00 and the top right-hand square is 99.

89 There was no written manual at the start of the project in 2005; this was developed during the field season.

90 In 2006 the numbering of the zones was changed: 500 was added to the *y* axis and 2800 added to the *x* axis. This was done simply to avoid the border between two differently named km² zone blocks occurring on-site.

4.2.2 The find layer

Units were set out within this grid system and excavated in "squares" (horizontal extents of 1m²) and vertical layers of 10cm, until features were encountered. Excavation then proceeded according to the feature. In units where a stratigraphy was present profile drawings were made and the profile walls photographed.

Material from the find layer was recovered in 10cm layers. Material from layers was recorded with sector-square coordinates to pinpoint their find spots within 1 metre uncertainty. Significant *in situ* finds were point-plotted with the TS. Material was dry sieved on-site through a 4mm plastic sieve mesh. All ceramics (>1cm), shell (land and marine), stone (except local limestone matrix), bone, coral, glass, and other artefacts/ecofacts were selected from the sieve by hand. Each find (whether single such as a bead or *adorno*, or bulk such as a layer or soil sample) was put into a bag together with a find label and entered in the find list. Offsite, finds were wet sieved through the same mesh to remove sand and soil.

In the case of the 2×2m units, one square from each unit was selected as a sample square from which all sieved remains (not including the local limestone matrix) were collected (i.e. after sieving through a 4mm-sieve mesh, the local rock material was discarded and the entire rest of the sieve residue was bagged and tagged). The rest of the material from the remaining three squares was selected as above (Fig. 29).

All excavated material from the site was stored at the Ecological Foundation, Punta Cana, and documented (quantitive and qualititve analyses as well as photographic recording) in the laboratories there. At the end of the 2008 season, all material (95 boxes) was stored in the depot of the *Museo del Hombre* in Santo Domingo. With the exception of feature fills, material from the survey squares, ceramic and botanical samples, as well as paraphernalia and ceramic *adornos*, were taken to Leiden for further analysis. They will be returned to the *Museo del Hombre* after completion of analysis.

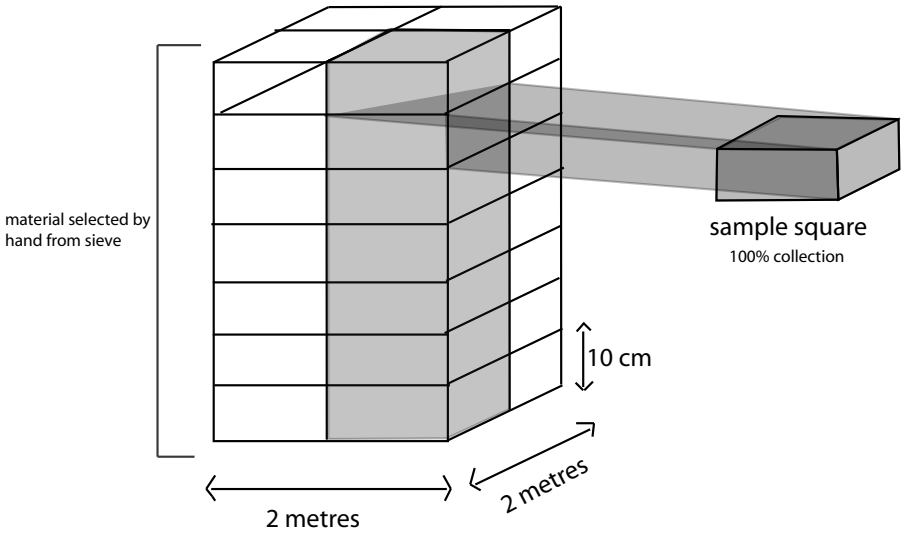

Figure 29. Schematic diagram of the El Cabo sampling strategy for 2×2m units.

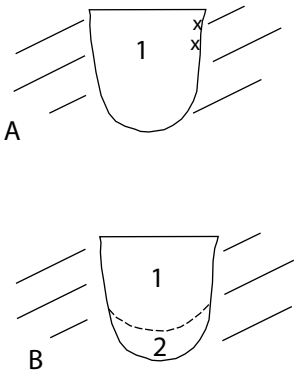

Figure 30. Simplified cross section of postholes in the bedrock showing (A) one fill, and (B) two fills. Oblique lines represent bedrock matrix. Crosses represent visible toolmarks. Note postholes in the bedrock were not sectioned, so no segment distinctions are made in the documentation.

4.2.3 The feature layer

The majority of features in the main unit were identified and documented in one time per season after the final cleaning of the bedrock layer into which they were cut. Others were encountered whilst excavating smaller units. All features were assigned a feature number which was fixed to the adjacent bedrock in the field, and added to the plan drawing.[91]

Features were excavated after they had been assigned a feature number, drawn on the trench plan and measured-in with the TS. The majority of the features were first visible at the level of the bedrock. The majority of these are postholes. Only in exceptional cases was it possible to section the features conventionally.[92] Instead features were fully "emptied" from the top down, in order not to miss changes in colour or texture indicating a different fill (Fig. 30).[93] All material was collected per fill and soil samples were taken from each fill for comparing to the Munsell colour chart. No sorting or selection was done of the feature fills in the field (unless special finds were encountered), so unlike for the squares, stones and other ecofacts were bulk recovered.

Features were documented in terms of depth, diameter, shape of bottom, absence or presence of toolmarks, and angle (i.e. vertical or not). Fills were described in terms of texture and colour (Munsell colour chart) and a drawing (1:10) was made of the interior contours of the feature and toolmarks indicated.

A feature form was completed (including drawing) for each feature excavated. Photographs were made of all excavated features in 2005, and selected features thereafter. See Appendix 1a for a copy of a feature form.

4.2.4 Soil descriptions

Soil, whether from the fill of a feature or from the surrounding matrix, was described on the feature forms, profile and trench plan drawings with the aid of a Munsell chart. Descriptions were made out of direct sunlight and for consistency and to avoid inter-observer variation the present author made all soil descriptions.

Important fields on the form relate to dimension, the presence or absence of toolmarks, the shape of the bottom and description of the fill(s). The maximum dimensions of the feature were recorded. For features in the bedrock this is the point at which the bedrock is first seen to be modified. These points were indicated with oblique pencil lines drawn at the feature boundaries on the feature forms and recorded in written numbers on the feature forms.

4.2.5 Drawings

All drawings, with the exception of drawings on the feature forms, were done on millimeter pretex paper with waterproof pencils. Plan drawings were drawn 1:20, section drawings 1:10, profile drawings minimum 1:10.

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91 Feature numbers are unique. They consist of a 6-digit number consisting of a 2-digit zone number, sector number, and a feature number (note: no square number), with the latter preceded by F (for Feature). For example 85-29-F87 indicates Feature 87 located in Zone 85, Sector 29.

92 This is because bedrock does not allow sectioning, and the features were generally too small to make a section of their fills only.

93 In practice this means no distinction is made between segments 1 and 2 in terms of excavation, finds collection and sampling. The drawing on the feature form is not a section drawing, but a drawing of the contours of the internal walls of the feature.

4.3.6 Off-site processing of find material

See Appendices 1b-e for copies of laboratory forms used in the quantitative processing of find materials. Four main forms were used in the laboratory for processing materials: a form for splitting material excavated from features (Appendix 1b), a form for splitting material excavated from squares (Appendix 1c), a form for splitting material excavated from survey squares (Appendix 1d) and a form to record more detailed information on marine shells from the feature fills (Appendix 1e).

The square split form records weights of land shell, seashell, crab parts, stone, bone, coral, ceramic and other (metal, glass, etc.) and MNI counts of seashells, land shells, as well as a number of shell tools, paraphernalia, modified and unmodified pieces of shell, the same for stone tools, paraphernalia, modified and unmodified pieces and bone tools, paraphernalia, human (un-worked) and animal (including fish, un-worked), modified and unidentified pieces of bone. Coral tools, paraphernalia, modified and unmodified pieces as well as ceramic undecorated and decorated sherds were counted. After 2006, landshell and crab were no longer separately recorded, as their distributions mirrored those of other categories. Besides they were too time-consuming to sort and their significance more ambiguous than other categories.[94]

The feature fill split form differed slightly from the former, having fewer fields. This form records weights of land shell, seashell, crab, stone, bone, coral, ceramic and other (metal, glass etc.) and makes a distinction in the count section of the form between shell tools and paraphernalia, stone tools and paraphernalia, bone tools and paraphernalia and human (un-worked), coral tools and paraphernalia and, finally, ceramics decorated and griddles. Individual counts were not deemed necessary for all material categories. Furthermore, all local bedrock was separated from the feature residues and discarded after being weighed and photographed (Fig. 31). This was done as it is assumed that the majority of karst material in the fills fell into two categories and was either: (a) gravel which had fallen back into the postholes on manufacture (and subsequently been worn by the action of the post), or (b) larger chunks used as packing. Photographic documentation was deemed sufficient to be able to make a rough estimation of the proportions of each.

Figure 31. Bedrock and gravel from the sieve residue of a feature fill. This was weighed, photographed and discarded.

94 Land crab and terrestrial gastropods may have been commensal scavengers, rather than exploited for food by the indigenous inhabitants.

The majority of the find material consists of shell and ceramic remains. Information required for this dissertation research was more quantitative than qualitative (with exceptions), and thus detailed, specialist reports are expected and ongoing for each material category.

Ceramics and marine shell were considered the most significant material categories in interpretation. In quantitative and spatial analysis these were deemed most representative of the distribution and density of indigenous activities. These two categories were given precedence in interpretation not only because they represent the majority of archaeological material from feature fills and excavated layers, but because they are relatively heavy and dense (compared to crab parts and small fish and mammal bones) and are deposited as a direct result of consumption and discard practices. This is not to say they are simple to interpret, but that their deposition is more transparent than that of for example land shell and coral, which may be subject to more indirect processes.[95] Moreover, whereas ceramics and marine shell were generally recovered and recorded in equivalent ways over all field seasons, other material categories were not. This reflects changing recovery practices between smaller units and the main unit, debates as to the significance of these categories, and refinements to excavation strategies over the years. Therefore, ceramics and marine shell are not only considered most diagnostic, but also most equivalent.

Analysis of the Chicoid ceramics is still pending.[96] Detailed forms describing morphological, stylistic and technological attributes of the pottery, developed by prof. Dr Corinne L. Hofman (2005), were completed for all rims larger than 5cm, in addition to the forms mentioned above. In terms of this dissertation information on absence/presence, location and quantity of ceramics is important. Moreover, basic functional distinctions, such as that between griddle and other sherds in as far as they shed light on domestic practice are taken into account. Sometimes notes were also made in the field or in the laboratory concerning decoration on ceramics – usually this was limited to a positive identification of Chicoid. This information is incorporated into the following argumentation, but the reader should be aware of its rather *ad hoc* nature. Knowledge concerning site chronology and artefact typology would be greatly advanced by future research concentrating on the ceramics from structure features for example.

The same is true of the other individual artefact categories such as the bone, shell and stone materials. These have been the subject of a number of BA and MA theses (de Ruiter 2009; Hofmeester 2008; van der Horst 2009; Ouweneel 2007) and further studies will contribute qualitative knowledge in the future. A detailed breakdown of the shell species in the posthole features was undertaken in summer 2008 by students experienced in determining shell species on Curacao, trained by Dennis Nieweg, MA, affiliated to Leiden University. This will be the subject of a future study.

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95 Fossilized coral is not naturally present on the site itself, but can be found in abundance a few hundred metres away, and the mechanisms by which it got to the site are as yet under-researched. Certainly some was brought by human agency for use as tools, but other pieces may have been thrown up in storms or brought to the site in other periods. Similarly, as discussed in Chapter 3, land snails may be present as commensal animals, or have been collected as food, or the shells be transported on the back of hermit crabs. They may also indicate wetter climatic conditions. In this sense, the processes acting on pottery and marine shell are much simpler!

96 At the time of writing this dissertation, an MA Thesis on the iconography of a sample of the Chicoid *adornos* (those excavated in 2005 and 2006) by Noortje Oudhuis (2008) was available, and in addition an MA thesis by Cortney St. Jean (2008a) on the early and late Ostionoid ceramics (i.e. not from the main unit). Moreover, fabric and technical analysis of clays and ceramics from the eastern Dominican Republic had been preliminarily undertaken (van As et al. 2008).

Twenty-five percent of the sieve residue (by weight) from each 10cm layer from each sample square of the 2×2m units was taken back to Leiden for processing. A number of bulk botanical samples (5 litres) were sent to Dr Lee A. Newsom (Pennsylvania State University) for analysis.

4.2.7 Coring programme and mapping of site elevations

To gain insight into the character of the natural stratigraphy and the nature and extent of the cultural accumulations at El Cabo at the start of fieldwork a coring programme with a 12cm hand auger was carried out across the site, totalling 64 tests (Fig. 32). In addition, detailed mapping of the site elevations, including

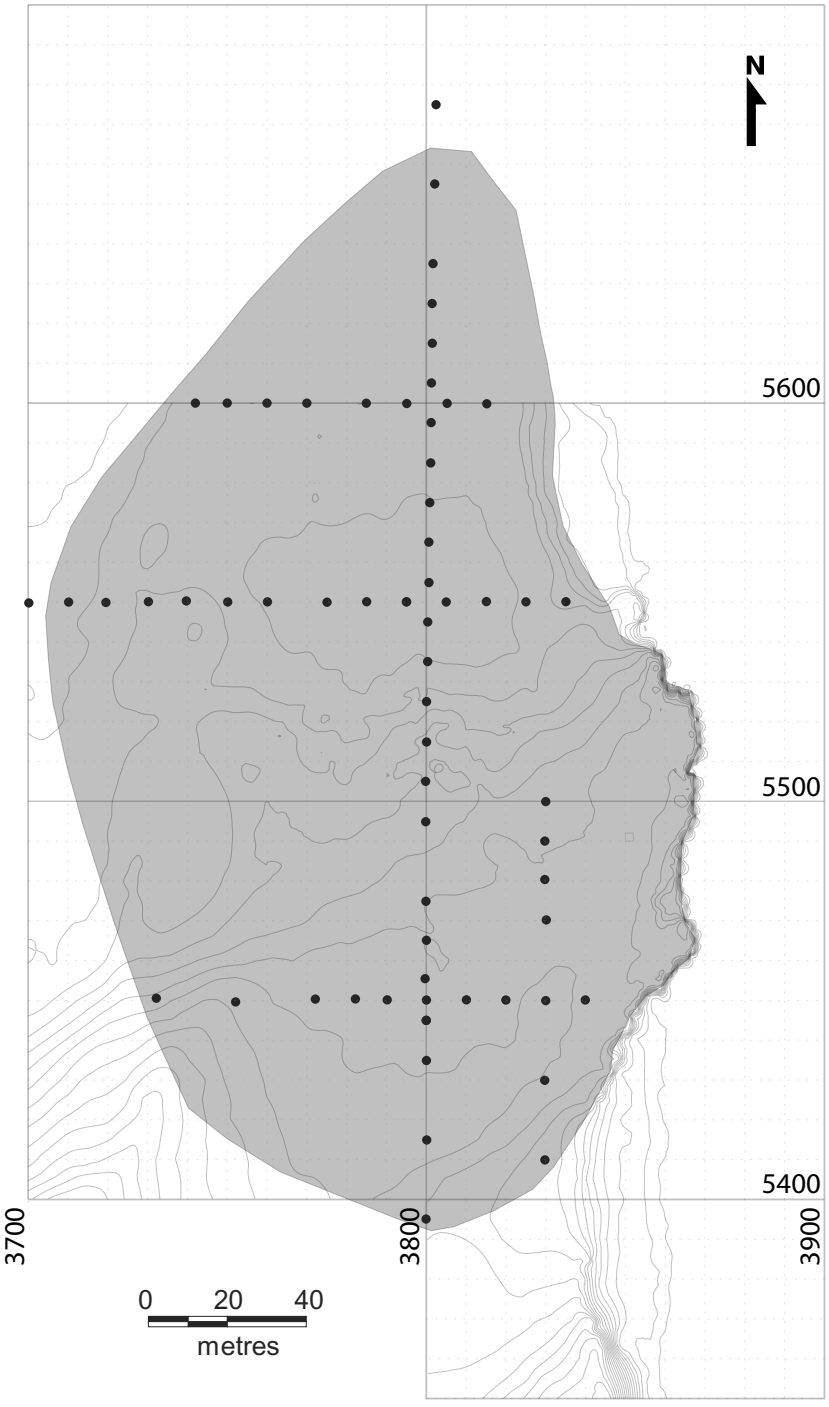

Figure 32. Position of hand auger tests and elevations across the site. Contour lines are 1m apart. Grey area represents inferred spread of archaeological material.

the coastline and off-site areas was carried out with a TS. The spacing of the elevation measurements was 2m where elevations were variable, and 4m when the landscape was somewhat flatter.

Corings were set out along five axes: three running in a west-east direction for 160m across the width of the site, and two axes running north-south for 280m across the length of the site. A 10m interval for tests was used for areas that yielded archaeological material, whereas a 20m interval was established for an absence of archaeological material in the tests. Site deposits covered an area of approximately 3.5 hectares.

Initial information on the internal site structure of El Cabo, including the size and location of midden mounds, the presence and absence of archaeological material and an indication of the site limits was inferred from the resulting elevation map and the stratigraphic profiles, created by 'stitching' all the auger data

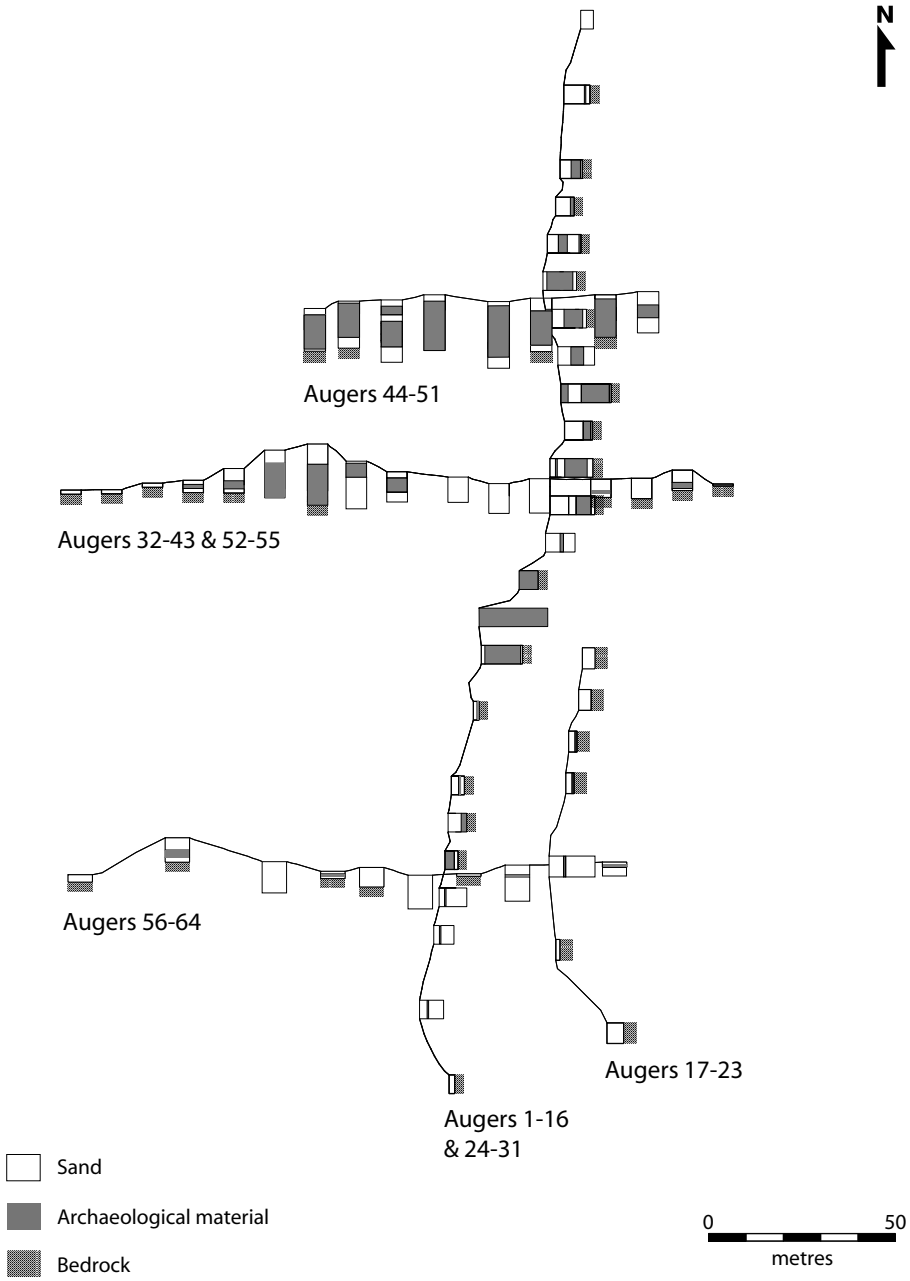

Figure 33. Results of auger plots, where grey represents the presence of archaeological material (based on figure by Don van den Biggelaar).

from all five axes together (Fig. 33).[97] The coring programme provided partial but important information on location and depth of the midden accumulations. Ceramics, charcoal and shell appeared to accumulate to the north and east along the coastal margin, and along the fault-line. The frequency/density of archaeological materials diminished about 50m from the periphery of the middens.

In terms of site geology, the tests also provided information about the relative depth of the bedrock across the site. In certain areas where no bedrock was encountered the underlying matrix was yellow sand/limestone gravel, at others, mainly in the southern part of the site, the bedrock was shallow or at the surface. Soils were deeper in the north of the site.

4.2.8 14C sampling and site chronology

Dates obtained from 14C samples from El Cabo have already been discussed in a regional perspective in Chapter 3. This section looks at the dates from the site in more detail.

Laboratory code	Material	Conventional radiocarbon age (BP)	2-sigma calibration (AD) (95%)	1-sigma calibration (AD)	Zone/sector/ square/feat/ layer	Remarks
GrN-29035	Charcoal from outside edge of burnt post	535 +/- 25	1322-1347 / 1392-1436	1399-1428	84-29-F30	Unassigned, assoc Structure 6
GrN-29931	Charcoal from outside edge of burnt post	815 +/- 35	1164-1271	1194-1195 / 1208-1263	85-04-F01	From 2×4m unit excavated in 2005
GrN-29932	*Citt.pica*	1495 +/- 30	748-753/757-983	797-912	84-39-29/1	Main unit
GrN-29933	*Citt.pica*	1750 +/- 30	521-699	584-665	85-44-00/10b	1×1m ("coastal unit", layer 10, compare with dates from 85-34 from 2007)
GrN-29934	*Gercarcinus lateralis*	1110 +/- 25	896-924/939-974	888-988	85-44-00/10a	1×1m ("coastal unit", layer 10, compare with dates from 85-34 from 2007)
GrN-30531	*Citt.pica*	1170 +/- 25	1095-1285	1166-1258	84-34-06/3	2×2m unit
GrN-30532	*Citt.pica*	1525 +/- 25	721-937	782-887	85-31-01/4	2×2m unit
GrN-30533	*Citt.pica*	1040 +/- 25	1244-1397	1272-1338	84-34-16/1	2×2m unit
GrN-30534	Charcoal from outside edge of burnt post	600 +/- 25	1298-1370 / 1379-1407	1309-1332 / 1337-1361 / 1386-1398	84-29-F178	Entrance post Structure 6
GrN-30535	Charcoal from outside edge of burnt post	580 +/- 30	1301-1367 / 1382-1417	1317-1353 / 1389-1407	84-29-F249	External post Structure 6
GrN-31412	Charcoal	1230 +/- 40	684 -887	712-746 / 767-830 / 837-868	75-26-62/9	2×2m ("donkey field", layer 9)
GrN-31413	*Citt.pica*	1705 +/- 20	580-725	626-690	75-26-62/12	2×2m ("donkey field", layer 12)
GrN-31414	*Citt.pica*	1435 +/- 20	876-1025	911-987	75-26-62/9	2×2m ("donkey field", layer 9)
GrN-31415	*Citt.pica*	1520 +/- 20	729-938	788-887	85-34-90/4	2×2 ("coastal unit", layer 4)
GrN-31416	*Citt.pica*	1745 +/- 20	550-691	596-665	85-34-81/10	2×2m ("coastal unit", layer 10, compare with dates from 85-44 from 2005)
GrN-31417	Charcoal from outside edge of burnt post	915 +/- 20	1036-1169	1046-1090 / 1121-1139 / 1148 -1159	85-50-F156	Internal back post Structure 1
GrN-31418	Charcoal from outside edge of burnt post	925 +/- 30	1026-1177	1044-1102 /1119 -1143 / 1146-1155	85-50-F193	Entrance post Structure 1

97 Don van den Biggelaar MA, carried out the coring as well as presentation of the results.

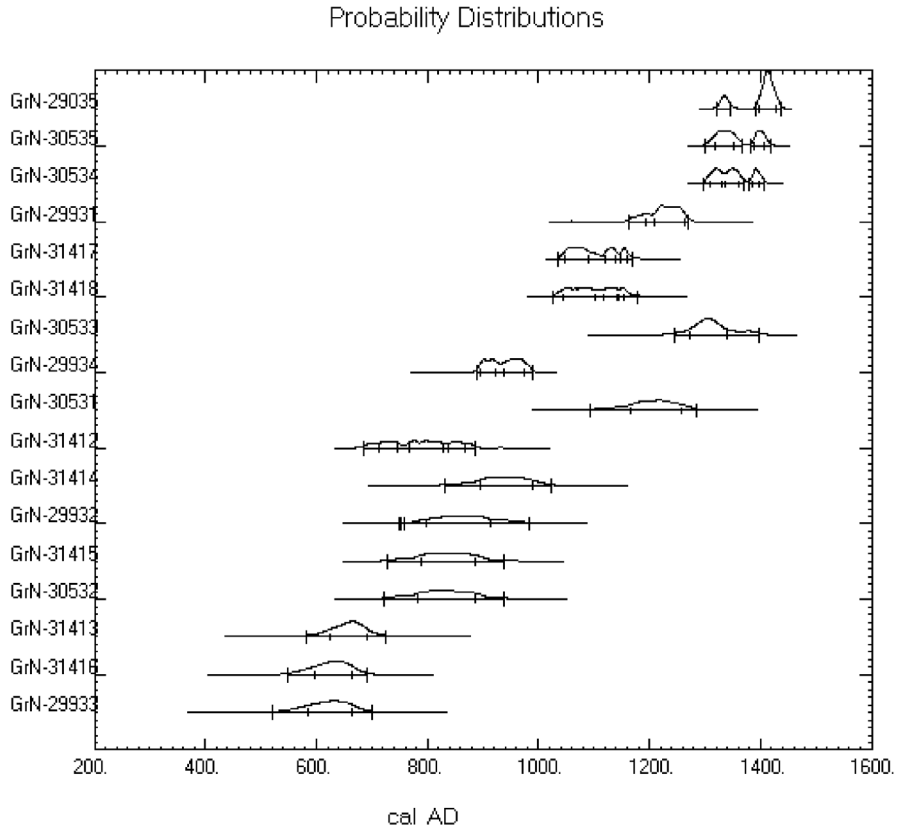

Figure 34. Probability distributions of 14C dates from El Cabo (CALIB Radiocarbon calibration programme, Stuiver and Reimer 1986-2005).

4.2.8.1 Sample selection

Over 50 samples were taken from the site with a view to radiocarbon dating, of which 17 samples were dated. All samples were dated by the Centre for Isotope Research, University of Groningen, The Netherlands. Materials collected included charcoal, *Cittarium pica* shells and land crab claws. Priority was given to charcoal, shell and crab samples from secure contexts (i.e. *in situ* features rather than stray pieces which may have been subject to bioturbation). Separate samples were never combined. For example, the sample of land crab (*Gercarcinus lateralis*) was a bulk sample from a discrete concentration of land crab remains in one layer. *Cittarium pica* shells were single individuals selected from midden layers and preferably not from layer 1. For the main unit, however, this was unavoidable as often there was only one layer available. In this case we ensured that the individual was well embedded in the midden packet. In terms of interpretation, preference is given to dates from charcoal samples from primary contexts in the main unit. Charcoal was preferably selected from substantial stumps of burnt posts from which it was possible to select the youngest wood (i.e. the outside edge). Features from almost every structure were sampled in the hope that charcoal from burnt posts would be encountered. However, different abandonment practices meant that this was not the case. Many structures had no or insufficient charcoal in their fills.

In total from the main unit the remains of five burnt posts, from at least two different structures, were dated and a *Cittarium pica* snail was dated from layer 1. Other dates were obtained from charcoal from a post stump in the 2×4m unit in the northern portion of the site, and ten additional samples from the smaller units across the site, especially concentrating on the two units with the deepest stratigraphy and presence of early Ostionoid ceramics (85-34/44 and 75-26-62).

Table 2. 14C dates from El Cabo (samples calibrated with CALIB Radiocarbon calibration programme, Stuiver and Reimer 1986-2005). Note that Cittarium pica *samples were corrected for the marine reservoir effect (-37 +/-29). This correction is an averaged value for the west coast of Jamaica (-78 Long., 18 Lat.) from the marine database published by Hughen et al. (2004) and Reimer et al. (2004). Values available from the Bahamas are more influenced by North Atlantic values, so these have not been used (thanks to Paula Reimer for advice on this).*

4.2.8.2 Discussion of dates from the main unit

The five dates from burnt posts in the main unit cluster into two phases associated with two separate building events (Structure 1 and Structure 6, see Chapter 5). The first took place in the early- to mid-12th century, the second in the late-14th century. This agrees with the Chicoid ceramics in this unit. Fragments of early olive jar and Nueva Cadiz style beads associated with Chicoid artefacts and indigenous features extend the dating sequence of this unit into contact and early colonial times (up to AD 1550).

An earlier ninth-century date from a *Cittarium pica* shell from layer 1 (GrN-29932) extends the time-depth of activities in this area of the site by over 300 years. Such activities, however, are not so easy to interpret. Shells are subject to displacement through numerous processes, for example in the form of reoccupation and relocation by hermit crabs. They can also be moved around by people in refuse deposits. This is not the case for wood from post stumps, or charcoal from hearths which are in secure primary contexts. In addition, few controlled comparisons have been made between dates from shell and charcoal. However, the date has some quite interesting implications with respect to the origin of the Chicoid ceramic series. Both this date and another 9th century date from a sample from a smaller unit on the coast (GrN-31415) are associated with Chicoid ceramics. These early dates from Chicoid contexts coincide with the earliest manifestations of Chicoid in the Dominican Republic identified at the site of Juandolio, on the south coast of the island, near Santo Domingo at around AD 825 (Veloz Maggiolo et al. 1973). El Cabo thus has one of the earliest dates associated with this type of pottery.

Although the12th to late-15th century (the latter based on colonial ceramics) dates indicate five centuries of habitation, more evidence is needed from the relative chronologies of the built structures in this unit to arrive at conclusions about the continuity, or not, of habitation, and whether there was also habitation in this area as early as the 9th century (see Chapter 5).

Nevertheless, we can look more closely at the building phases of the two dateable structures by summing the probabilities of samples from the same structures.

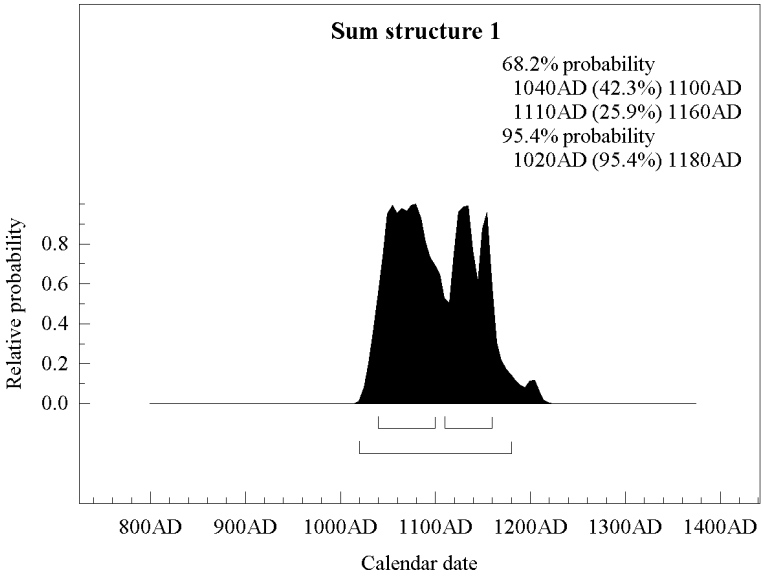

Figure 35. Summed probability of two dates from Structure 1 showing a 95% probability that construction took place between AD 1020 and 1180 (OxCal v.3.10).

If we sum the probability distributions for the two samples from Structure 1, this generates a best estimate for the period in which 95% of the building events took place.[98] In the case of Structure 1, there is a 95% probability that construction took place between AD 1020 and 1180 (Fig. 35).

In the case of Structure 6, there is a 95% probability that construction took place between AD 1290 and 1420 (Fig. 36).

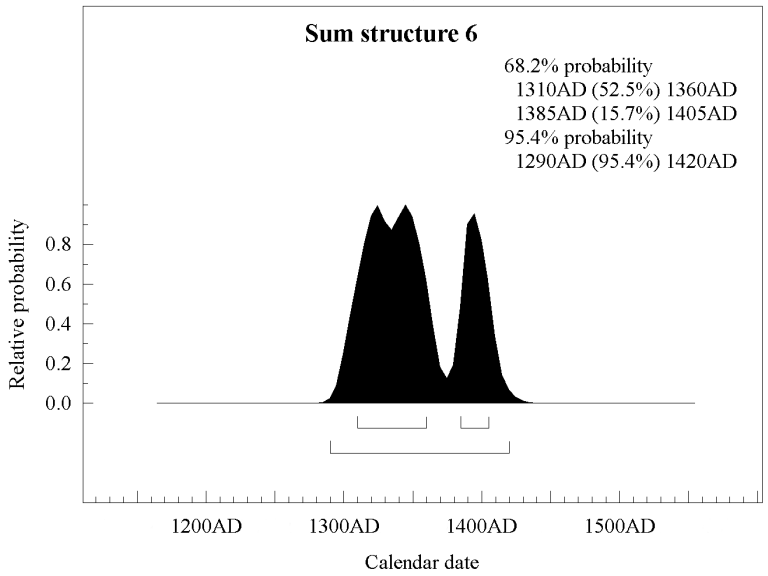

Figure 36. Summed probability of dates from Structure 6 showing a 95% probability that construction took place between AD 1290 and 1420 (OxCal v.3.10).

If one adds a third dated sample which is spatially associated with Structure 6, yet not part of its internal or external post arrangement, the dates are shifted a little younger and there is a 95% probability that construction took place between AD 1300 and 1440 (Fig. 37).

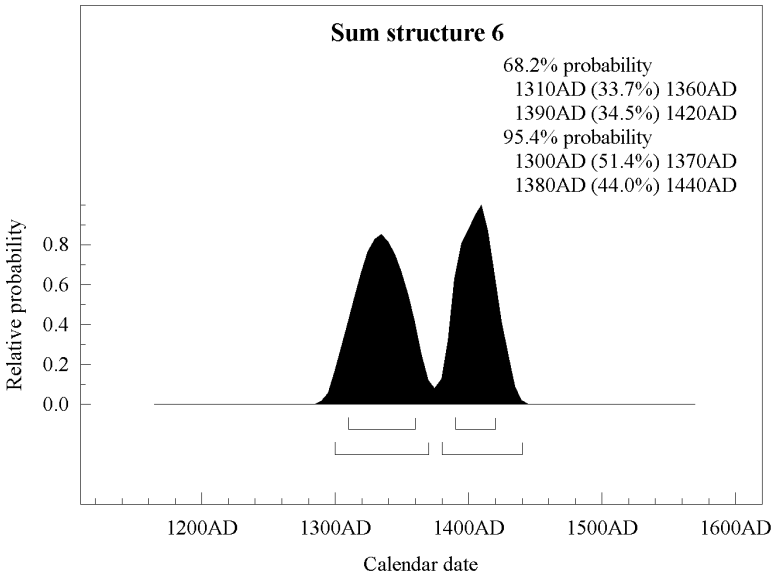

Figure 37. Summed probability of three dates from Structure 6 showing a 95% probability that construction took place between AD 1300 and 1440.

98 Summing averages the distributions without decreasing the error margins as with other forms of statistical combination (Oxcal v.3.10; Bronk Ramsey 1995, 2005).

Combining the dates in this way is the most conservative way of treating them and results in larger margins than for the individual dates alone. Assessing these probabilities together, one can distil the fact that Structure 1 was erected in the early- to mid-12th century and Structure 6 was erected in the late 14th century. Their relationships to other structures in this unit and the implications of these dates will be discussed in Chapter 6.

4.2.8.3 Discussion of dates from the small units

Having expressed caution at treating dates from shell, it is worth mentioning that the dates show consistency and integrity. Unit 84-34, 50m to the south of the main unit is an area of Chicoid refuse deposits. *Cittarium pica* samples from layers 1 and 3 date to the 13th and 14th centuries, respectively (GrN-30531, GrN-30533)

The earliest dates from the site are from two *Cittarium pica* samples from the bottom, layer 10, of the coastal unit 85-34/44. These samples (GrN-29933 and GrN-31416), taken in different years, show very tight and overlapping dates, indicating the start of the El Cabo dating sequence to be somewhere around the early- to mid-7th century AD. If we exclude the early El Barrio dates, these are the earliest Late Ceramic dates for the region. A third date on crab claws from the same level gave a much later, early 10th century date. Rather than being a discrepancy due to the dating of different materials, this sample is probably from a later feature, dug into earlier midden deposits. The crab claws are associated with the deposition of an upturned ceramic vessel associated with a burial feature. This indirectly dates the burial to the early-10th century.

An early-13th century date from a burnt post in the 2×4m unit (85-04) also accords with the Chicoid ceramics found (as well as earlier styles) in this unit. The late date shows that the Chicoid habitation area was not confined to the bedrock, but also made use of the sandy deposits in the northern portion of the site. This has implications for the spatial extent of the late-phase site. This date shows that the northern part of the site has not only some of the earliest, but also some of the latest dates.

The earliest date from 75-26-62 is from a *Cittarium pica* shell from layer 12, the deepest (cultural) layer of this unit (GrN-31413). It is a slightly younger 7th century date than the two dates from the deepest levels of the coastal unit discussed above. Two more dates from layer 9 of this unit overlap (GrN-31412 and 31414).

Finally, a ninth century date from a *Cittarium pica* shell from layer 4 of 85-31 (GrN-30532), overlaps with the shell date from the main unit a few metres to the south (GrN-29932).

4.2.9 Small unit excavations

The aim of the small units, the majority 2×2m, was threefold: to obtain stratigraphic data, to sample the archaeological remains, and to test for presence/absence of features.[99] This can be seen as a procedure between coring and excavating a large unit, i.e. it gives the qualitative information of excavation and the spatial information from coring.

99 Seeing as feature density in the large unit ranged from >0.5 to >2.5 features per m², units of 4m² were deemed sufficiently large to reveal the presence or absence of features in even areas of light feature density.

Unit (SW coords)	m^2	No. of features	Ceramic type	Year excavated	Special finds
74-36-42	4	0	Pending	2007	Cream disc-shaped bead, elliptical Strombus pendant
74-42-28	3	0	Pending	2007	
74-42-28	1	0	Pending	2006	Part of a coral micro-trigonolith
74-93-00	4	12	Pending	2007	
74-96-00	4	5	Pending	2007	
74-98-94	1	0	Chicoid	2005	
75-26-62	4	1	Ostionoid/Chicoid?	2007	Tubular stone bead, *Strombus* teeth inlay
75-33-69	1	4	Ostionoid	2005	
75-92-70	1	2	Ostionoid	2005	
83-29-60	4	0	Pending	2006	Coral micro-trigonolith
84-09-00	4	1	Pending	2006	
84-17-03	4	2	Pending	2006	Two halves of a sandstone phallus-shaped object/dagolito
84-18-68	4	0	Pending	2006	
84-28-22	4	1	Pending	2006	
84-33-00	4	2	Pending	2006	Stone earplug
84-34-05	4	0	Pending	2006	
84-36-00	4	8	Pending	2006	
84-37-03	4	0	Pending	2006	
84-38-00	4	1	Pending	2006	
84-39-09	1	3	Chicoid	2005	
84-56-00	4	0	Pending	2006	
84-59-00	4	4	Chicoid	2006	
84-59-50	4	5	Chicoid	2006	
04-04-85	8	14	Ostionoid/Chicoid	2005	Chicoid body stamp
05-07-85	4	0	Ostionoid	2005	
85-27-00	4	0	disturbed	2005	
85-31-00	4	7		2006	Incised bone earplug, three *Strombus* pendants with frog-leg motif, bell-shaped *Strombus* pendant
85-31-08	6	14	Ostionoid/Chicoid	2007	
85-34-80	4	7	Ostionoid/Chicoid	2007	Two shell pendants, *Chama sarda* bead, nacreous teeth inlay, three coral and stone microtrigonolitos, *Strombus* bead, quartz earplug, young female burial, burnt post
85-41-08	4	14	Ostionoid/Chicoid	2007	Piece of stone collar, *Strombus* key adornment
85-44-00	1	3	Ostionoid/Chicoid	2005	Boat-shaped vessel, diorite bead
TOTAL	**111**	**110**			

Table 3. Overview of El Cabo smaller units, size, number of features, ceramic components, special finds.

In total 31 smaller units ranging from 1m² to 8m² were excavated in addition to the main unit (Table 3 and Fig. 38). As described in Section 4.2.8.3, smaller units were excavated in arbitrary layers of 10cm and the excavated material wet screened through a 4mm sieve. All artefacts were selected in the field and given separate find numbers. The majority of the units were 2×2m. One square in each 2×2m unit was generally designated a sample square and all artefacts and ecofacts were collected in the field (lithics, bone, coral, shell, ceramics). Bulk botanical samples were also taken from some units.

To summarise the general picture from these smaller units, it is worth noting that two closely spaced units in zone 75 in the northwest of the site (75-26 and 33) and two adjacent units in zone 85 on the coast to the northeast (85-34 and 44) were the most interesting in terms of their deep, undisturbed stratigraphies. These two units had multiple archaeological layers which supplied seven radiocarbon samples (Section 4.2.8.3). Moreover, they dated the earliest levels of

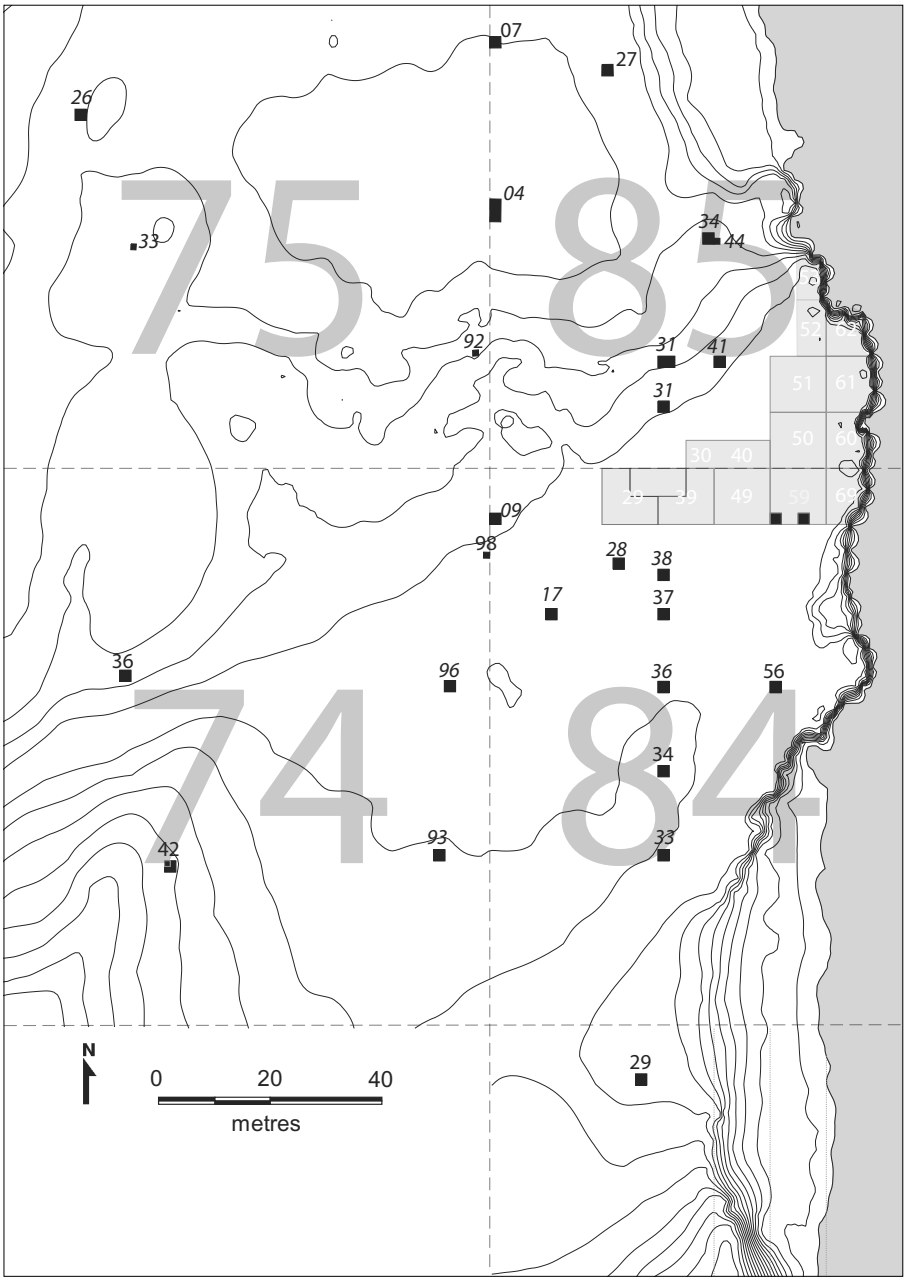

Figure 38. Overview of small excavated units (black). Italicised sector numbers indicate those units with archaeological features.

the site and provided the bulk of the early and late Ostionoid ceramic material. These ceramics have been characterized by St. Jean (2008a, 2008b) as plain, simply-shaped functional vessels with some variation in lip form and very occasional decorative elements such as *adornos* and striped black-and-grey bands of paint. Most of the other units had much shallower, undifferentiated or disturbed stratigraphies. I will begin with a description of these two units first to give context to the site and thereafter summarise the stratigraphy and features in the rest of the units grouping them per zone. It should be noted that only preliminary results are available from the analysis of the material from these units and therefore determinations of what is early Ostionoid and late Ostionoid, as well as where they occur mixed with Chicoid are preliminary observations made in the field and may be revised in the future.

4.2.9.1 Units in zone 75

Units 75-33-69 and 75-26-62[100] were dug in an area of raised midden deposits in the northwestern periphery of the site. This is an area of heavy looting. The dry conditions in this area of the site have made the soil very crumbly and hamper visibility. Seven 10cm layers were excavated in unit 75-33-69, which was then investigated down to the bedrock layer with the hand auger due to the powdery nature of the soil. The larger size (2×2m) of 75-26-62, 20 metres to the north, on the edge of a looter's pit, enabled excavation down to bedrock. In both units seven stratigraphic layers were observed. In 75-33-69 the bedrock was at a depth of 1.40m bsl, in 75-26-62, at 1.20m bsl.

In both units, archaeological layers 3 to 6 were clearly midden deposits with lots of shell and burned stones. In 75-26-62 (Fig. 39) an ashy concentration in archaeological layer 5 may have been the remains of a hearth. Distinctions in the dry midden packet were hard to observe. Early and late materials were to a large extent mixed in these units. The bedrock at the bottom was hard, horizontal and homogenous (no dipping like in the main unit). Radiocarbon samples were taken from archaeological layers 3, 4 and 5. A *Cittarium pica* shell from the deepest archaeological layer (3) gave a date of AD 626-690 (GrN-31413).[101] A charcoal and a *Cittarium pica* from the layers (4 and 5) above this layer gave dates of AD 684-887 (GrN-31412, charcoal) and AD 876-1025 (GrN-31414, shell).[102] This can be summarized as deposition beginning halfway through the 7th century AD, continuing (interrupted or smooth) throughout the 8th, 9th and 10th centuries. The mechanical mixing of this material higher up, so that earlier and later ceramics occur together, appears to be a result of mixing in the past rather than later, looter activity.

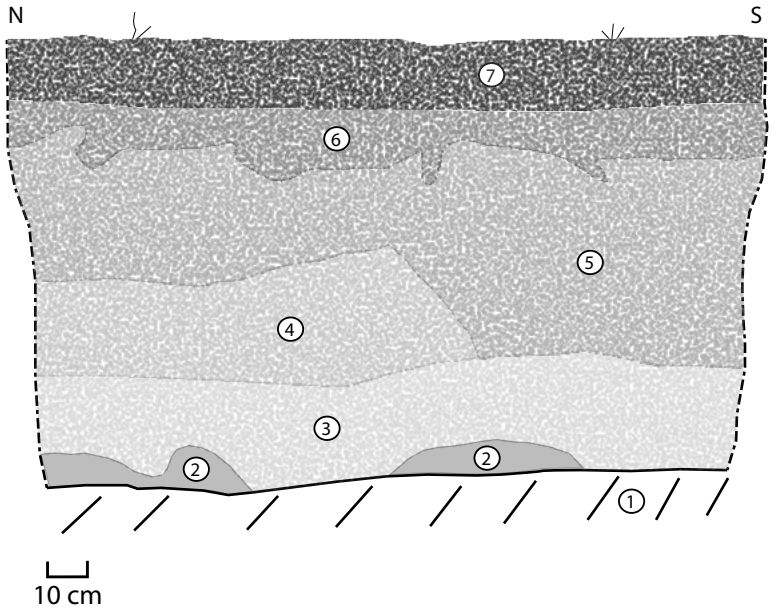

Figure 39. Profile (east) of 75-26. Legend: (1) bedrock; (2) fine, dry yellow/white sand; (3) ibid. *midden layer with some ceramics and faunal remains; (4) midden layer, more humic sandy soil with faunal and ceramic remains, some charcoal and ash; (5)* ibid. *midden layer with abundant remains, especially shell, ash and burnt stones; (6)* ibid. *midden layer with darker sandy soil and roots; (7) humic soil with ceramics, faunal remains and vegetation. Radiocarbon samples taken from layers 3, 4 and 5.*

100 In the area referred to by us as the "donkey field" which is a coconut grove, on the western side of the track running into the village.
101 Two standard deviations, corrected for the marine reservoir effect.
102 *Ibid.*

Lastly in zone 75, but the first to be excavated, was unit 75-92-70[103], placed in clear raised midden mounds, next to the village school, near the presumed locus of one of the two test-pits excavated by the *Museo del Hombre* (Ortega 1978a). This unit was excavated to a depth of approximately 100 cm. A brownish-red ceramic type was encountered in all layers, and was particularly dense in layers 4 and 5 (40-60 cm bsl) as well as abundant marine faunal remains. Two possible basin-shaped features, both shallow, were encountered between layers 8 and 9 (80-100 cm bsl).

Preliminary investigation of the ceramics indicate that this unit contained only Ostionoid material.

4.2.9.2 Units in zone 85

Two coastal units on the other side in the northeast of the site also produced informative profiles. A 1×1m unit (85-44-00)[104] made in 2005 was enlarged in 2007 by placing a 2×2m unit, 85-34, adjacent to it. Both units were excavated to depths of approximately 100 cm. The soils contained dense midden material (e.g., faunal remains, charcoal, ceramics, lithics, coral) interspersed with layers of stones and shell. 14C samples from the bottom layer of both units revealed dates from the 6th century (Section 4.2.3), the earliest dates from the site. In 85-44, a clear distinction was seen in the ceramic styles with a Chicoid component in the upper layers, and an earlier Ostionoid component from 40 to 50 cm bsl, mixed with large amounts of faunal remains, down to the bottom of the excavations. The earliest layer with Chicoid ceramics, 30 to 40cm bsl, gave a 9th century date (AD 729-938, GrN-31415). It seems that these two components overlap between 40 and 60 cm bsl. By 60cm bsl, plain red pottery, the sherds smaller and more fragmented, is the only type present and from 70cm bsl an area of concentrated faunal remains was encountered, particularly land snail shells. In this layer the soil is very dark brown, almost black. A near-complete, boat-shaped vessel was encountered, inverted, at 80-90 cm bsl, protruding out of the west wall, as well as a concentration of faunal remains including crab claws (Fig. 40). This feature was a later intrusion as it dated to the 10th century.

Under this was another shallow layer of yellow/brown sand and a possible feature level (90-100 cm bsl). Although when sectioned, the features appeared shallow and the bedrock, which was also encountered in this layer, was not modified.

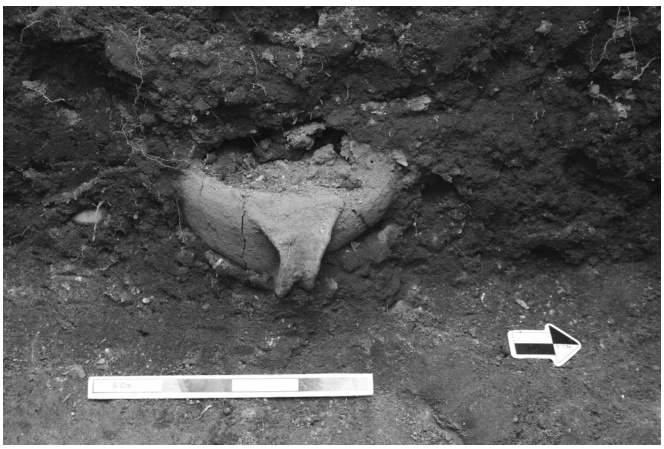

Figure 40. Boat-shaped vessel in western profile of layer 9 of unit 85-44-00. The vessel is inverted in a midden layer.

103 In the 2005 report this unit is referred to as test-pit 1.
104 In the 2005 report this unit is referred to as "test-pit 2".

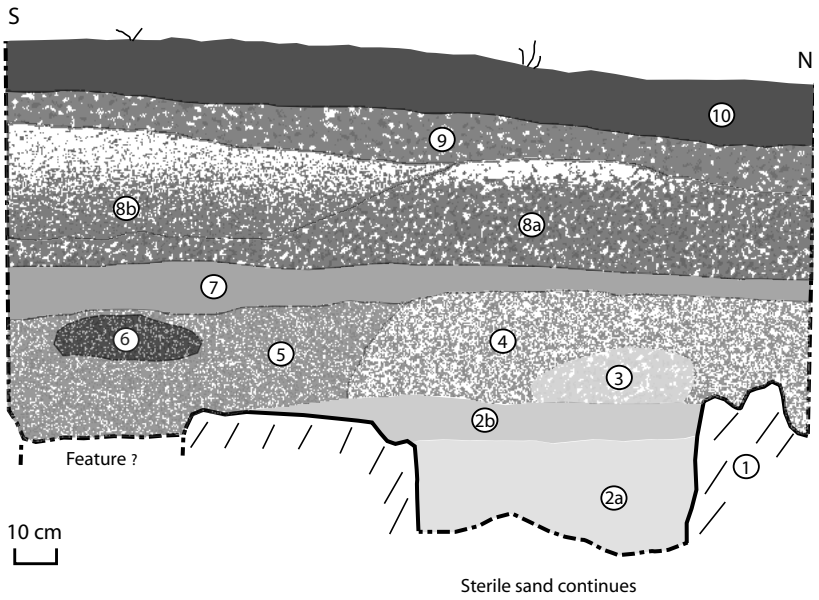

Figure 41. Western profile of 85-34. Legend: (1) bedrock; (2a) sterile, fine calcareous sand with larger granular inclusions; (2b) ibid.*, more brownish; (3) sand with organic component, some charcoal; (4)* ibid.*, coarse midden deposit, land and marine shell, land crab, ceramics, charcoal, coarse inclusions; (5)* ibid.*, fine midden deposit; (6)* ibid.*, middle to fine midden deposit, abundant land crab; (7) yellowish, fine to very fine sand, less material, "sterile"; (8a) at bottom coarse and dense midden deposit, with layered patches of charcoal; (8b)* ibid.*, but less dense; (9) as 8 but more mixed; (10) humic topsoil.*

The reasons for excavating yet another unit in the same spot in 2007 (85-34-80) were to re-document the stratigraphy on the coast given our greater knowledge of the site, to take more radiocarbon samples and to test an area with high thermomagnetic resonance from the geophysics campaigns. In addition, it would help to resolve whether the find of the boat-shaped vessel in the west profile in layer 9 of 85-44 was an isolated find or related to another feature. It turned out that the vessel was probably associated with a burial (F06) in this unit of a crouched, articulated, young female.[105]

The burial pit was a subcircular pit excavated in the bed/beachrock, about 80cm in diameter and 60cm deep. The borders of the bottom of the burial pit gave way to yellow sand. The boat-shaped vessel was placed on this beachrock layer next to the grave pit, its location suggesting association with the burial feature. Unfortunately, its precise relationship cannot be determined seeing as these features were excavated in different seasons. Nevertheless, a tentative dating of the burial feature to the 10th century may be suggested from the crab remains from the contents of the vessel (GrN-29934). In addition to this feature, three other features were excavated in the unit (F03, 04, 05). F03 appeared to be an irregular pit with midden fill, F04 smaller with a lot of charcoal (burnt post?) and F05 a posthole with postmold and charcoal. Profile drawings made of the west profile, accord well with profile drawings of the east and north profiles made in 85-44-00.

To summarise, the profile in Fig. 41 consists of two clear midden packets full of faunal remains, ceramics, charcoal and ash, separated by a layer of fine, almost sterile sand about 10-15cm thick. These layers are deposited on top of an uneven beachrock/bedrock matrix into which features have been cut. The midden packet below "sterile" archaeological layer 7 is all early. Above this, mixed Chicoid and Ostionoid deposits occur. Again this potentially indicates earth movement in antiquity, in the later Chicoid occupation phase.

An important unit in the northern central part of the site was 85-04-04 (Fig. 42). This was excavated as a 2×4m unit after an auger test revealed an ashy layer with charcoal at a depth of 70 cm bsl. The feature layer became visible as stains or darker areas in a yellowish calcareous beachrock approximately 30 cm bsl.

105 Pers comm. Dr Raphaël Panhuysen.

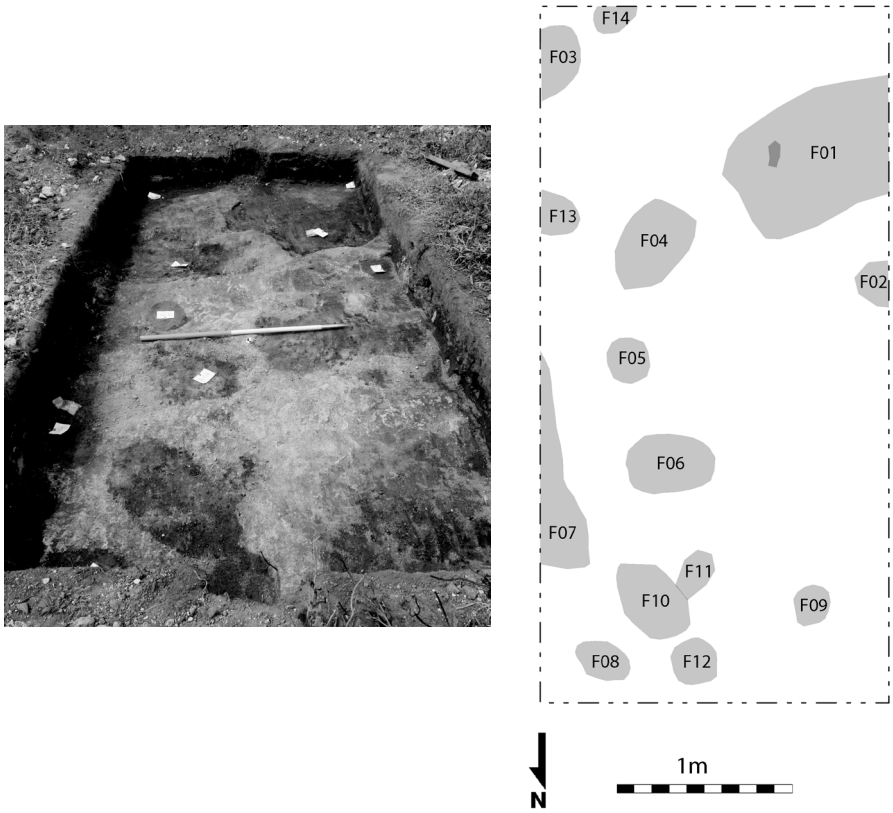

Figure 42. Photograph and plan drawing of 85-04-04 (2×4m) showing the dark features clearly visible in the sandy matrix.

Above this was a packet of dark brown clayey soil, with few artefacts. The semi-cemented to hard, (relatively) thin, calcareous hardpan may have been formed in recent times, and was interpreted by Ortega (1978a) as a house floor. What at first appeared as irregular features, presented themselves as highly regular, circular features only a few centimetres beneath the hardpan surface.

All the features had very sharp, regular boundaries and rounded bottoms, consistent with their interpretation as anthropogenic features (Fig. 43). They could not be interpreted as having resulted from natural agency. The fill of the features exhibited varying degrees of brown/yellow-coloured soil and varying proportions of sand and clay. Many features appeared to have been cut through a partly- to fully consolidated cemented layer of beach rock, although this may have formed around the features as carbonate rich water percolated through the sand and gravel whilst posts and pits were *in situ*. Ceramic sherds, as well as marine fauna and some charcoal were found in the majority of the features. This area of the site merits further investigation, as the feature layer is intact. The artefact layer has been looted and disturbed in parts, but this is mainly confined to the raised midden areas.

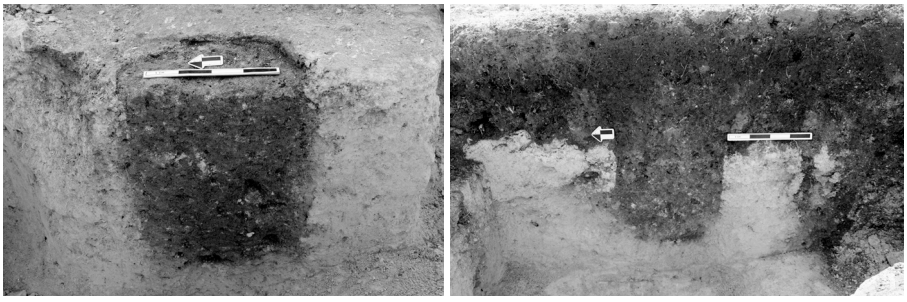

Figure 43. Example of posthole features in 85-04. Note the very clear feature boundaries. The feature on the right was encountered in the profile wall of the unit.

Over 12 (of a total of 14) of these features were interpreted as postholes the dimensions of which ranged between ca. 20 to 40 cm in diameter and ca. 30 to 50 cm in depth. In addition the unit contained a feature interpreted as a post burnt *in situ* (F01) as well as two pits, the fills of which showed evidence of burning. A charcoal sample from the post remains was dated to AD 1164-1271 (GrN-29931).[106] Moreover, the eastern border of the feature was demarcated by a large stone slab placed on end, possibly a packing stone to support the post. A fragment of Chicoid pottery, part of a body stamp, came from the upper layers of the fill of F01.

The stratigraphies of units 85-27-00 and 85-07-05, the most northeasterly units, appeared heavily disturbed by looters. There are, however, pre-Columbian deposits and potentially also features in this part of the site.

Three units were excavated in zone 85 in the southerly transitional area of this unit, west of the main unit (85-31-00, 85-31-08 and 85-41). This area is transitional in several respects: geomorphologically it is a zone of transition from shallow bedrock to deeper deposits. It is chronologically and stylistically transitional also, as it marks the southern border of the earlier, Ostionoid, raised midden deposits, to the south of which the predominantly Chicoid material occurs. All three units revealed relatively shallow stratigraphies but multiple archaeological layers. The idea behind these units was to link the excavations in the main unit to gain greater insight into where and how the transition between the late occupation area and the earlier and mixed deposits occurred. All three units revealed a high density of features (1.75-3.5 p/m^2) cut into the underlying bedrock, as in the main unit.

Unit 85-31-00 was excavated in four 10cm layers. A possible house floor represented by a circular area of ashy deposits was encountered in layer 2. The rest were posthole features cut into the bedrock, as well as a relatively high number of *Strombus* adornments such as three pendants with frog-leg motif.

Unit 85-31-08 (Fig. 44) was enlarged to 2×3m to incorporate a burial feature, a crouched adult inhumation in an oval pit cut into the bedrock (F01). Two ceramic clusters were also encountered (F02 and F03) and the rest of the

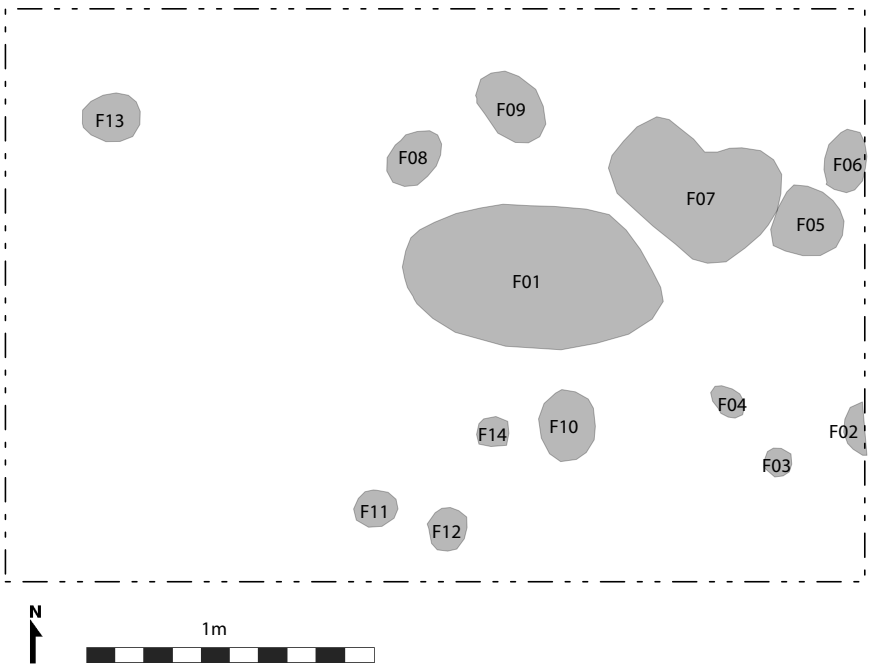

Figure 44. Plan drawing of unit 85-31-08.

106 Two standard deviations.

14 features were interpreted as postholes of varying sizes. The ceramic clusters were large sherds, lying flat and represent *in situ* vessels rather than mixed midden deposits. These are the kinds of features we potentially miss when excavating squares with a shovel. The ceramic concentrations were resting on soil platforms on top of the bedrock.

Unit 85-41-08 revealed 14 features cut into the bedrock. A piece of a stone collar also came from square 8, layer 1of this unit – a slender type with projection and signs of secondary reuse as a hammering tool. On inspection it looks as if it is made from the same metamorphic greenish stone as the two pieces from 2005/2006, although it is far more heavily used.

The only other units excavated in zone 85 were to test the origins of areas of high thermomagnetic resonance. Two small units (1×1m) were excavated during spring 2007. The first contained a large piece of rusted metal in the first two layers. The second was fully excavated down to the bedrock where it was seen in the profile that a large feature, the width of the unit, cut through all layers from the top to the bottom. The fill of this feature was loose and contained, among a few pre-Columbian sherds and faunal remains, also many small pieces of corroded iron. These pieces were the origin of the thermomagnetic signals. Doubtless the features belonged to the hardwood loading bay which Belto Villa told us was indeed in this location.

4.2.9.3 Units in zone 84

A collection of 12 units were excavated in zone 84 in an area of predominantly Chicoid material. Here the geomorphology was variable (bedrock to sand) but predominantly shallow (surface to 40cm bsl) and most of the units contained posthole features.[107]

The karst matrix became increasingly crumbly towards the west (84-29 to 09), in contrast to the relatively solid bedding planes to the east, up to the coast. In the zone adjacent, 74, the bedrock was again hard, homogenous and shallow. The geomorphology is similarly variable towards the south. Unit 84-37-00 to the south of the larger trench consists of beachrock below humic layers. Natural crevices and pockets in the natural matrix were often hard to distinguish from anthropogenic features, especially in areas where the underlying geomorphology was less compact (Fig. 45). The single feature in 84-09-00 for example was

Figure 45. Unit 84-28-22, showing the uneven variability of the underlying bedrock. Note only one anthropogenic feature was distinguished from all the natural crevices in this unit, centre top.

107 Three of these smaller units (84-39-09, 84-59-00 and 84-59-50) were later incorporated into the main unit and will not be discussed here.

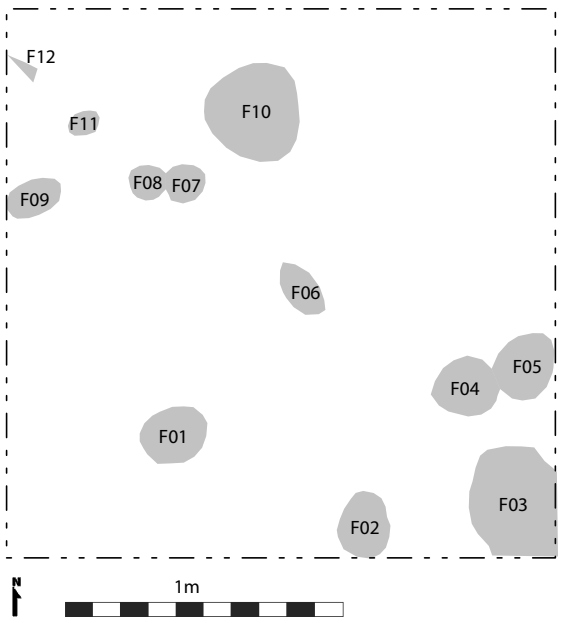

Figure 46. Plan drawing of unit 74-93-00.

identifiable in the profile wall of the unit, but not in plan view.[108] Features were therefore only identified as such using rigorous criteria (regularity and resemblance to other features).

No features were identified in units 84-34-05, 84-37-03 or 84-56-00. The remaining units revealed a number of postholes features, like those in the larger excavated area (Table 3). Accumulations of domestic refuse were encountered in many of the units including 84-34 (four layers), 84-37 (three layers), 84-17 (four layers) and 84-09 (two layers), as well as in 84-59-00 and 84-59-50 (two layers, later part of the main unit). These accumulations did not equate to midden mounds, but rather toss zones or sweeping accumulations on the periphery of living/activity areas.[109] Such differential spacing of the features indicates multiple house clusters across this part of the site. This will be discussed further in Chapter 6 together with the results of the surface survey.

4.2.9.4 Units in zone 74

No features were encountered in the two most southwesterly site units (74-36 and 42).[110] These units were placed on the eastern flank of a natural elevated mound, the western flank of which forms the western limits of the site in this area. Neither were any features encountered in the 1×1m unit 74-98-94, excavated in 2005. Exclusively Chicoid ceramics were encountered in the fill of this unit. The two other units in this zone, 74-93-00 (Fig. 46) and 74-96-00, contained 12 features each, cut into irregular bedrock.

4.2.9.5 Units in zone 83

The southernmost unit 83-29-60 was excavated to a depth of approximately 40cm bsl. The fill was light and sandy with negligible archaeological material and no features. This is also the point at which surface material is no longer present in the south of the site. This is accepted as the southern limit of the site.

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108 This unit has a similar geomorphology to that encountered in the 2×4m unit 85-04-04. Here features were only clearly visible a few centimeters below the level of the beachrock formation. This would probably be the case in 84-09-00 also if larger units were opened.

109 Something seen more widely across the southern part of the site (Section 6.6).

110 Both were 2×2m units, 74-42-28 being increased from a 1m² in 2005 to a 4m² unit in 2006.

Figure 47. Plan drawing of the El Cabo main unit. Grey areas are archaeological features cut into the bedrock, level 1. The solid lines are features - either bedrock modification or areas of burning. The solid line marking the eastern boundary of the unit is the coastline. The dashed line in the north of the unit is a modern wooden fence.

4.2.10 Main unit excavation methodology and features

The main unit, an area of 1030m² with a perimeter of 190m, was excavated by hand between 2005 and 2008. The decision to excavate here was based on the dense clustering of features excavated in 2005 and the almost exclusive presence of Boca Chica pottery suggesting that this area belonged to the latest phase of occupation. The unit occupies the highest part of the raised coastal promontory of El Cabo. In total some 2100 features were documented and used in reconstructions. The quality and visibility of the features in the bedrock is unparalleled in the Caribbean (Fig. 47).

4.2.10.1 Excavation methodology

Excavation progressed from the westernmost sector, 29 (Fig. 48), towards the coast, and thereafter extended northwards, as this was where the features were densest.

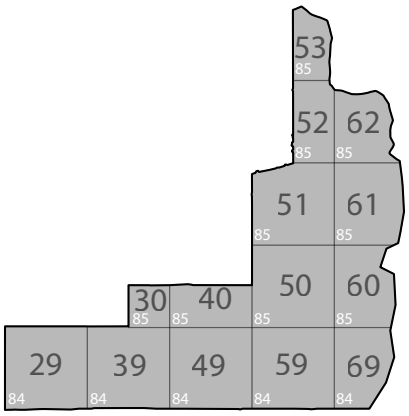


Figure 48. Schematic overview of the El Cabo main unit sector numbers (in black, zone numbers in white).

The methodology employed in excavation of the main unit was as follows: each sector (10×10m) was divided into 1m units (squares) and elastic strung between the squares for reference (Fig. 49).

Excavation of the find layer generally took place in a checkerboard fashion (i.e. alternate squares), in two stages: First a shoveller removed the bulk of the soil into buckets and seeing that there were no distinguishable layers in the packet of soil above the bedrock in this area, this was excavated in 10cm increments (Fig. 50).

All material from each square was carried to the sieves on the edge of the unit, and the sieve reside selected (shell, stone, bone, coral, ceramics, as described in Chapter 3), bagged and given a unique find number (Fig. 51). Certain special finds were point-plotted with the TS.

After bedrock had been reached, a troweller took over the task of cleaning the square, removing most of the soil from the bedrock crevices in order to reveal potential features. The top few centimetres of material was removed to make these visible (Fig. 52).

Once the bulk of material had been removed from the squares, fieldworkers "cleaned" the feature level, the

Figure 49. Sector being divided with elastic into 1×1m squares.

Figure 50. Checkerboard excavation in progress. Note the variability of the depth of the topsoil/find layer between the right and left hand photos.

Figure 51. Sieving and the selection of material from sieve.

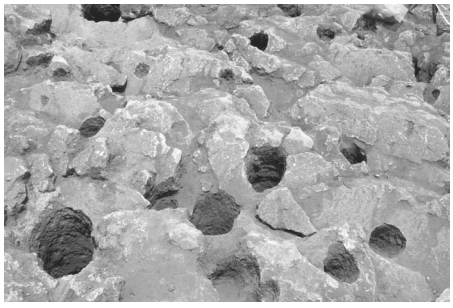


Figure 52. Systematic cleaning of the bedrock (left) and cleaned expanse of bedrock (right), clearly revealing circular posthole features (some already excavated).

Figure 53. Excavation of features, sometime requiring uncomfortable excavating positions!

Figure 54. "Poking" features to take depth.

bedrock, systematically trowelling in lines from the coast (i.e. the direction of the prevailing wind). This stage was crucial to uncover all potential features in the bedrock (Fig. 52).

Features were excavated per fill without sectioning (for explanation see Section 4.2 and Hofman et al. 2005), but with attention to fill characteristics and changes in fill. Given the depth and narrowness of most of the features, this was often difficult work, consisting of literally spooning out the contents, comparing it against a soil sample (to note eventual changes), and hoping the bottom would be reached before it got too deep (Fig. 53)![111] Fills were dry sieved on site and bagged in the field without further selection (unlike for layer 1). Again, if spotted, diagnostic artefacts were split from the residue in the field.

Features which were not excavated, i.e. 75%, were probed for depth, and their diameters recorded. This was done using a surprisingly effective "poking" method, whereby a reinforcing steel rod was used as a depth probe and pushed into the centre of each feature (Fig. 54), as far down as the bedrock – which made a distinctive sound in contact with the bottom of the rod, unlike contact with sand, soil or stones. In this way all features were recorded for depth and diameter. Those with anomalous (i.e. shallow or variable) depths were excavated. Often they proved to have a very stony fill, or be multiple features.[112] Excavated features were documented on feature forms (Fig. 55).

4.2.10.2 Description of the find layer

The find layer in the main unit consisted of a top layer of scrub and grazed vegetation, with humic soil containing archaeological remains underneath, forming a covering of varying thickness on top of bedrock (Fig. 56). This shallow packet is the artefact layer, living floor and material from the last ca. 1300 years collapsed into 10-20 cm. The deposits above the bedrock generally formed a thin covering with no stratigraphical distinction. Thus, the majority of squares were excavated in only one or two (10cm) layers, and sometimes, where there was no or negligible material (i.e. the last two or three metres along the coast), not at all. Very occasionally a third layer was necessary (i.e. 20-30cm bsl). Second and third layers represented denser sweeping accumulations. This was, however, all one archaeological event as no separate archaeological layers were recognized.

It is clear that despite the shallow and superficial nature of the archaeological deposits, the archaeological remains are relatively intact, meaning that no significant deterioration or landscaping activities have occurred. For example,

111 Local children found this fun work and invented ingenious tools from plastic bottles, sticks and bits of string they found on the beach. These were often more effective than the soup ladles we brought from the Netherlands.

112 In general, and with the exception of some of the larger features, the agreement was good between poked depths and excavated depths. Naturally excavated depths are the most reliable, and this was used wherever possible.

Figure 55. Documenting excavated features on feature forms, and detail of feature cluster.

in areas related to the latest phase of habitation in the unit, large sherds from the same vessels occurred together in the same or adjacent squares. Elsewhere in the unit, certain artefacts stood out from the general accumulations of sweeping remains and were associated with particular structures while charcoal and burnt stones were found associated with burnt features. Results presented in Chapter 6 from the artefact distributions elaborate on this and show that spatial information from layer 1 is representative of indigenous activities.

4.2.10.3 The feature level

Features associated with predominantly Chicoid ceramics were first encountered in the 1×1m unit 84-39-09. This area was subsequently chosen to enlarge in order to pursue floorplans (Fig. 57).

Features here were hewn directly into the bedrock. The bedrock in the main unit consists of stacked limestone bedding dipping to the southwest. The karst matrix is not homogeneous and becomes increasingly loose and less compact towards the west (namely in 84-29), in contrast to the relatively solid bedding planes in the rest of the unit to the coast and north. Nowhere on the site is there a large expanse of homogeneity, as can be seen from the geomorphological variability evidenced in the smaller units. Also within the "tougher" limestone in the main unit, there were differing degrees of hardness. Although not subjected to any hardness tests, a good indication can be given by the fact that in some places in the main unit it was impossible to hammer an iron nail into the bedrock (used to attach feature numbers to the features), and sometimes a drill had to be used to position the iron rebars to mark the unit boundaries, especially towards the coast. This attracted rather than deterred the earlier inhabitants, however, as features were made in substrates of differing consistencies with no apparent favouring of softer areas. In general, one can see an explicit choice to settle the limestone of the lagoon deposits (as opposed to the harder coral limestone to the

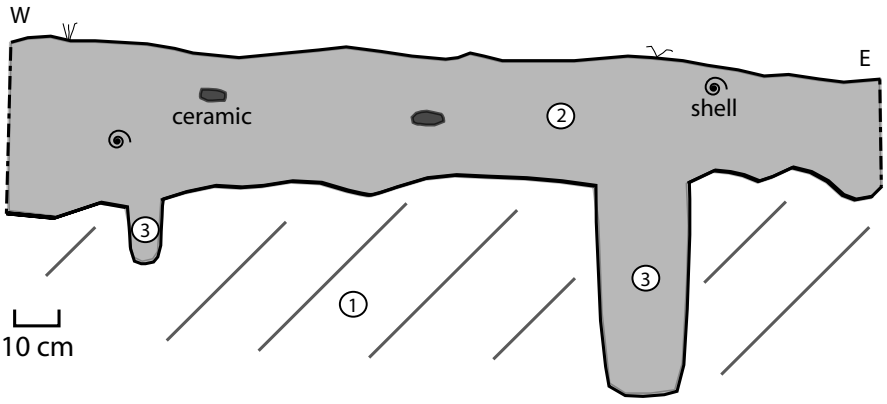


Figure 56. Schematic profile of a "typical" square in the main unit showing: (1) limestone bedrock, dipping ca. 45º west; (2) dark brown humic, sandy layer of varying depths (1-30cm bsl) with varying densities of faunal, ceramic and lithic remains; there is no stratigraphic distinction in this fill, i.e. its deposition is all related to one (cumulative, over time) event; (3) archaeological features cut into the bedrock (note: fill of the features is dependent on the abandonment process).

south), which are spatially confined to the El Cabo promontory. This is also the case in Caletón Blanco and Punta Macao where similar limestone deposits were chosen for settlement, and where postholes were made into the bedrock.

Site formation processes often obliterate smaller features, or they may only be recoverable under excellent conditions of preservation. In the bedrock of El Cabo, however, even slight modification of the bedrock leaves clear impression-sand features less than 5cm in diameter are nevertheless unmistakable. The unevenness of the bedrock surface, below the topsoil, made for a very high labour/time intensive excavation. This was more than compensated by the permanent and unmistakable anthropogenic nature of the features.

In 2005, all features in the main unit were fully excavated, drawn and photographed. This was an important process to become acquainted with the characteristics of the features in the site, to be able to distinguish anthropogenic actions from natural solution pockets and depressions, and to understand the range of variability in physical appearance, construction, type and fill.[113] This gave us a large sample from which to make decisions about future selections for excavation.

Over the next seasons, different sampling strategies for selecting features for excavation were used. However, as more surface area was uncovered, associations between features became visible and structures were recognised both in the field

Figure 57. Unit 84-39-09, where posthole features cut into the bedrock were first encountered.

113 Many questions were posed by ourselves and visitors to the site over the years as to the origin of the features in the bedrock, and especially whether they were anthropogenic, i.e. human-made, or not. The erosive action of water in a karst environment produces equally regular holes and shafts in bedrock (see Section 3.3 on geology). Toolmarks and other manufacturing evidence as well as their incorporation as structural elements into built houses of course provide the ultimate arguments against this. Growing familiarity with the features led us to discard several "natural" features in later years. However, use of natural holes and depressions to support posts is also witnessed in the unit, and therefore many of these "natural" holes were later reinstated when there was a functional reason to do so.

Figure 58. The boundary between postholes related to circular structures (by seated figure), followed by a feature-free strip (by standing group), and beyond them, on the coast, a few (not visible) features.

and through desk analysis. We were then able to excavate a selection of features per structure and sample per structure for the potential presence of charcoal for dating.[114]

Hence, an isolated structure and relatively low feature density in 84-59 led us to continue excavating right to the edge of the cliff in an effort to understand the relationship between the circular structures and the more linear configurations of features visible on the exposed rock of the cliff edge. An "empty" strip of about two to three metres separated the features of the circular structures from features along the edge of the cliff (Fig. 58). In much of this area material was not collected as the bedrock was either exposed or covered by unstable aeolian sand.

In 2008, we took advantage of this situation, and cleaned the bedrock in the already exposed area on the highest part of the promontory in order to expose more features and the rest of a structure uncovered in 2007. Time consuming sieving was not required as there was no intact find layer.

4.2.10.4 Metric and physical properties of the features

Almost 25% (ca. 495 features) were fully excavated in the main unit. However, metric information was recorded for all of the features. Features varied in depth from 2 to 116cm, and in diameter from 4 to 72cm. A total of 99% of all features are interpreted as postholes; negative features, deeper than they are wide, made for sinking wooden posts into. A few postholes still contained the remains of burnt posts and in some postholes, postmolds (stains left in the section of the posthole indicating the former presence of a post) were visible. The remaining features are a small number (n=6) of pits, two depositions of human remains, two burnt patches, several natural depressions (which may have been used to support posts), and a number of features which we were unable to positively identify as anthropogenic, but which may have supported posts. Features were interpreted as postholes on the basis of metric and morphologic considerations: the regularity of their plans at point of entry into the bedrock, the regularity of the inner walls, cross-section and the regularity of the diameter/depth ratio (Fig. 62). Later on in the excavation process, as more square metres were laid bare, functional and spatial considerations became a more obvious factor in interpretation: most features were incorporated as structural elements, postholes, in built structures (see Chapter 5).

As can be seen from Fig. 60, 90% of all postholes are equal to or less than 54cm deep. Over 50% are between 10 and 25cm deep. The tail of the histogram contains a significant number of postholes (over 200) however that are deeper than 55cm. Depths naturally break into classes 2-9cm, 10-25cm, 26-42cm, and 43-116cm deep.

114 In 2006 it was decided to excavate the last row (row 90) in each sector, i.e. a 10% sample. Additionally, features for excavation were selected on the basis of size (> 30cm diameter, assuming the largest postholes would have belonged to the main load-bearing posts, and the relationships between these main posts important for distinguishing between structures), anomalous characteristics and irregularity in plan view. In 2007 we were able to recognize multiple circular structures in the field and to investigate their configurations, both internal and external.

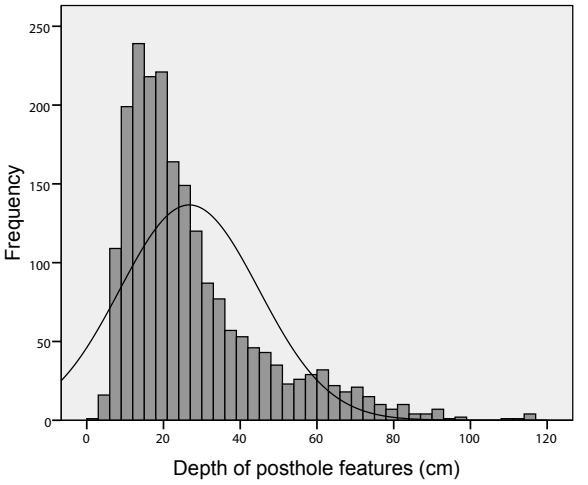
Figure 59. Overview of main unit excavation in 2006 (note the looser consistency of the bedrock in the near picture). White objects are feature labels fixed to the bedrock.

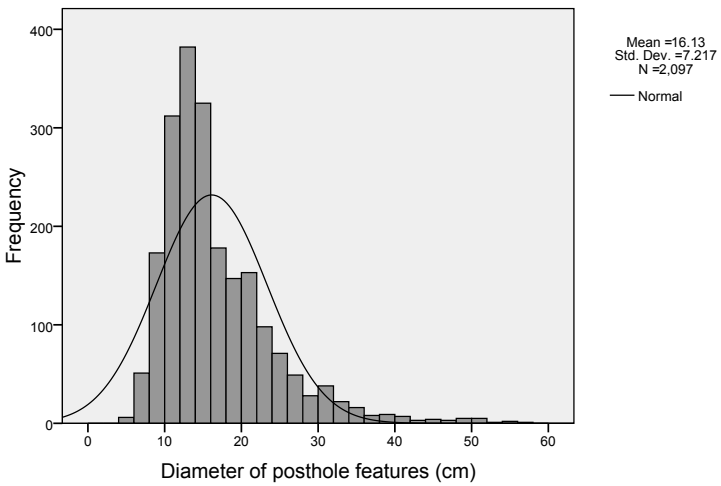
The distribution curve is even tighter for posthole diameters (Fig. 61). Ninety percent of all postholes are equal to or less than 25cm in diameter. Over 50% are between 10 and 16cm in diameter. This means that the majority of postholes are relatively slim poles. Diameter classes naturally break into are 4-9cm, 10-16cm, 17-33cm and 34-69cm in width.

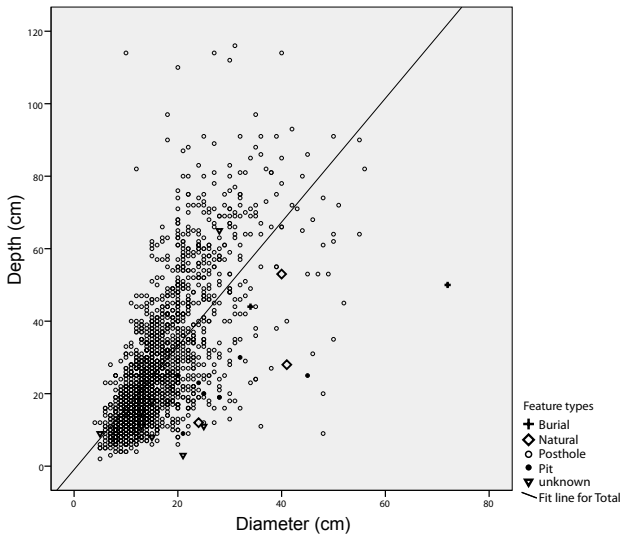
From the distribution of and correlations between the depths and diameters of the features, we can characterise the overwhelming majority of features as slim, shallow postholes. The fact that the dimensions are relatively small has much to do with the visibility of the features in the bedrock matrix, but it is also an accurate representation of real building practices and proportions of the building material selected. This latter is a "real" category of postholes which corresponds to a specific function. This function corresponds to the most common

Figure 60. (left) Histogram showing the frequency of posthole depths in 3cm intervals.

Figure 61. (right) Histogram showing the frequency of posthole diameters in 2cm intervals.







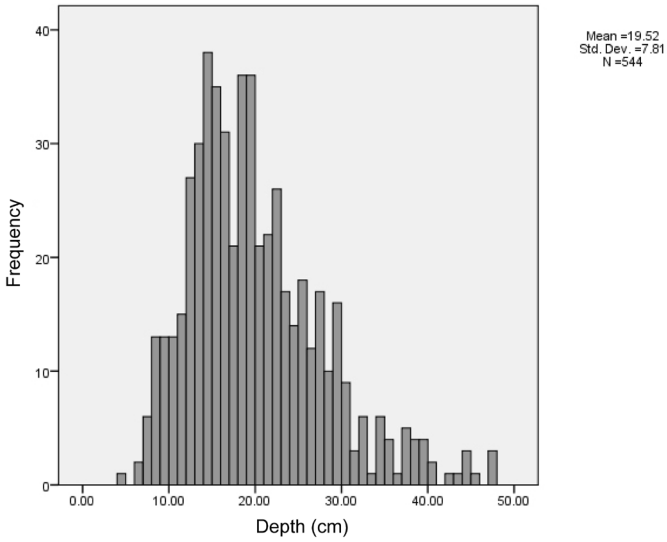


Figure 62. (left) Scatter plot of the relationship between depths and diameters of all features in main unit. The linear regression line summarises the relationship between depth and diameter.

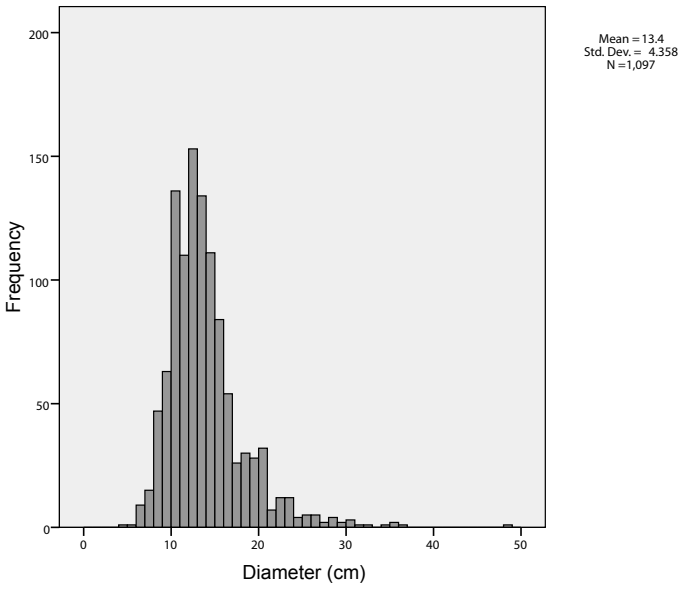
Figure 63. (right) Histogram showing depth frequencies for postholes between 12-14cm in diameter.

dimensions for construction timbers. The posts of the outside walls of circular structures fit into postholes between 12-14cm in diameter (26% of all postholes). Figure 63 indicates that although post diameters were relatively standardized (according to function, see Chapter 5) the depths vary within these categories. Most are between 15-20cm in depth, but range from 4 to 47cm.

If one does the same with diameter frequencies for posthole depths between 10-25cm (50% of all postholes, i.e. a *larger* class than for the diameters, 26%), then one sees that there is much less variation, and that the standard deviation from the mean is smaller than for the diameter frequencies for a smaller class (Fig. 64).

This suggests branches or timbers of a standardized thickness (ca. 10cm) were preferred, and the postholes were executed to accommodate them. Although depths are strongly correlated to diameter, the larger standard deviation suggests either the depth was less crucial (because the bedrock provided ample support after a certain critical depth?), or, as we shall see in the next chapter, because depth correlates not only to diameter, but also with another factor: the position of a post within a structure. Taken altogether, however, the average ratio of diameter to depth is 1:1.6.

Figure 64. Histogram showing diameter frequencies for postholes between 10-25cm in depth.



Unlike Golden Rock, where 60cm had to be added to the height of the excavation level to compensate for deterioration of the original living floor (Schinkel 1992:145), in El Cabo we can be confident that the feature excavation level, level 1, is also the original living floor level and that by and large excavated feature depths are real depths.[115]

Base shapes of the postholes tend to be round to cone-shaped, with larger features having gentler, flatter bottoms and smaller ones, more sharp terminations (Fig. 65). Base-shape however was not considered particularly diagnostic, as the distinctions between the

115 In Golden Rock, 60% of the posthole features were between 1-26cm below excavation level. In actual fact this means the features were reconstructed as being 61-86cm deep.

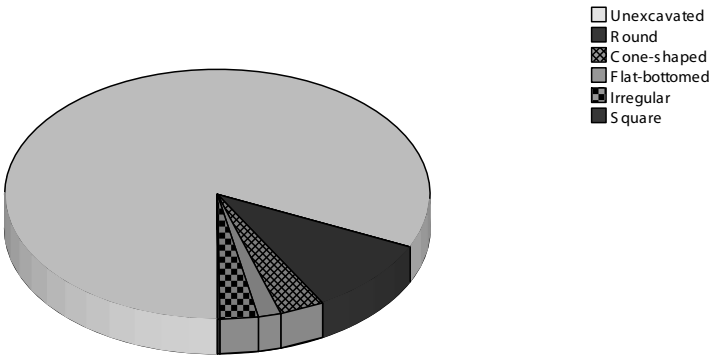


Figure 65. Pie-chart showing the relative frequencies of base shapes of posthole features.

shapes were not sharp, and many postholes shared similar forms, presenting themselves as regular cylinders. The bodies of many of the larger postholes billowed or flared halfway down their lengths, so that their tops and bottoms were slightly narrower.

The control and skill exercised in manufacturing the features can be seen from a number of their characteristics. Firstly, they are all executed with a high degree of regularity. This is regardless of the hardness of the matrix into which they were dug. Secondly, the tool marks visible on the inside walls of many of the features show that they were made with controlled and sustained movements. Tool marks, if visible, appeared as vertical chiselling on the walls and edges of the holes (like inverted, fluted Doric columns), but sometimes a pecked technique was used. This was observable on both large and very small features (Fig. 66). Some of the vertical chiselling runs in parallel lines from the top to the bottom of sometimes very deep features with no visible break. This gives the impression that they were sawn. Thirdly, there is evidence for very few mistakes in the negative architecture of the habitation area – such things as tool slippages, incorrect placement of the hole, etc. are hardly ever observed. When features were placed close to each other, the thin walls between them were preserved all the length of the feature, again evidencing knowledge of how to work the bedrock and if the posts were no longer there, knowledge of the position of former posts. In general, posts would have fitted snugly into these holes with minimal room for lateral movement. The relative absence of packing stones in all but the larger postholes seems to support this (although see below on the evidence from burnt posts).

Elsewhere in the Caribbean (Golden Rock and Tutu), holster-formed postholes were dug out to ease manoeuvring of posts into the holes. Here, the inhabitants of El Cabo preferred to make the most of the natural, solid and strong properties of the bedrock, and make the postholes as constricted as possible to benefit from the natural supportive properties of the bedrock. The native technology appears to be light framed with good foundations.

As already noted, in many cases the smaller and larger postholes have evidence of tool marks. The most obvious of these can be observed as closely spaced vertical to diagonal grooves down the length of the feature's wall. Lithic and coral tools approximating the size and shape of the grooves were recovered from a number of the test-pits, although it remains speculative whether such implements were used to manufacture postholes. A rougher finish in some of the features may result from hand-pecking rather than from a pick-and-*coa* (digging stick) technique, although the roughness could equally result from erosive processes. Experimental tests would shed light on how the postholes may have been produced.

Figure 66. A selection of posthole features with visible toolmarks on their interior walls. This is visible on large (right and left) and small (centre) features alike. The three features on the left evidence chiselling-type marks, whereas that on the right appears more pecked.

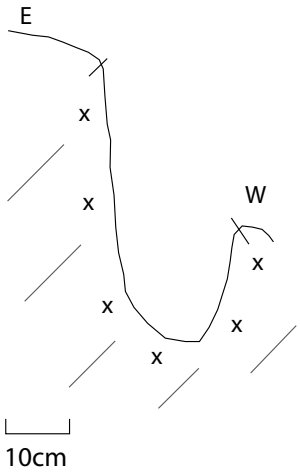


Figure 67. Here the posthole (84-29-F21) falls between two bedding planes, hence the eastern wall is modified at a higher position than the western wall. The maximum depth (i.e. on the eastern wall) was recorded for all feautures.

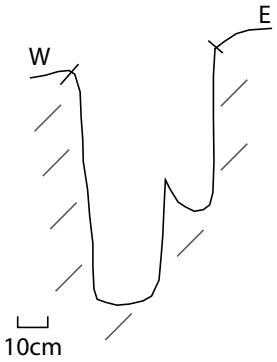


Figure 68. Posthole features (84-59-F96/96) intersecting each other. Such "double" postholes are quite common. The smaller is not *a support element however, as generally, the two features belong to different structures.*

It is clear that the indigenous population did not take account of the jagged micro-topography of the bedrock when deciding where to place postholes, but worked to a pre-defined idea about the desired structure. This can be seen from the fact that features occur between beds, on peaks, in troughs and some of the smaller features consist of toolmarks on the side of a bed where the limestone has been modified, but not dug into until a hole was made in the limestone proper (Fig. 67).

More often than not, the absence of smaller features in clear configurations where they would be expected coincides with natural crevices and channel-like irregularities in the bedrock, especially towards the coast. In terms of spatial distribution, the posthole features occur singly, in pairs, and in clusters of three. These are generally related to separate building events rather than acting as support posts, which of course are not necessary in bedrock foundations.

In cases of multiple overlapping features it is difficult to establish which feature was cut first or, indeed, whether they were contemporary. In most cases the postholes have been dug vertically into the bedrock. Almost 25% of the features excavated (n=123), however, were slanting, meaning that they were dug at an angle so that the posts they supported would not have stood vertically upright (Fig. 69).

4.2.10.5 Feature fills

Most features contained one fill, but some of the larger features contained more. The differences in fill are due to both cultural and natural processes. The most commonly occurring difference noted in feature fills was a gradual increase in sand content and decrease of humic content in the bottom part of the feature. This is not equated to different fill events, but to pedological factors. The contents of the fills were also dependent on abandonment processes, i.e. whether posts had been removed, or left *in situ* on house abandonment. Five post stumps were recovered *in situ* in 29-F178, F249 and F293, and 85-50-F156 and F193 (Figs. 70-74). These were the remains of burnt posts left in place when the structure was burnt down.[116] The first three (Figs. 70-72) are interpreted as belonging to the same structure and have consistent radiocarbon dates (Section 4.2.8; GrN-29035, 30534, 30535). The latter two similarly belong to another structure with consistent radiocarbon dates (GrN-31417 and GrN-31418).

116 In these cases the posts were fully burnt, and related to abandonment, not just charred as in the case of some of the posts recovered from the Tutu site where post ends were charred on construction of the house to strengthen and protect the wood (Righter 2002a:301-303).

The posts in Figures 70-72 showed a pattern of combustion consistent with burning at high temperature *in situ*. In all three cases, the middle of the trunk was burnt away, leaving two outside sections of charred charcoal. This is due to the fact that the more oxidized inside had burned away completely, unlike the outside which was packed by soil and therefore not oxygenated (pers. comm. Menno L. P. Hoogland).

The postholes of these three features are larger in diameter than the posts they contain, and the spaces around the posts were packed with stones. The holes are 46-50cm in diameter, the posts themselves are 20-26cm in diameter. Moreover, the posts did not reach the bottom of the pits. This is in contrast to the observations made above, that posts would have fitted the postholes quite

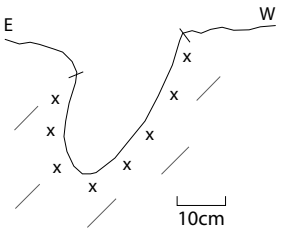


Figure 69. Example of a slanting feature, 84-29-F07. Crosses indicate visible toolmarks.

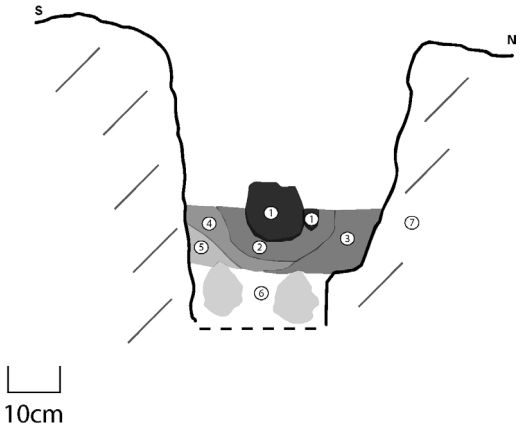


Figure 70. Section drawing and plan photo of burnt post 84-29-F293 (note: fill above burnt post remains not sectioned). Legend: (1) charcoal; (2) ashy post stain; (3) dark heterogeneous fill; (4) light, heterogeneous, stony fill; (5) yellow/brown fill; (6) yellow sand and loose bedrock, natural stratum.

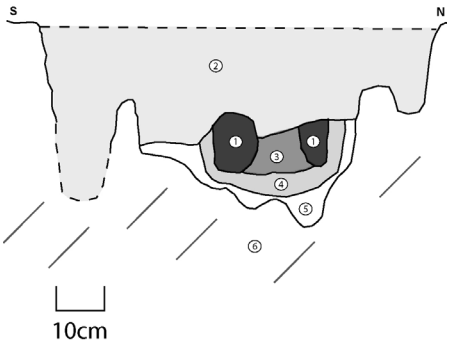


Figure 71. Section drawing and plan photo of burnt post 29-F178. Legend: (1) charcoal; (2) brown/grey sandy heterogeneous fill; (3) ashy sand and charcoal; (4) consolidated sand, some charcoal; (5) brown sand; (6) loose bedrock.

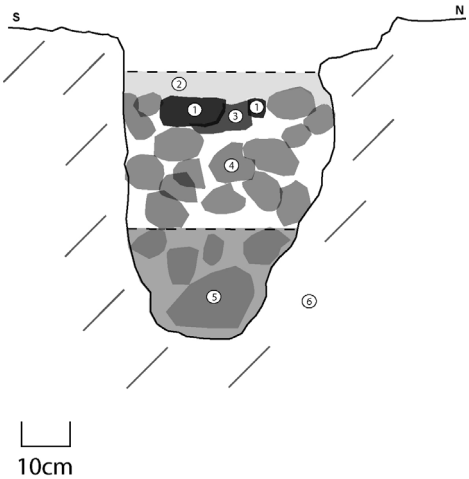


Figure 72. Section drawing and plan photo of burnt post 29-F249. Legend: (1) charcoal; (2) brown/grey sand; (3) brown loose, homogenous sandy soil; (4) grey, stony sand; (5) greyer, many larger stones; (6) loose bedrock.

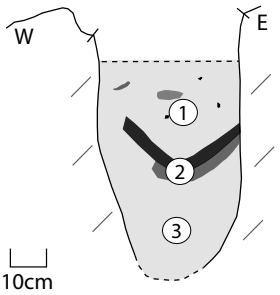


Figure 73. Feature 85-50-F156. Legend: (1) brown humic soil with ceramic, charcoal and faunal remains; (2) charcoal layer, with ashy shadow underneath; (3) as 1 but fewer archaeological inclusions. Bottom of feature in sterile sand.

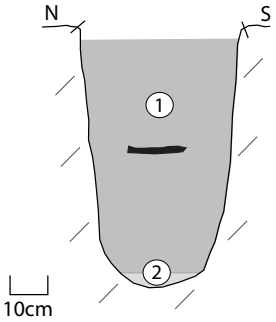


Figure 74. Feature 85-50-F193. Legend: (1) brown humic sand with very negligible remains and a thick layer of charcoal marking the bottom of a burnt post; (2) yellow sand.

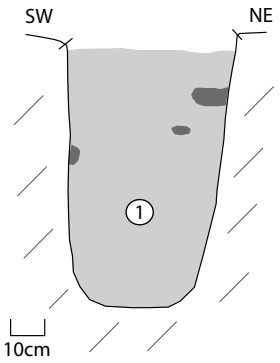


Figure 75. Feature 84-51-F282. Legend: (1) light brown sand, gravel and stones, negligible faunal and ceramic remains. All one fill.

snugly. These postholes, in sector 29, were made more roughly than those in the easterly sectors, perhaps related to the fact that the bedrock in the western half of sector 29 is of a more crumbly consistency than further east. However, based on evidence from elsewhere in the unit, it would appear that at least some of the larger postholes were made bigger than the posts for which they were destined.

This may also have been the case with two more adjacent posts (interpreted as the entrance posts of a structure) in sector 85-50, which also contained remains of burnt post stumps in their fill. The bands of charcoal visible in the sections are interpreted as the bottoms of posts (Figs. 73 and 74). Note that here as well the posts do not reach all the way to the bottom of the posthole.

Yet other postholes appeared to have had their posts removed, and the posthole subsequently refilled, in one event with clean material. This is the case with the large posthole pictured in Figure 75, which was wide enough in diameter to section. The fill was homogeneous and there was no evidence of a post shadow in the section.

In other cases, the posts had similarly been removed, but the holes were backfilled with large stones. This is the case with the feature in Figure 76.

In the latter two cases (back-filling after post removal), this can be seen as a desire to re-use a plot of land. However, the majority of the features contained the same material as layer 1 (i.e. the quantity of archaeological remains depending where it was located in the unit). This is also attributed to posts being removed, and refilled with the surrounding matrix.

These assertions are made with caution, however, as due to the small size of many of the features and the impossibility of conventional sectioning, detailed observation of the fill section for signs of such phenomena as post shadows was not possible. Had posts been left to rot *in situ* for example, we would only have been able to detect this for the very largest features. The only thing we can say is that this practice was not observed in the few posthole features which *were* sectioned. Instead, post-removal followed by back-filling, and burning of the structure are two practices for which we do have positive evidence. Although we cannot be sure what percentage of excavated features represent cases where posts were deliberately removed, we can at least be more confident about cases where structures have been burnt down. Charcoal was easily spotted and documented in the fills of features. In small quantities, charcoal in posthole fills does not necessarily indicate burning (it may have been present in the back-fill material). Smaller features with charcoal were only interpreted as part of burnt structures if most features consistently showed burnt remains and the larger features of the same structure contained burnt post remains or significant amounts of consolidated charcoal. As will be seen in Chapter 5, this was the case for a small number of structures only.

4.2.10.6 Non-posthole features

Despite being vastly outnumbered, other types of feature were documented in the main unit. This for example was the case for burn patches associated with structures. Although the natural colour of the bedrock varies from white to greys and orange according to different oxidization processes, it was possible to identify two large areas of bedrock which appeared to have been transformed due to exposure to intense heat. These were features 84-29-F371 and F372 (indicated with solid lines in the far west of the unit in Fig. 47). These areas may be associated with the same burning event as described above for the postholes in this area. This will be discussed in Chapter 5.

Other features in the west of the unit were a pit (39-F270), an anthropogenic channel (29-F363 and F363 west) and the deposition of a neonate (84-29-F261). The pit was oblong shaped with a rounded end (the other end went into the trench wall) and cut by two postholes. The bottom and inside walls of the pit had clear toolmarks in them, resembling the marks of a small chisel and multiple shaping blows so that the finish was relatively smooth. The fill had higher concentrations of faunal remains in it than the majority of the postholes in this sector, although not in high enough densities to characterize it as a refuse pit. The anthropogenic channel was related to several rough postholes. The chronology is not clear, i.e. whether the postholes cut the channel or vice versa.

The deposition of neonate remains in 29-F261 is spatially associated with multiple circular structures in sector 29. At this stage it is not yet known whether: (a) the skeleton is complete, although on excavation the cranial fragments, ribs and long bone seemed to be in anatomical position and; (b) whether the deposition is in fact associated with the burnt structure. There were for example very minimal charcoal remains in the burial pit.

The deposition of human remains was also encountered in another feature, 85-40-F17. This was a small, stone-covered pit containing the badly preserved remains of a crouched (wrapped) inhumation spatially associated with posthole features. The grave pit contained a few sherds and shell (such as an intact *Cittarrium pica* shell). The burial was directly against the unit wall and thus further spatial information could not be ascertained. Another posthole contained a fragment of a possibly human tibia.[117]

Human remains are associated with posts and posthole features in other sites in the east of the Dominican Republic such as Juan Pedro and Atajadizo (Veloz Maggiolo et al. 1976, 1991, 1996; Veloz Maggiolo and Ortega 1986).

Elsewhere, another non-posthole feature which may be pre-Columbian in origin (85-62-F13) was a set of grooves on the edge of the cliff as if caused by repeated rope action in one spot (Fig. 78, left). This has already been described in Section 4.1.3.

A further observation on the features of the main unit is that in some areas (especially observed in sectors 29 and 49, but detectable in the majority of the unit with the exception of along the coast) the peaks of the bedrock had been artificially flattened to create a smoother surface (Fig. 78, right and Fig. 47 indicated by solid lines). Coupled with the evidence for burning (F371 and F372), this suggests that, as mentioned above, the bedrock was the actual living surface

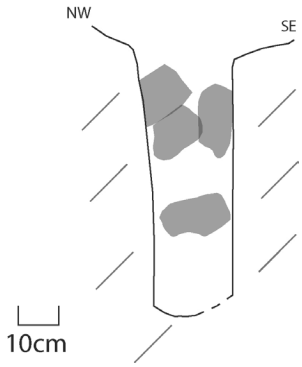


Figure 76. Section drawing of posthole feature in which the post has been removed and the cavity back-filled with large stones.

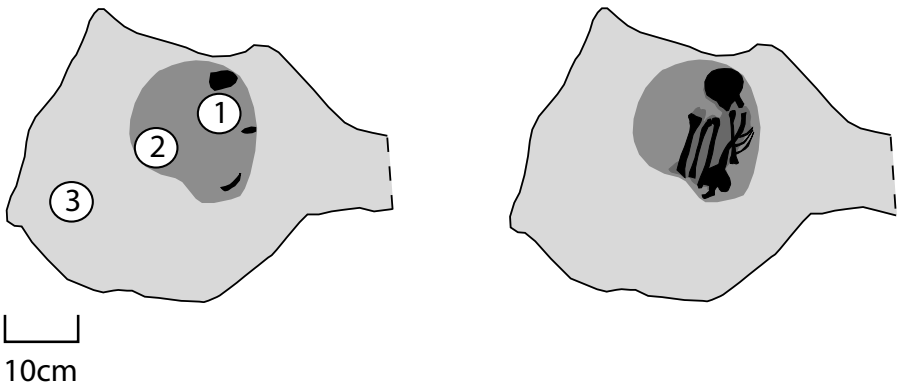


Figure 77. Plan drawing in level 1 of 84-29-F261, the deposition of the bones of a neonate in a small pit in the bedrock. Legend: (1) skull and rib fragments; (2) loose brown sand and gravel into which bones are deposited, and into the yellow sand underneath; (3) brown sand and gravel. The figure to the right is an impression of how the majority of the long bones, skull and jaw lay in the pit, i.e. loosely articulated with some missing elements.

117 Pers. comm. Dr Darlene A. Weston.

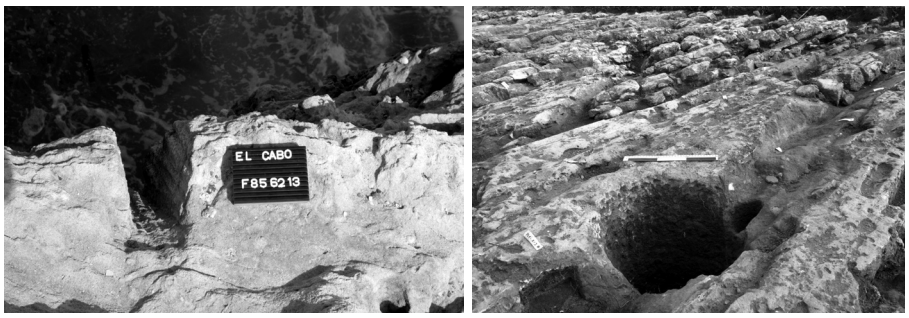


Figure 78. Feature caused by repeated abrasive action (left; note visible striations on inside walls). Area of artificially flattened bedrock in sector 49 (right). Note "smooth" aspect of bedrock around the feature and flattened peaks.

in the past. In the next chapter it will be shown that these areas occur inside the main structures and indicate that the bedrock, perhaps covered by mats, or a layer of earth or sand, was the living surface inside these structures.

Also noteworthy were several squareish features in 85-52 and 85-62. These occurred in the same area as the present-day fence which cuts the unit across these sectors. The feature walls of some were also relatively "cleanly" cut compared to the rest of the features in the unit. One or two round holes had clearly been drilled through the bedrock recently and in other areas precolonial postholes were used to support the posts of the present fence. All were mapped.

4.2.11 Surface survey methodology

To compliment the data from the main unit excavations, a surface survey was carried out in the southern portion of the site. This was to gain more qualitative data on depositional variability across the largely Chicoid part of the site. It was hoped to see more nuanced patterning in the sheet midden deposits. In such a way it would be possible to compare data from a larger area with that from the main unit, to place this unit in a site context and thus assess how representative the excavated part of the habitation area was in comparison with the rest of the late-phase habitation area. Moreover, it would provide comparative data for the geophysical data which covered largely the same area.

The survey limits ran from the "mound" (a rise ca.130m inland, between the coast and the present-day village, the karst of which was exposed at the surface) the western slope of which marks the westernmost boundary of the site. Other borders were formed by the coastline (east), the southern site limits (i.e. the point at which the surface material dwindles to nothing) and the main unit. The surveyed area did not completely meet the main unit because spoil heaps from previous campaigns were an obstacle.

Survey logistics were aided enormously by the vegetation clearance of the geophysical prospection in May 2007 which left swathes of the site almost bare.[118] Due to the lack of rain, none of this vegetation had recovered in the intervening two months, leaving 0.75 hectares of the southern portion of the site with equal visibility. This was true of the whole area surveyed except for the parts not covered in the geophysical campaign, and so an additional 3200m² of vegetation was cleared by machete.

Survey transects were set out in 20×20m units (Fig. 79). Material was collected from 2×2m units in checkerboard fashion with 50% coverage achieved. Due to time constraints the survey area is not completely continuous and alternate transects were surveyed in the northwest area (hence "empty" areas). In total ca. 8500m² was intensively surveyed with 50% coverage.

118 This was also the case at En Bas Saline, Haiti where fieldworkers profited from extensive vegetation clearance for an electromagnetic survey to carry out a surface collection (Deagan 1989:455).

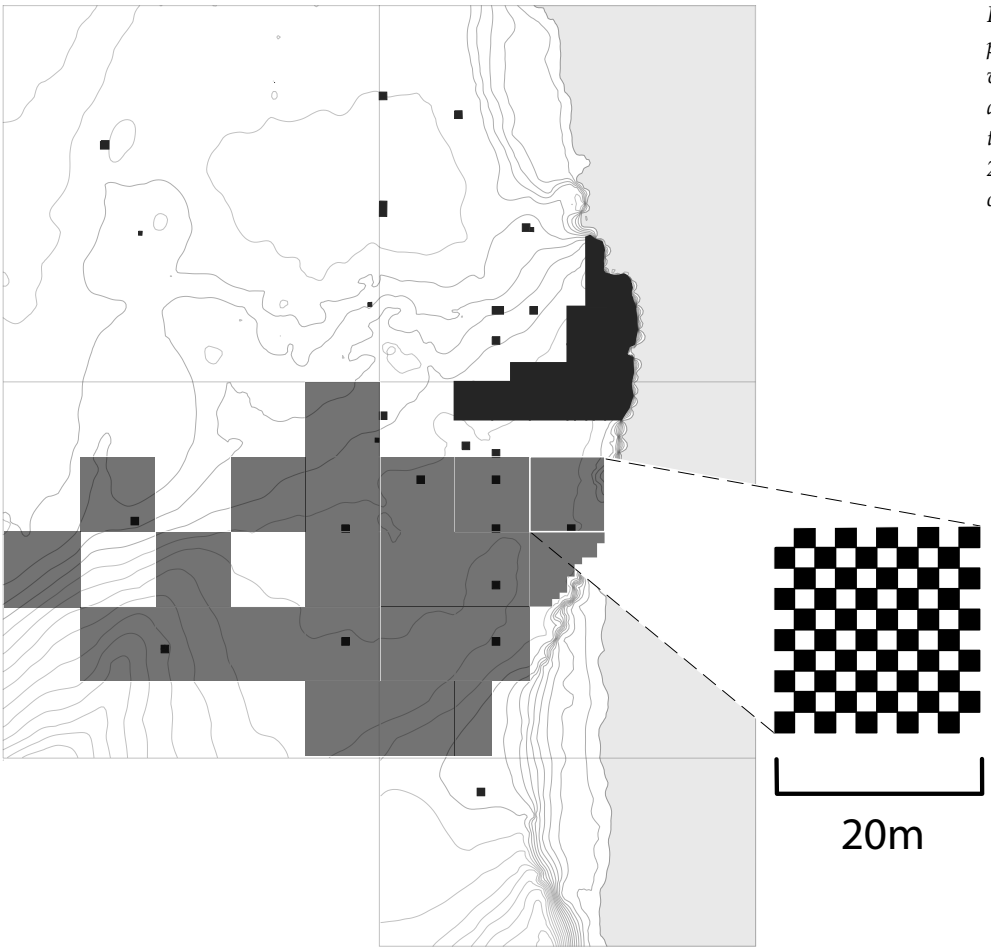


Figure 79. El Cabo site plan showing areas surveyed (dark grey) and detail of zoomed survey transect divided into 2×2m squares for 50% coverage.

The first intention was to count ceramic material only, leaving it *in situ*. However, subsequently it was decided that the ability to make a qualitative distinction in the material to shed light on activity areas (i.e. griddle, non-griddle) and to check chronological differentiation in ceramics (early/late) to nuance the broad dichotomy between north-early, south-late was desirable. In the end all material, with the exception of land shell and unmodified local stone was collected (i.e. bone, marine shell, coral, ceramic, exotic/modified stone, and all modified material and artefacts). Material bigger than a fist (e.g. mature *Cittarium pica* shells) was left in the field in those areas covered by georadar seeing as this was tossed aside in the geophysical campaign to allow the easy passage of the radar antenna.

Qualitative analysis of the ceramics is pending, although observations in the field and laboratory during sorting indicate that most has Chicoid characteristics, rather than early Ostionoid (using the diagnostic characteristics or red, well-fired, thin, which of course are just guidelines, and ignoring the fact that the Late Ostionoid ceramic characteristics are hard to distinguish from those of Chicoid, especially the paste of body sherds).

The results of the surface survey gave very good insight into intra-site settlement dynamics. These results will be discussed in Chapter 6.

4.3 Discussion

This chapter summarised the fieldwork carried out over four seasons in El Cabo, as well as the field, data recovery and documentation procedures. Results were presented from the coring, topographic mapping, dating and small units as well as a more detailed discussion of the main unit excavation and the features and find layer from this unit.

Five radiocarbon dates from charcoal from post stumps in the main unit indicate that building activities were taking place on the El Cabo promontory between the early 12th to late-14th centuries, with an additional date from shell in the 9th century and imported European material extending this chronology both earlier and later.

A certain degree of horizontal segregation between the early and late habitation is suggested by radiocarbon dates and the ceramic typology. Dates from the northern portion of the site (zones 75 and 85) indicate the start of habitation from the beginning of the 7th century and a sequence of dates until the 11th century. This occupation, whether continuous or not, created the ring-shaped accumulations of Ostionoid midden material in this area of the site with habitation presumed to have been located in the area inside these deposits (Fig. 80). Late dates from the main unit, as well as predominantly Chicoid ceramics and

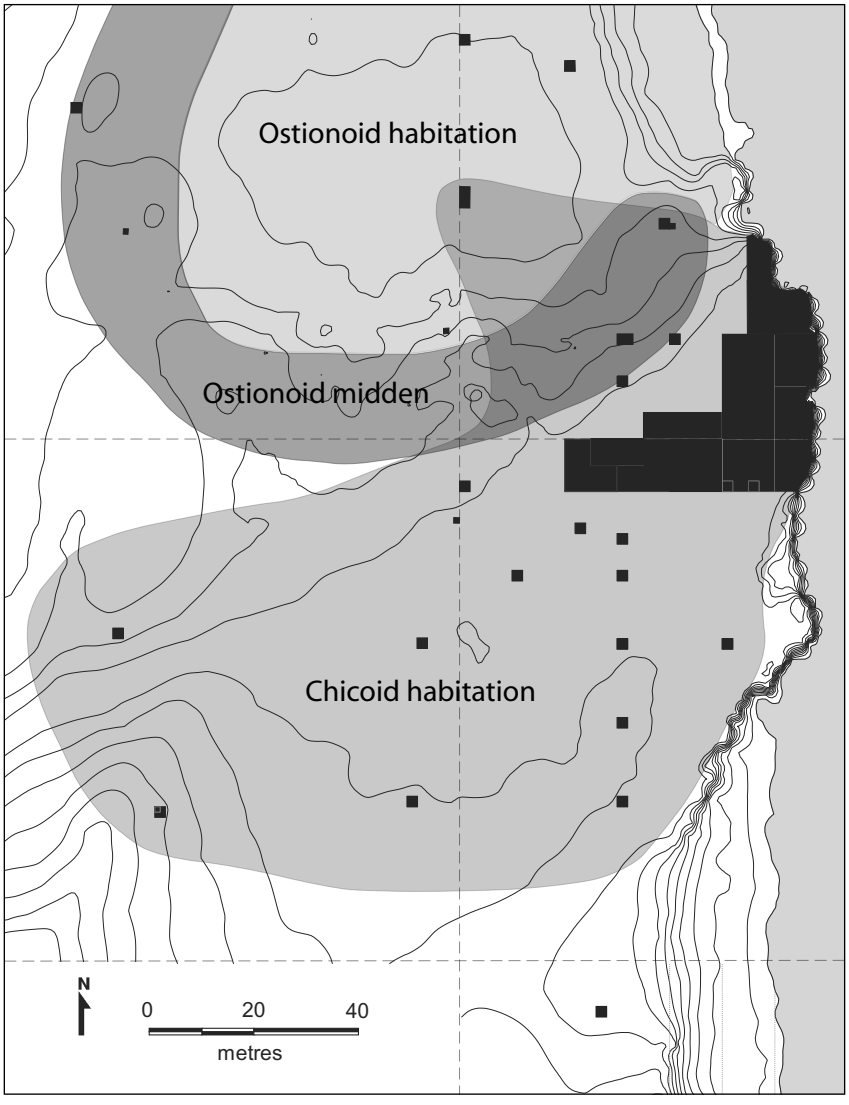


Figure 80. Simplified distribution of main densities of Chicoid and Ostionoid material across the site.

12th to 14th century dates from smaller units in zones 74 and 84 indicate habitation had spatially shifted south in the later period, despite some overlap with the earlier habitation.

The picture presented below is a simplified visualisation of the data. In general dates from across the site indicate the start of the Chicoid in the 9th century in El Cabo, with earlier Ostionoid habitation limited to the northern part of the site, and Chicoid habitation concentrated in the south with overlaps in the north to an unknown extent. Detailed ceramic analysis would help refine this picture. Ultimately only more excavation in the lesser-investigated north of the site would clarify occupation sequences here.

The shallower deposits on top of the bedrock in the southern part of the site were more intensively researched owing to the quality of the features, the predominantly single-phase Chicoid deposits, and the minimal disturbance by looter activity. The large unit excavated here revealed thousands of features cut into the bedrock. The detailed overview of the morphological and metric characteristics of the features led to the interpretation of the majority as postholes. This interpretation is strengthened in Chapter 5 which presents the reconstructions of the features from the main unit and develops a typology of built structures.

Chapter 5

Reconstructions of the built environment in El Cabo

5.1 Methodology of reconstruction

The field methodology, data attributes and characteristics of the features in the main unit have been described in the previous chapter. This was to give the reader the necessary information and background for the reconstructions proposed in this chapter.

Three factors were of primary importance in identifying structures: (1) the visual impact of the spatial relationship between features on the plan drawing; (2) diameter and depth information of each feature, visually represented; and (3) the identification of "template configurations" as keys for identifying other structures.

(1) Structures were primarily identified on the basis of the spatial relationships between features in the horizontal plane. This is immediately apparent when looking at the plan drawing of the main unit: circular forms leap off the page! Accuracy of plan drawings is therefore crucial. Considerations which help maintain the accuracy and utility of field drawings are continuity in terms of draughts-people and those who give the measurements (either one or the other role should preferably be consistently the same person/s), ensuring that feature concentrations are spread over as few excavation units as possible, and thereafter drawn on as few sheets as possible. In addition to drawing the features to scale by hand in the field, point plotting feature centres with a TS is an important control of accuracy. Any discrepancies between the field drawing and the digital map are evident if they are overlain on top of each other. These can then be resolved.

(2) Following spatial relationships, diameter and depth of features were the next most important factors involved in interpreting structures. This metric information was known for all features. This was not only a factor in the interpretation of the function of individual features (pit or posthole, interior or exterior, etc.), but it also clarified relationships between features.

(3) As familiarity grew with the types of elements present in the unit, certain commonly occurring "template configurations" or diagnostic parts of structures were identified and taken as templates by which to identify similar structures. So, for example, after the most evident circular configurations had been isolated, entrance configurations, with their tell-tale orientation and accompanying pair of aligned roof-supports, were often arresting elements of a house structure.

All other lines of evidence, such as the presence or absence of toolmarks and the shape of the bottom of a feature, were considered secondary to the spatial and metric characteristics at the identification phase. These characteristics were consulted for the corroboration or questioning of a particular interpretation.

Other factors such as fill properties became more relevant in later stages of the analysis, concerning for example the lifecycle or chronology of particular structures. Fill properties were rarely a factor in the identification of structures (unlike for example at Anse à la Gourde, Guadeloupe, where Structure 3 was identified on the basis of *Chama sarda* shell fragments in posthole fills, Duin 1998), although they were important in terms of interpretations of abandonment.

Archaeological material excavated from both feature fills and the artefact layer were also important in terms of determining function and relative chronology of the structures as well as related activities and practices. The material categories coral, non-local stone, local stone (mainly bedrock), bone (fish and mammal), land shell, marine shell, ceramics (decorated, undecorated, griddle), charcoal, metal and glass were taken into account during analysis of the structures.

Arriving at the reconstructions presented was a process of many phases, which has by no means exhausted the infinite refinements which may be made in the future, or by other researchers. What is presented are not the final, but the best possible reconstructions. No reconstructions are presented which are not deemed credible by the author.

Reconstructions were made in multiple stages, and by developing the most efficient use of the software for the data at hand. [119] This was found to be a system of colour-coding features according to depth and successive "fading-out" of features as they were assigned to structures. A brief synopsis of the desk-based analysis is given below.

5.1.1 Desk-based analysis

First, using GIS software, a base map of the plan drawing was visualised (in MapInfo from data imported from AutoCad maps and database tables) in which all features were colour coded, in three ranges, according to depth. This base map gave a maximum of visual information (i.e. location, diameter and depth) without an overload of detail. Finding this happy medium was a process of constant adjustment.[120] Depth classes were initially chosen according to the *natural break* algorithm in the software programme and subsequently refined to follow an archaeological reality: i.e. the main functional categories of features in the most prominent structures – the circular buildings.[121] Roughly this equates to: (1) features related to perimeter walls, alignments and light structures (1-24cm, i.e. shallowest); (2) support elements, usually internal to structures (46-116cm, i.e. deepest); and (3) mid-range features which could fulfil either function (25-44cm). The most distinct configurations and patterns were isolated, and gradually, starting with the most confident reconstructions, structures were "faded" from the plan.[122] This meant that no features were ever deleted from view, but remained visible as having been already assigned.[123] Successive stages of fading

119 MapInfo, version 7.0, copyright 1985-2002 MapInfo Corporation; Microsoft Office Access 2003, copyright 1992-2003, Microsoft Corporation; AutoCad 2008, ACIS copyright 1989-2001; SPSS 16.0, copyright SPSS Inc. 1989-2007.

120 Adjustment of depth ranges and colours. Especially colour selections are sensitive to observer differences: I found the best combination was pink for the shallow features (white was too "empty"), grey for the mid-depth range features and black for the deepest.

121 Not because this is the only type of structure present in the unit, but because it was a secure starting point. Once these more conspicuous and reliable elements had been identified the visual map was altered to highlight other potential configurations.

122 Their colour properties were changed to make them less prominent but still visible.

123 Some features were used more than once, but preferably in combination with corroborating archaeological evidence (fill, re-shaping, anomalous size for a particular function (suggesting re-cutting), etc.

structures isolated those features which were more problematic to assign, and which in turn (sometimes!) yielded their patterns once freed from the dense clutter.

In early phases, minimal reconstructions were always preferred. Therefore, elements such as repairs, double features and overbuilding were not incorporated at first in case they belonged to other structures. However, once as many credible structures had been reconstructed as possible and other categories of evidence had been assessed (fill properties, dating, morphological details of the feature, etc.), additional features could be assigned more confidently. Hence the reconstructions presented are the fullest versions plausible.

The more surface area exposed, the easier it is to reconstruct structures. Therefore, areas in the southeast of the unit have higher proportions of assigned features because this is the largest exposed area. Conversely, the closer one gets to the boundary of the excavated area, the harder it is to assign features, as they often belong to structures which are partially or almost fully outside the excavated area. This is also the case for larger structures in excess of 10m in diameter which are simply harder to reconstruct being in excess of the excavation boundaries. For example, there are two structures which have a potential area of over 100m^2, although due to the restricted vision of the whole structure these have relatively low reliability ratings. Thus the size of the excavated area greatly influences the size of structures which will be reconstructed: structures larger than the maximum diameter of the excavated area will inevitably be harder to spot. This is not to say that such structures have been overlooked, but that these are not be the easiest to identify.

5.1.2 Confidence classes

Due to the stability, preservation conditions and relative flatness of the bedrock (little difference in elevation despite surface irregularities) in the El Cabo main unit (as opposed to soil stains in more dynamic environments), features can very confidently be assigned a functional interpretation (postholes, natural depressions, burials, pits, etc.), and thus, as mentioned above, much emphasis is placed on the spatial and physical properties of the features as an indication of their fitness for inclusion in a particular reconstruction. Elsewhere in the Caribbean differences in excavation planes (i.e. slopes and micro-topographic irregularities), features spread over different units, lack of regularity in built elements and differential soil formation processes contribute to variation and pose greater challenges to reconstruction (Bright 2003; Curet 1992a; Hoogland 1995, 1996, 1999; Hoogland and Hofman 1993; Kaplan 2009; Morsink 2006; Righter ed. 2002; Siegel 1992; Versteeg and Rostain, eds. 1997).

Many structures were recognised in the field, especially when larger excavation extents were laid bare in later seasons. The remarkable uniformity in spacing, depth and diameter of features and the clear patterns observed in the field also aided the desk-based reconstructions considerably.

In summer 2008 reconstructions of all the main circular structures recognised at that time and some harder to interpret structures were checked again by excavation of one or more internal and external features of these structures. Entrance features were deemed particularly diagnostic and so often selected for excavation.[124]

124 These were some of the largest features in the excavation and were thus more likely to have been excavated even when not recognized as part of a structure at the time.

A hierarchy of reconstructions is presented which reflects the confidence assigned to each structure by the author. Ultimately this hierarchy, reflected in reliability scores, is derived from a similar system used for assessment of house-plan reliability by the Leiden school of Dutch Prehistory and adapted by the Leiden Caribbean School (Arnoldussen 2008; Bright 2003; Fokkens and Jansen 2002; Morsink 2006). The classes will differ per site depending on the soil formation processes and substrata of the site. For example, in El Cabo all features appear in one plane (the bedrock), whereas the situation is different for example for dynamic flood-plain sites such as Jacanas (PO-29), Puerto Rico (Kaplan 2009). Moreover, criteria used in prehistoric Europe, where house typology is relatively well understood are not necessarily suited to the Caribbean context where house typology is hardly understood. In the Caribbean much more faith is vested in the interpretations of the excavator or the report writer. In Tanki Flip, Aruba, for example, feature configurations were approved as structures if they met "a certain minimum qualitative level" described as "regularly spaced postholes in the most symmetrical or regular possible pattern". However, a "less 'strict' criteria" was employed where it was felt necessary (Versteeg and Rostain, eds., 1997:33). At Tutu, St Thomas, USVI (Righter, ed., 2002:296-297), C14 dating was the most useful analytical tool for the identification of structures, followed by posthole depth, and the recognition of frequently occurring types or parts of types (similar to the "template configurations" referred to above). Because of the faith placed in the excavator and because of the lack of sites for comparison, researchers should be rigorous in their interpretations and not admit structures which are not defensible. Only by presenting clear arguments and being transparent about the level of credibility of an interpretation can a basis for a typology or trends in building traditions be identified and usefully employed as comparisons by other researchers.

Discussions between researchers in the Leiden Caribbean Research Group engaged in the reconstruction of site features, and a number of MA theses on this topic (Bright 2003; Duin 1998; Kaplan 2009; Morsink 2006) have provided a starting point to come up with a set of criteria or guidelines which may be used by future researchers, although procedures will necessarily vary per site. This is something which should be worked on collaboratively in the future.

Reconstructions of the site El Cabo site structures were divided into four, numbered, confidence classes, i.e. (1) = very reliable, (2) = reliable, (3) = plausible, and (4) = possible. The following criteria were applied:

Confidence Class 1

Very reliable. The structure was recognised in the field and the features checked in the field for conformity within a wider group of features. The features share metric and qualitative consistency (i.e. in diameter, depth, angle, spacing and fill) and, except in areas cut by the excavation boundaries, form a complete plan representing dug-down elements of the former structure. There is no doubt about validity.

Confidence Class 2

Reliable. The structure was recognised in the field or from visual inspection of plan drawings and the features checked in the field for conformity within a wider group of features. The features share metric and qualitative consistency (i.e. in diameter, depth, angle, spacing and fill). The structure represents a complete or nearly complete plan of dug-down elements, although uncertainties may exist about the precise former configuration in certain areas. This does not

detract from the interpretation as a whole. There is no doubt about validity, but uncertainty may exist in the details (due to rebuilding or multiple plausible interpretations).

Confidence Class 3

Plausible. The structure was recognised on the basis of visual inspection of plan drawings and field documentation. The features have some metric inconsistencies (i.e. diameters, depths, angles, spacing and fills may not entirely correspond) and the structure may be incomplete in excavated areas (i.e. outer or inner structure alone recognised), and evidence irregularities not shared by more secure examples. However, together the features evidence sufficient coherence to be recognised as conforming to a structure. Alternatively, a significant portion of the plan may fall outside the excavation boundaries, hindering recognition, but the visible portion is consistent with complete examples of the same type of structure. Thirdly, the structure may be recognised from plan drawings as a coherent configuration of features but is relatively uncommon in the unit, or has no features excavated to provide additional information. This is considered the best plausible reconstruction.

Confidence Class 4

Possible. Features show metric inconsistencies and incompleteness, but given their similarity to other configurations of features which are more secure indicate they may belong to the same type. Alternatively, features may be inconsistent, appear to form incomplete structures with no similarity to other structures reconstructed in the unit, but feature proximity, internal patterning and feature exclusion from other structures makes association as part of one structure possible. In short, it is felt that the balance of evidence is such that these configurations merit interpretation as a possible structure, over rejection.

5.1.3 Presentation of the structure interpretations

Due to the high quality of the data, and the fact that many interpretations are thought to represent complete, or near complete structures, the reported measurements (depth, spans, diameters, etc.) represent real building logic. Therefore, reported measurements such as average spans between posts or the floor area of structures are subject to interpretation based on what the building would have looked like based on experience gained from the other (more complete) structures in the unit. For example, where posts are deemed to be missing, or the structure falls outside the excavation boundaries, an interpretation is preferred that interpolates the "missing data".

So, for example, interpretations of "adjacent" and "opposing" postholes in a house structure are based on the interpreted orientation of the structure and its presumed internal architecture related to their function within a building. Other distances are not considered as relevant (Fig. 81).

Spans between any two posts are given from centre to centre. Given the former discussion, this is counter-intuitive, especially in the case of entrances, where distances between the outside edges of the features would give a real minimum size of a doorway. The logic here is that posthole diameters are not necessarily the same as post widths, and this is thought to be a more neutral way of reporting these distances.

Areas were calculated for all structures by drawing a polygon between the centres of all features of the external post circle. The maximum area (distances between 'missing' features interpolated and excavation boundaries ignored) is used for all discussion as this is deemed a more sensible representation of actual floor space than minimum areas where excavation boundaries or missing features make the area artificially smaller.

All structures, unless otherwise stated, are oriented so that the top of the page is due north. All structures, unless otherwise stated, are also reproduced to the same scale for ease of comparison. Each structure is presented, surrounded by the features *not* incorporated into the reconstruction. Hence the plan drawing of features immediately surrounding the structure is visible and the reader can see which features were included, and, just as importantly, which ones were excluded from the reconstruction. In the few cases where feature depths are not known, these are crosshatched. Solid lines indicate excavation boundaries, and, in the east, the edge of the cliff. Natural depressions in the bedrock, as well as artificial flattening of the bedrock are also marked on the plan drawings by solid lines (dark when relevant to a particular structure and lighter grey when not).

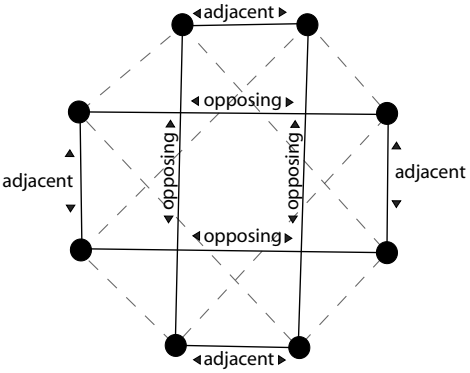


Figure 81. Schematic drawing of an internal configuration. Solid lines represent cited distances between opposing and adjacent posthole pairs based on a westerly entrance (i.e. east-west orientation). Dashed lines, also between adjacent and opposing posthole pairs, are not so relevant given the preferred interpreted orientation and internal architecture (i.e. the tie beams and ring beam).

The features in the plan drawings of the structures below are colour-coded according to depth. A division of features into three depth ranges has been made as this draws out the most important depth patterning and is visually comprehensible to the reader (more colours would be confusing). More subtle or extraordinary patterns will be illustrated separately where needed. For the depth legend for all the figures, unless otherwise stated, see Fig. 82.

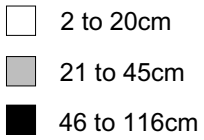


Figure 82. Depth (cm) according to colour.

5.2 Structure interpretations

What follows is a description of each structure identified in the main unit. Particulars such as spatial and physical characteristics, feature fill properties, special finds from feature fills (those from the find layer are discussed in the Chapter 6), history of abandonment, dating, associated features, overlapping structures, and shared features are discussed per structure. A synthesis of these characteristics is developed in a typology at the end of this chapter. How individual structures relate to each other and to the rest of the site is discussed in Chapter 6.

Appendix 2 contains an overview of the main characteristics per structure, and Appendix 3, available as an online resource, provides a detailed breakdown of the features per structure.

In total, 52 structures have been reconstructed. Most of these (n=40) comprise circular buildings. Additionally, a number of alignments and smaller post constructions can be recognized.

Structure 1 (Confidence Class: 1)

Spatial and physical characteristics. The plan of Structure 1 is that of a regular post-built structure consisting of an outer ring of 46 postholes and a configuration of eight postholes forming an inner roof-bearing construction. The floor area is ca. 36m². This structure is 7m in diameter with an average span between external posts of 46cm (from centre to centre of the features), and an average span between opposing pairs of the internal posts of 4.57m and 1.94m between

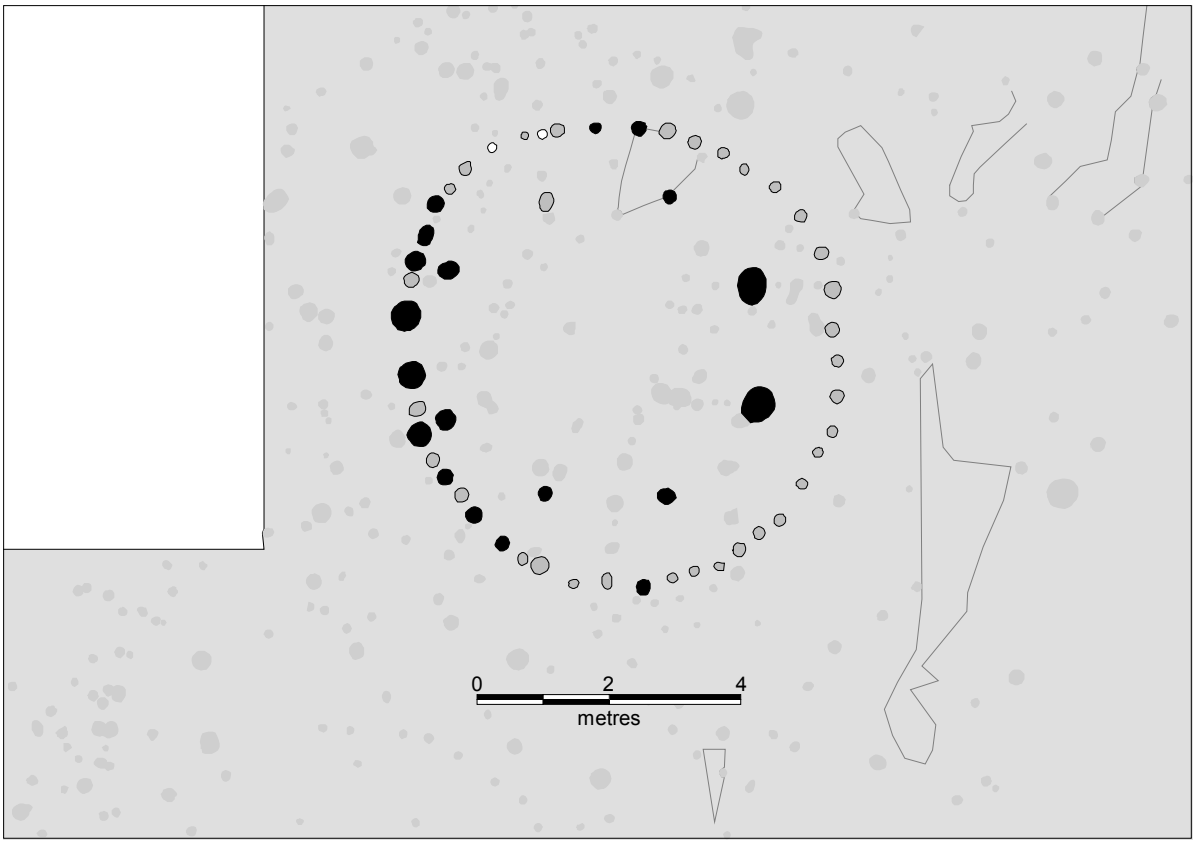


Figure 83. Structure 1.

the pairs. Postholes range from 13 to 74cm in depth and 10 to 50cm in diameter. An entrance occurs in the west marked by the widest spacing between the external postholes (90cm). Twelve features were excavated from this structure.

The overarching characteristic of the floor plan is that of a building which flows from front to back beginning with a monumentalized entrance which diminishes to an increasingly lighter construction towards the back. This general concept incorporates another pattern of regular alternation between larger and smaller posts along the whole perimeter. These smaller patterns coalesce within the larger form.

In terms of external form, nine features excavated from the outer ring (three from the south, east and north, respectively) were manufactured so that their posts would have been inclined towards the centre of the structure. This indicates that the outer ring consisted of slanting posts, secured at the top (terminating in either a cone- or beehive-shaped apex).[125] Other excavated features, including two internal posts and one entrance post, are vertical features, and would have supported vertical uprights. No other features were excavated from the west of the structure, so that it remains possible that not just the entrance posts, but also those flanking it (see more below) were vertical. In this case, one may envisage a vertical façade at the front of the structure, with the rest of the perimeter forming a sloping roof. Or if only the two entrance posts were vertical, then a portico-type entrance in a predominantly domed or cone-shaped form.

The distribution of depths of the features throughout the structure forms a regular pattern in which features in the western third of the external ring, and especially the two postholes forming the entrance pair and the postholes flank-

125 These features were deliberately dug to set the uprights at an angle and are not the result of erosive action of posts in their sockets.

ing the entrance are set much deeper into the ground than the rest of the features in the ring. Postholes range from 13 to 74cm in depth, and 10 to 50cm in diameter.

The symmetry of the feature dimensions at the entrance, both in depth and diameter is striking. The deep-set entrance pair (66 and 68cm deep), alternate with adjacent slenderer and shallower features (29 and 31cm deep), adjacent to each of which are again larger posts (63 and 64cm deep), followed by subsequently shallower (48 and 37cm deep), larger (52 and 59cm deep), shallower and again larger posts. This forms a regular pattern of posts radiating from the entrance, alternating between deeper/thicker and shallower/slenderer. This sequence is interrupted by a slightly wider spacing between the 7th and 8th posts in the series on both sides of the entrance. The features in the rest of the outer ring are smaller in diameter and set shallower in the bedrock, the majority also oscillating between alternating deeper and shallower posts. An exception and another point of symmetry are two pairs of opposing posts, north and south, which are also deep set (one of which in the south is the deepest perimeter feature, 72cm).

The internal configuration consists of eight deep and broad postholes. These, together with the entrance pair, are the largest features in the structure. The eight posts form adjacent pairs: two at the back (east), front (west), north and south. The adjacent pairs of internal posts align on the entrance and on the pairs of deeper set posts in the north and south of the perimeter. Each internal post also forms a pair by connecting to its opposing individual, most likely by means of horizontal roof beams joining the pairs of uprights: the northern with the southern and the front with the back pair. The opposing posthole pairs at the front and back are larger than those to the sides in the north and south. The pair of back posts are also slightly deeper than the rest and the widest features in the whole structure. This is emphasized by the fact that the front pair of internal posts, behind the entrance are set 45cm wider than the back pair. The opposing post pairs converge on the entrance and create a central horizontal axis through the structure, ending at the back wall. The average distance between the internal postholes and the exterior wall (centre to centre) is 94cm.

It is unlikely that there was an access point in this back wall as the entrance and internal posts align on a post rather than any opening. The spacing between the features in the outer ring raises the possibility of more than one access point or entrance. From feature edge to feature edge the distance between the outside of some of the features is equal or greater than that between the outside edges of the entrance posts in the west. However, given that uprights may have been slenderer than their sockets, this may not be a reliable guide to the real spacing. A more objective guide is to take the span from centre to centre between the posts. In this case, that of the paired entrance posts in the west is the greatest at 90cm. An interpretation is preferred in which the structure had only one doorway.

Feature fills. Most of the features had one or two different fills depending on the size. As remarked in Chapter 4, the difference between fills is attributable to pedological factors in which a gradual decrease of humus content and increase in sand occurs towards the bottom part of the feature. Fills of the twelve excavated features were similar and contained food remains such as marine shells, crab claws, fish, and mammal bones as well as pottery sherds. Up to 500g of pottery were recovered from the larger postholes (50 to 125L), as well as 100-300g of marine shell remains. One of the external postholes contained a Chicoid *adorno*. More Chicoid decorated sherds were recovered from the fills as well as a piece of

pottery griddle.[126] Indications that the posts did not fit tightly into their sockets comes from the fact that the charcoal outlines of both the sectioned posts did not reach the sides nor the bottom of the postholes, and that other features contained large pieces of bedrock at the bottom of their fills and gravel throughout the fills. The excavated entrance posthole (85-50-F193) contained ca. 90g of charcoal, the back internal posthole (85-50-F156) more than 200g.

Special finds. Beads were found in the fills of three features including both excavated internal postholes (a large green diorite bead with central perforation and two lateral indentations from a posthole behind the entrance, and a bone bead in one of the back postholes) as well as in the excavated entrance post (a blue/green disc-shaped stone bead). See Figure 154.

Abandonment. One entrance and one back internal posthole were sectioned (something not possible for the majority of the features due to the constraints of the bedrock and posthole diameters). Substantial remains of burnt post stumps were visible in the sections of both postholes about halfway down. The fills of seven out of the ten other excavated features also contained charcoal. This indicates that the structure was burnt down.

Dating. Charcoal from two burnt posts date Structure 1 to the early to mid-12th century with a 95% probability that construction took place between AD 1020 and 1180 (GrN-31417; GrN-31418).

Associated features. Seventeen unassigned features occur within the perimeter of Structure 1. These are small features which cluster in front of the back internal posthole pair and around the inside of the perimeter. They do not suggest internal partitioning of any kind and may not even be related to the structure. Other small features just outside the perimeter, such as the row of four features in the south southeast which follow the curve of the perimeter wall, may represent repairs.

Overlaps. Structures 9, 20, 21, 34, 38, 39, 40, and 52.

Shared features. Six features are shared with other structures, including a feature from the central configuration.

Structure 2 (Confidence Class: 1)

Spatial and physical characteristics. Structure 2 is the plan of a regular post-built structure consisting of an outer ring of 34 postholes and a configuration of eight postholes forming an inner roof-bearing construction. Floor area is ca. 43m^2. This structure is 7.4m in diameter with an average span between external the posts of 50cm, and an average span between opposing pairs of internal posts of 5.65m and 2.5m between the pairs. It has an entrance in the west-northwest. Twenty features were excavated from this structure, including all features of the internal configuration.

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126 Seeing as Structure 1 is securely dated from charcoal from posts, it would be worth comparing the pottery and other artefacts from its features. Based on the assumption that the pottery entered the posthole either as primary fill (i.e. when the posthole was first made) or as domestic debris during use of the house or after the fire (i.e. the postholes acted as artefact traps), this could help dating the ceramic style and contribute towards a finer chronology of the Chicoid, i.e. from the late-11th to mid-12th century. The same goes for pottery from the postholes of Structure 6 (see footnote 127) and the indigenous artefacts mixed in layer 1 in the area of concentrated colonial pottery. Potentially one could compare 11th-12th-, 14th- and late 15th / early-16th century Chicoid pottery.

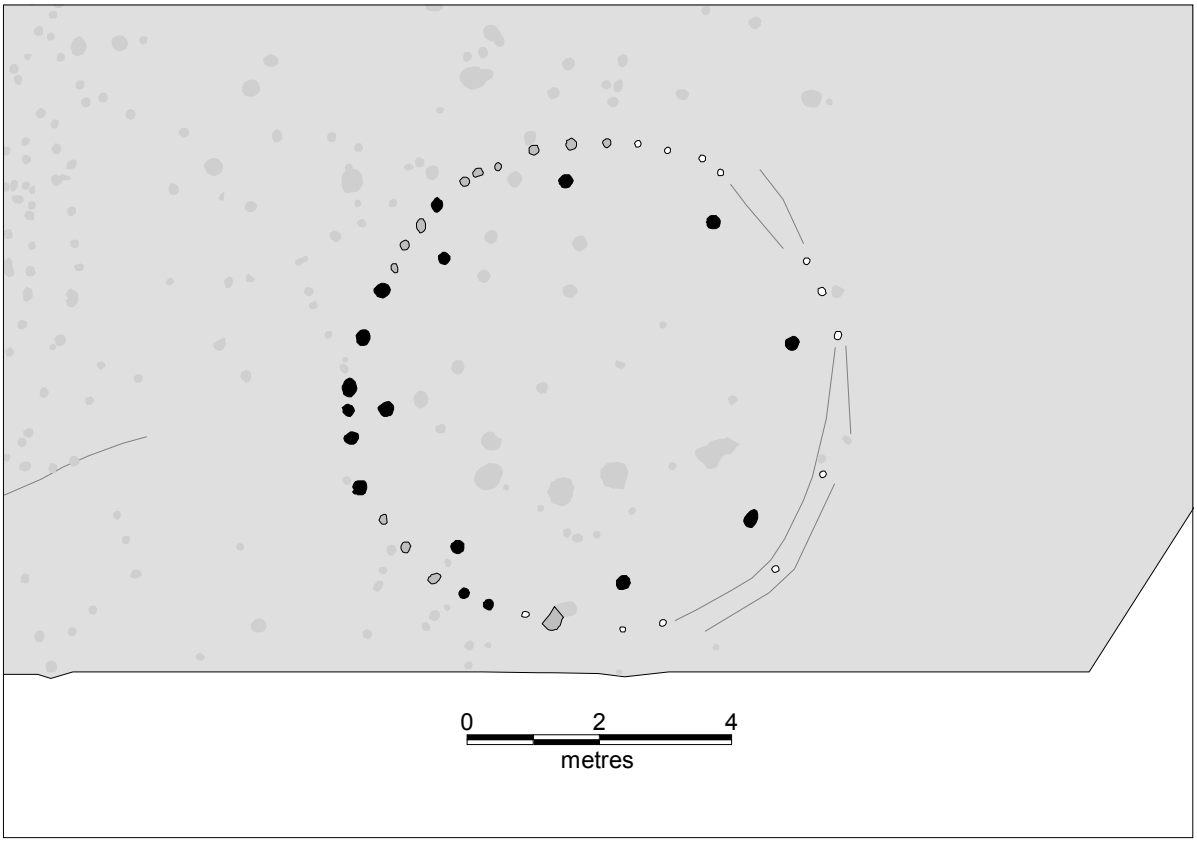


Figure 84. Structure 2.

Both the internal and external post circles of Structure 2 were recognized and staked out in the field. Recognition of Structure 2 helped considerably with the in-field interpretation and visualization of other similar structures in the unit.

Akin to Structure 1, the distribution of depths of the features throughout the structure forms a regular pattern in which features in the western third of the external ring, and especially the entrance postholes as well as the postholes flanking the entrance are deeper and wider than the rest of the features in the ring. Postholes diminish in depth and width towards the back of the structure. Features range from 6 to 80cm in depth, and 8 to 55cm in diameter. Two slightly anomalous features in the external circle are an irregular pit (85-59-F131), 40cm wide and 25cm deep, which are possibly two features. Lack of toolmarks and irregularity may indicate this is a natural depression, but it was probably used to accommodate a post given its position in the outer post ring. Another feature (84-59-F55), adjacent to one of the entrance posts in the outer ring, has a wider aperture at the top than the rest of the diameter of the posthole as if the decision was made to decrease the volume of the posthole during manufacture.

The average distance between the internal postholes and the exterior wall (centre to centre) is 63cm, i.e. relatively close set.

It is clear in the plan and in the field that there were lapses in the external post circle. This was the case in four places on the eastern portion of the circle. All those areas which "should" have contained postholes, were areas of (shallow) natural depressions in the bedrock, following the lines of the bedding planes. These depressions have similar depths to those of the postholes at the rear of the structure. Taking into account these depressions, which in all likelihood were used to support uprights, Structure 2 can be interpreted as having a full outer circle of posts.

Unlike Structure 1, all excavated features are vertical. This indicates that posts were set upright into the postholes. This does not preclude the fact that these posts may have been the roof which stretched all the way down to the ground (as may be the case for Structure 1), but that they were not accommodated at an angle on manufacture. It may also be the case that the postholes supported uprights on which a roof structure was placed.

Feature fills. Most of the eight internal features, ranging from 60 to 40L, had two or three different fills for the same reasons as mentioned above for Structure 1.

Fills of the eight internal features were similar and each contained small amounts of food remains such as marine shells (<120g), crab claws (<20g), and fish and mammal bones (<35g) as well as pottery sherds (<100g). The features did not contain significant quantities of bedrock material (<2kg), although it was remarked of one of the features that the top of the fill was full of rocks.

The fills of the external excavated features contained varying amounts of organic (1g to >200g), pottery (1g to >600g), and stone materials (<1kg to >5kg). This was regardless of volume. Two features in the north of the external ring contained significantly more shell, bone and pottery remains than the rest as well as pieces of a pottery griddle. The same goes for the irregular pit, used as a posthole, in the southern half of the structure (85-59-F131).

The differences between the quantities of the fill categories indicate that the postholes were back-filled, probably after removal of the posts (see more on this below).

Special finds. A bead was recovered from the fill of one of the features (84-59-F104) in the north of the external ring (white with green and black inclusions, a central perforation and lateral indentations). A dog's tooth was recovered from the fill of the southernmost internal posthole behind the entrance. Significant quantities of pottery (>600g), some decorated, were recovered from an adjacent feature (84-50-F115) of relatively small volume, including griddle pieces. Further investigation may determine whether this was from one or more vessels.

Abandonment. All except two of the excavated features had charcoal in their fills. However, in the majority of cases this was no more than a few grams (1-8g). One small external feature contained significantly more, with the charcoal mixed through the fill. Nowhere, however, were features encountered in which solid pieces of charcoal might represent the remains of burnt posts. The charcoal in the fills was part of the charcoal in the soil matrix. This structure was not burnt down. Its posts were either left to rot *in situ* or removed and the postholes re-filled (deliberately by human agency, or naturally). An interpretation of deliberate re-filling is preferred because of the relative homogeneity of the fills from the top to the bottom of the features (suggestive of back-filling in one event) and because of the difference in fills across the structure (i.e. one with a very charcoal-rich fill, another with large rocks in the top of the feature and very different amounts of organic material, regardless of volume, in sometimes adjacent features which speaks against natural filling processes).

Dating. Chicoid based on pottery in feature fills.

Associated features. Twenty unassigned features occur within the perimeter of Structure 2. Several of these are irregular depressions which may have supported posts. Again, it is not obvious that these are structurally or functionally related to Structure 2, and may belong to other as yet unreconstructed structures.

Several small postholes and posthole configurations cluster around the perimeter of Structure 2, but a direct relationship is difficult to posit, although it is certainly the case that there are hardly any features at the back of the structure.

Overlaps. Only Structure 16 intersects Structure 2. Structure 46, less than 10cm to the west, is considered to be too close to be contemporary.

If one removes all the features assigned to other structures inside Structure 2, one is left with 16 features. Bearing in mind that this is one of the areas of the unit with the lowest feature density, this gives an impression of the low proportion of dug-down features not directly related to house construction.

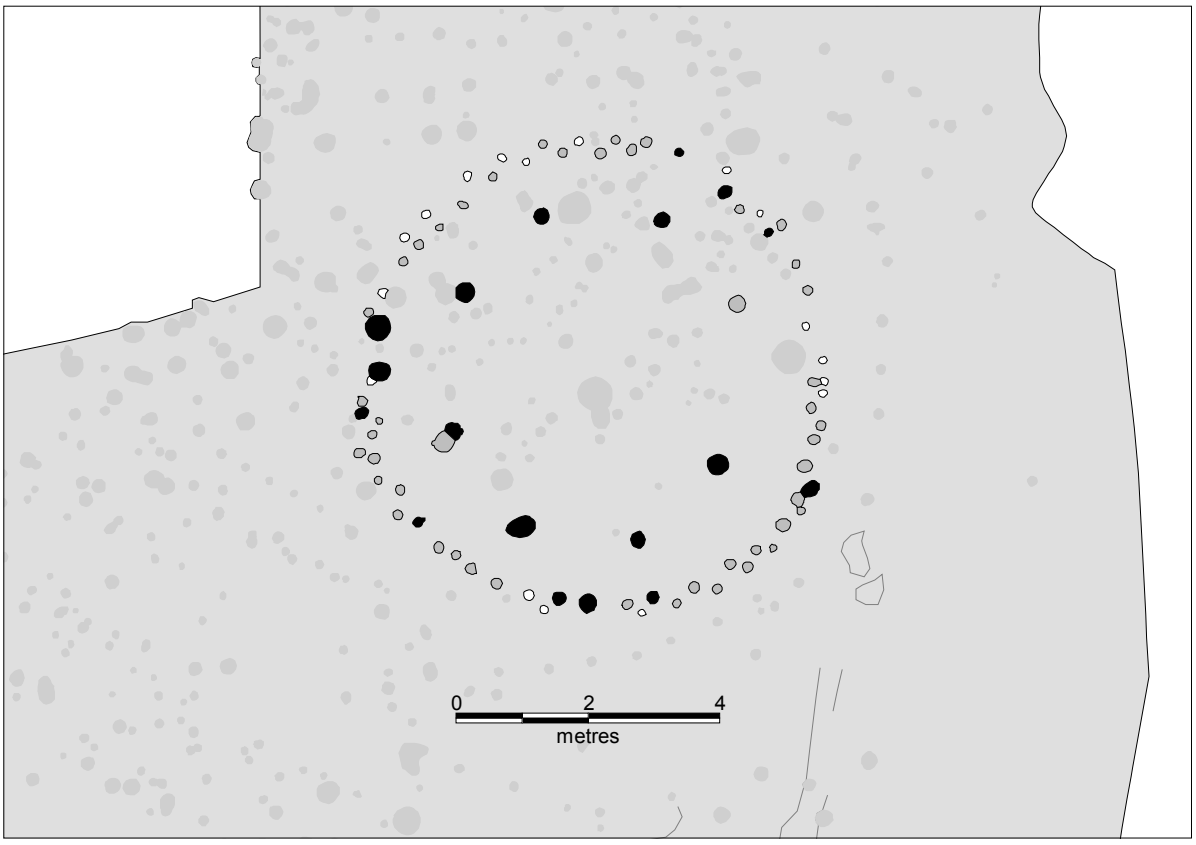
Shared features. None.

Structure 3 (Confidence Class: 1)

Spatial and physical characteristics. Structure 3 is the plan of a regular post-built structure with an extensive replacement phase. The plan of Structure 3 encompasses two almost exactly overlapping structures, with many of the features used in both incarnations. This being the case, it is not possible to separate them and both are presented together. Floor area is ca. 37m². Structure 3 consists of an outer ring of 72 postholes, and a configuration of eight postholes forming an inner roof-bearing construction, with additional posts dug adjacent to the most southwesterly internal post. This structure is 7m in diameter with an average span between the external posts of 49cm, and an average span between opposing pairs of internal posts of 4.45m and 2.04m between the pairs. It has an entrance in the west. Sixteen features were excavated from Structure 3.

Posthole dimensions range from 12 to 116cm in depth and 10 to 44cm in diameter. Unlike Structures 1 and 2, there is not such a clear pattern in the distribution of depths across the features in the external circle, although deeper

Figure 85. Structure 3.



postholes occur at intervals around the perimeter, for example in the south as with Structure 1. Most external features, however, fall between 20 to 45cm deep and do not necessarily get shallower overall towards the back. The two entrance postholes are the deepest and widest (72 and 85cm) in the external circle, but are not obviously flanked by postholes of decreasing size as with Structures 1 and 2. A word of caution is necessary, however, as the excavated postholes were sometimes deeper than their "poked" depths. This was due to the stony fill.

As with Structure 1, posts excavated from the external circle were slanting towards the centre of the structure. This was the case with nine of the 14 postholes tested for angle in the northeast, east, south, and west. The excavated entrance posthole, a deep posthole in the southern wall and three other possibly repair postholes from the southern wall were vertical. All five interior postholes excavated were vertical features. In all likelihood this structure would have had inward slanting walls.

Over half the external perimeter of Structure 3 consists of a double post circle. This is especially the case in the northern half, which at first led to the reconstruction of two structures sharing the same internal configuration and entrance features. However, due to the fact that there were multiple (ca. eight) stretches along the perimeter of this second structure which appeared to be 'missing' features, a more likely explanation is that these features represent extensive replacement of most of the outside wall at some point in the structure's history. The fact that not all perimeter postholes were reused, but internal postholes were, shows a preference for re-making smaller postholes, but re-using larger ones in this structure. The smaller postholes in the bedrock would have been available, and probably also visible for re-use, but this did not occur in the case of Structure 3. It is possible that all features were contemporaneous and the doubling of the postholes represents a double-walled structure. A single row of posts in the southwest and east show that this was not the case all the way round, and in general a two-phase explanation is preferred as double walls are not seen elsewhere in the unit.

The internal features of Structure 3 are arranged in a very regular pattern akin to Structure 1, with eight deep and broad postholes forming adjacent pairs which align on the entrance and on the pairs of deeper set posts in the north and south of the perimeter. Each internal post also forms a pair by connecting it to its opposing individual. The opposing posthole pairs at the front and back are larger than those to the sides in the north and south, but unlike Structure 1 the front pair of internal posts behind the entrance is more narrowly set (35cm) than the back pair. The deepest postholes in the structure are the front and back pairs of internal posts which are over one metre deep (112, 114 and 116cm). The exception is the north back posthole (85-61-F63) which was documented as only 23cm deep. Seeing as this is the only one of the four postholes that was not excavated, and the other three contained four to more than 10kg of stone material, it is very likely that the poked depth was actually much deeper, but depth probing was impeded by compacted stone material. The average distance between the internal postholes and the exterior wall (centre to centre) is 105cm.

Feature fills. The features in Structure 3 had one or two fills depending on size. Fill 2, towards the bottom of the largest features, showed an almost complete absence of humic material and an increase in bedrock content. Many of the features had large pieces of bedrock in their fills, especially deeper down (this accounted for the errors made when poking). In general fills of both internal and external features were similar and contained very little cultural material (<25g bone material, <70g marine shells, <10g crab claws, <160g pottery). For exam-

ple, the entrance post (85-51-F253) has a volume of over 100L containing ca. 20kg of bedrock material and 160g of pottery, including decorated sherds of what appeared to be the same vessel which occurred at regular intervals throughout both fills, to the bottom of the feature.

Special finds. A deep pink bead, made of *Chama sarda* shell, was recovered from one of the postholes (85-51-F142) in the southwest of the exterior. This bead is similar to three others: one found associated with the burial feature in 85-34-F06 on the coast, and two more from deposits above the burial feature.

Abandonment. Some of the excavated features contained negligible amounts of charcoal (1g), the maximum being 7g in one of the entrance posts. This is not deemed enough to constitute burning of the structure, but represents residual charcoal in the soil matrix. As described above, the feature fills related to this structure were remarkably "clean", with hardly any distinction between fills. Lack of post shadows in the larger excavated postholes and similar pottery occurring throughout the fills indicate that posts had been removed and the holes filled with clean sand.

Dating. Chicoid.

Associated features. It is possible that a large feature (85-61-F69) against the back wall is associated with Structure 3. This feature was excavated and showed a very clean, undifferentiated fill (similar to 85-51-F282). Remarkably, despite the size of this feature (over 150L), there was only one discernable fill – brownish sand with a few sherds and faunal remains. This gave the impression that rather than being left *in situ*, the post was removed and the hole filled in with relatively "clean" soil. This is the same scenario as envisaged for all excavated posts of this structure. The function of this large post in Structure 3 remains unclear, but it is similar in size to two other assigned (to other structures) features within the perimeter of Structure 3, and one unassigned feature just outside Structure 3. The density of unassigned features in this area of the unit is quite high, and therefore it is difficult to associate or exclude features from Structure 3. However, what arrangement of features is present in Structure 3 does not indicate any internal partitioning of space.

Overlaps. Structures 23, 24, 29, 30, 32, and 37.

Shared features. Five features are shared with other structures, including one of the features from the central configuration.

Structure 4 (Confidence Class: 1)

Spatial and physical characteristics. Structure 4 is the plan of a regular post-built structure with an episode of rebuilding or overbuilding. The floor area is ca. 81m² which makes it twice as big as Structures 1 to 3. It consists of an outer ring of 70 postholes and a configuration of eight postholes forming an inner roof-bearing construction. This structure is 10.55m in diameter. It has an average span between external posts of 57cm, and an average span between opposing pairs of internal posts of 8.11m and 3.06m between the pairs. Postholes range from 5 to 93cm in depth, and 10 to 55cm in diameter. It has an entrance in the west marked by the widest spacing between external posts (102cm). Fifteen features were excavated from this structure.

The doubling of postholes, especially along the east and southeastern perimeter, seems to represent a rebuilding phase in which sections of the outer wall/roof were replaced.

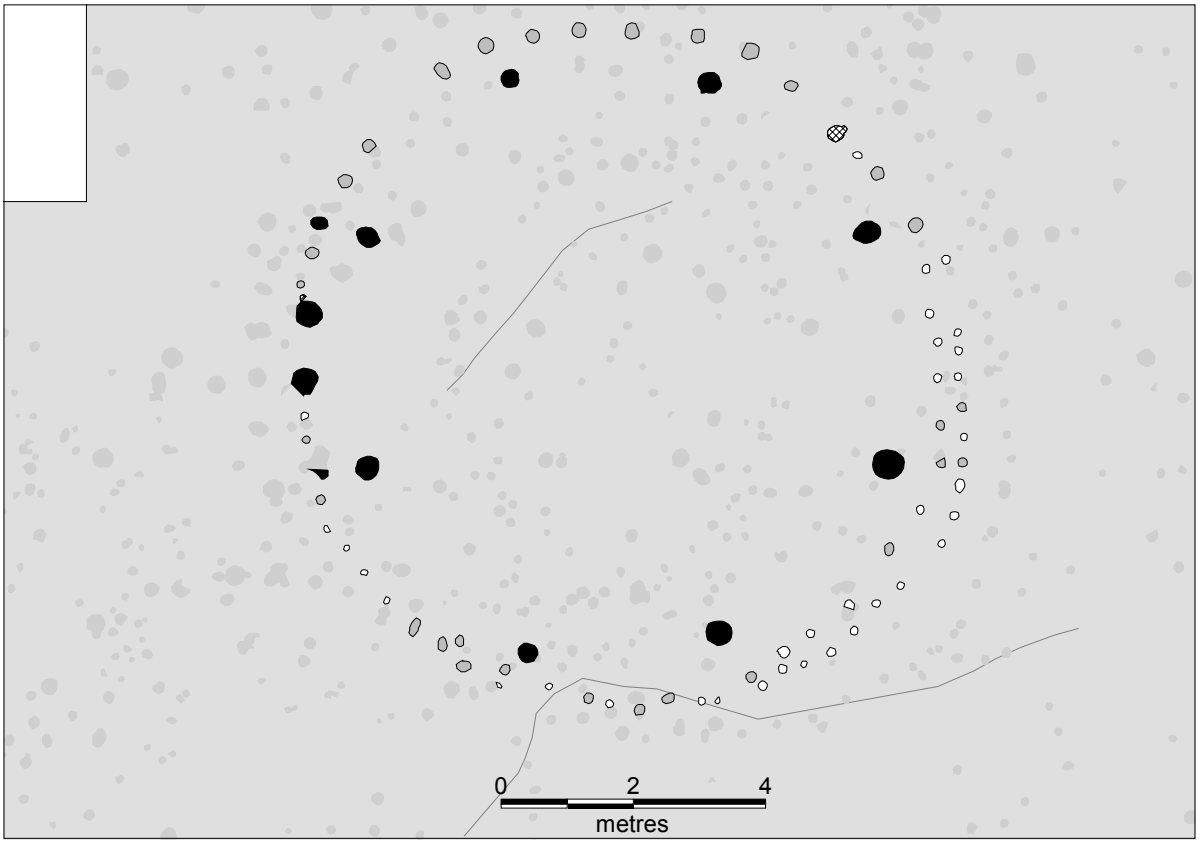


Figure 86. Structure 4.

Four external excavated features are dug at a slant in the bedrock, angled towards the centre of the structure. Given the fact that other postholes excavated from the perimeter are vertical, the evidence about the form of the outer wall is inconclusive. In any case, the entrance posts and two postholes excavated on either side of the entrance were vertical. Four excavated postholes of the internal configuration were also vertical.

The distribution of depths of the features throughout the structure, although not as consistent as in Structure 1, forms a pattern in which entrance features and flanking postholes in the external ring are set relatively deep into the ground. This is the same for the seven postholes in the north of the external ring and for features which align on each of the internal postholes. Features at the back of the structure tend to be lighter.

The internal post configuration, consisting of eight deep-set and wide posts (53 to 93cm deep), is very regular in terms of its spatial layout. Front and back pairs of posts as well as north and south pairs form almost completely parallel roof supports. The front pair of internal postholes is deeper than the rear pair; in the case of the northernmost opposing pair this difference is only 10cm, but in the case of the southern pair this is 40cm. All other circular structures share a closer equivalence between the opposing pairs. However, the fact that the shallowest internal posthole is 53cm in depth (i.e. deep enough to support a heavy roof-bearing post), and that both pairs should have similar differences if this reflected a non-horizontal frame, the lack of equivalence (relative to other structures) is not thought to be significant for the overall shape of the structure.

The average distance between the internal postholes and the exterior wall (centre to centre) is 70cm, i.e. relatively close set.

The peaks of the bedrock have been artificially flattened over the majority of the surface inside this structure (especially in those areas indicated by the solid grey line). This was likely done to create a smoother living surface, although it may not directly be related to this structure (see Structure 11).

Feature fills. The two large entrance posts (84-39-F127 and 142) as well as the four internal posts, all between 60 and 200L in volume spread over up to three fills, contain a similar fill matrix consisting of little pottery (20-660g), organic material including shells (40- >500g), bone fragments (2-100g) and crab claws (2-48g), and up to 15-20kg of stone material which may have been used as packing for the posts. Interpretation as packing material rather than as back-fill after abandonment is preferred due to the size of the stone material, half of which can be described as gravel, and the other half of pieces no larger than a fist. All other excavated features in the external circle had relatively gravelly fills. This also applied to some unexcavated features noted as difficult to depth probe due to their stony content.

Postholes excavated in the external perimeter circle also shared fill properties of the others excavated: namely negligible pottery, an organic component (consisting of marine shell, bone and crab claws) and a significant proportion of gravel in the volume of the fill.

Nine postholes contained charcoal. One of the entrance posts had 20g, and the other 90g, while four excavated internal postholes contained less than 10g each, and three others from the external circle less than 1g.

Special finds. A bead was recovered from a posthole fill (85-40-F27) in the middle of the northern wall of the structure. This was a white stone, disc-shaped bead with a central perforation and two lateral indentations.

Abandonment. Given the amount of charcoal in the fills of the larger features (10-90g) it is probable that this structure burnt down. Charcoal volumes are less than those of Structures 1 and 6, and the burnt post remains were not noted in the field (as is the case for Structures 1 and 6). Nevertheless, the high charcoal content of some of the feature fills was noted in the field. Perhaps the combustion temperatures were not as high as for the other burnt structures meaning that the posts were not burnt, i.e. carbonized, completely, and thus less preserved. Although not as clear-cut as for Structures 1 and 6, the interpretation of burning is reasonable.

Dating. Presumably Chicoid. Charcoal samples were not dated and the pottery are undiagnostic. See Chapter 6 for its position within the El Cabo relative chronology.

Associated features. There are less than 40, mainly very small, associated features occurring within the perimeter of Structure 4. These are not necessarily thought to be associated with the structure. Outside the structure, features cluster to the north, but as these are on the edge of the excavation unit, they are thought to belong to other structures. Features around the perimeter may represent repairs to other structures as there is quite a palimpsest of overlapping houses in this area. A curved alignment to the southeast is not thought to be related. As with Structures 2 and 3, there are hardly any unassigned features outside the back of Structure 4.

Overlaps. Structures 5, 8, 11, 13, 14, 41, 44, 46, 50, 51, and 52.

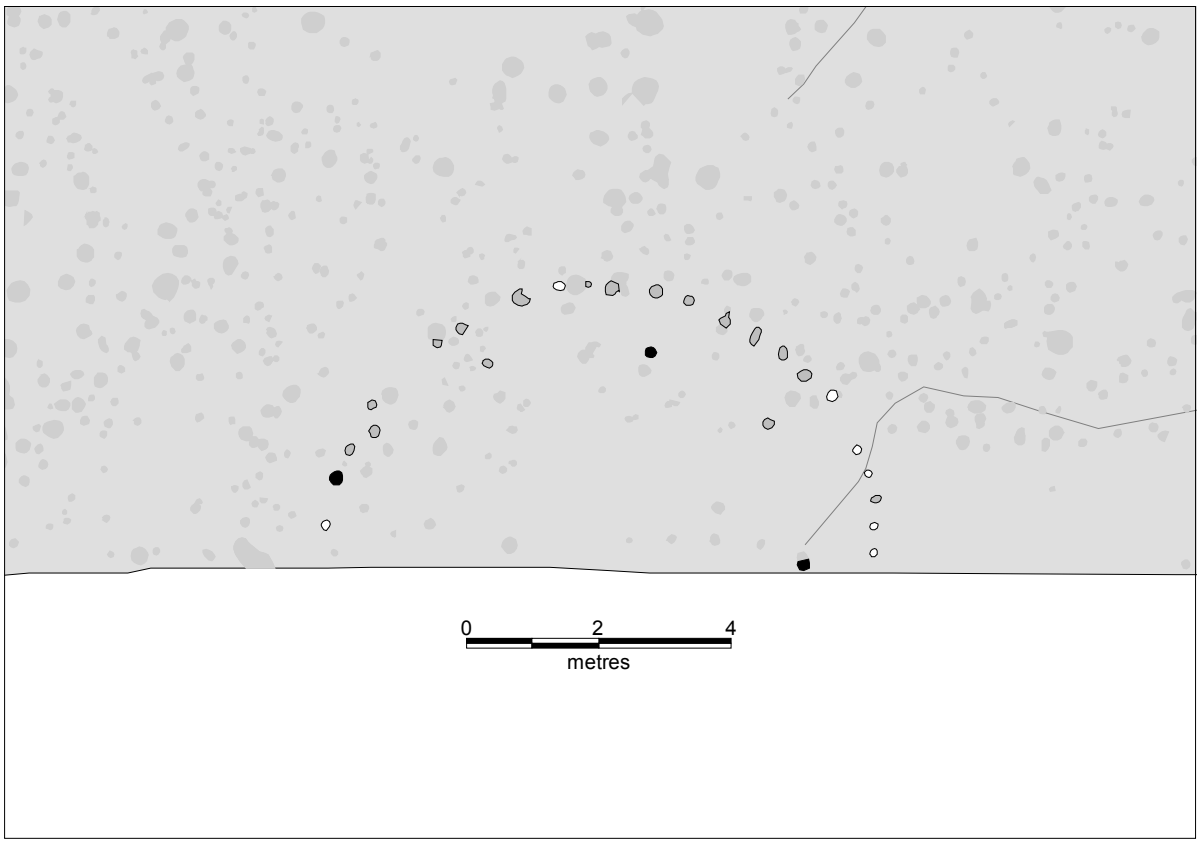
Shared features. Six of the external features are shared with other structures.

Structure 5 (Confidence Class: 3)

Spatial and physical characteristics. Structure 5 is the plan of what appears to be a regular post-built structure. The plan is incomplete due to the fact that half the structure falls outside the excavation boundaries. The remaining half consists of an outer ring of 22 postholes, and a configuration of five postholes forming an inner roof-bearing construction, the details of which are not certain in places. The interpolated floor area of the complete plan is ca. 51m². This structure is 8.3m in diameter with an average span between the external posts of 59cm. This spacing may be slightly inflated due to the fact that the outer circle appears incomplete in places. The span between the only revealed opposing pair of internal posts is 6m and the average between the pairs is 2.34m. Overall, features range from 10 to 23cm in diameter and 8 to 55cm in depth. There is no obvious entrance in the perimeter, which may fall outside the excavated area. Ten features were excavated from this structure.

In terms of the size of the features, in general, the eastern portion of the perimeter has a more even distribution of shallow, slender postholes, in keeping with the other circular structures in the unit which are slighter towards the back (i.e. east). Elsewhere depths and diameters of the adjacent features are more regularly deeper. Features in the perimeter are generally evenly spaced with small gaps in the northwest and east. Four of the ten features excavated from the perimeter are dug into the bedrock at a slant. Two of these from the eastern wall are slanting towards the centre of the structure, the other two are features shared by other structures and their angles are unclear with respect to Structure 5.

Figure 87. Structure 5.



The internal configuration consists of five large postholes, ranging from 23 to 55cm deep. The average distance between the internal postholes and the exterior wall (centre to centre) is 80cm. These postholes are interpreted as representing the top (northern) pair and back (eastern) pair of roof-supports, as well as one of the front pair of postholes behind the entrance.

Having said that, however, it is difficult to identify an entrance with certainty, given the incompleteness. The distribution and depths of the features in the eastern portion of the perimeter as well as lack of precedent seem to argue against one in the east. Entrances are usually designated by an adjacent pair of similarly deep-set and wide postholes, often creating the largest gap in the perimeter, sometimes, flanked by postholes of decreasing size and aligned with a pair of internal posts whose span is greater than that of the entrance span. Orientation is usually between west to northwest. The largest posthole in the perimeter is oriented west-northwest, and although lacking an obvious counterpart above or below it, could indicate an entrance which has been obscured by the excavation boundary. The alignment of the internal construction also favours this interpretation. Further excavation would offer a solution.

Feature fills. The contents of the feature fills were similarly sparse and fluctuated according to the volume of the posthole. Two features contained no organic or pottery remains, only small amounts of gravel (<40g), whereas the others contained 20-800g gravel, 0-2g bone, 0-7g pottery, 0-14g marine shells, 0-2g crab claws and 0-1g charcoal.

Special finds. None.

Abandonment. Posts were either removed or left to rot *in situ*. The structure was not burnt down.

Dating. The deposits in layer 1 are the thinnest in the area of Structure 5. In fact, contrary to elsewhere in the unit there are very scarce ceramic (no griddle) and marine shell remains, this absence adhering to a semicircular area consummate with the perimeter wall of the structure. Given this fact, Structure 5 is assumed to be relatively late in the chronology of the unit (see Chapter 6 for its position within the El Cabo relative chronology).

Associated features. There are hardly any features either inside or outside Structure 5 which are thought to be related to it.

Overlaps. Structures 4, 14, 15, 41, 43, 45, 50, 51, and 52.

Shared features. Nine features are shared with other structures. All are from the perimeter.

Structure 6 (Confidence Class: 1)

Spatial and physical characteristics. Structure 6 is the plan of a post-built circular structure consisting of a very regular outer ring of 41 postholes which incorporates larger, roof-bearing support posts within its perimeter. A small part of the northern portion of the structure falls outside excavation boundaries. Nevertheless, if complete, an additional two heavy-set posts in the perimeter would almost certainly complete an eight-post configuration. The interpolated floor area is ca. 77m^2. This structure is 10m in diameter with an average span between external posts of 57cm, and an average span between opposing pairs of internal posts 8.93m and 4.05m between the pairs. It has an entrance in the west marked by the widest spacing between external posts. Over half the features, in all 24, were excavated.

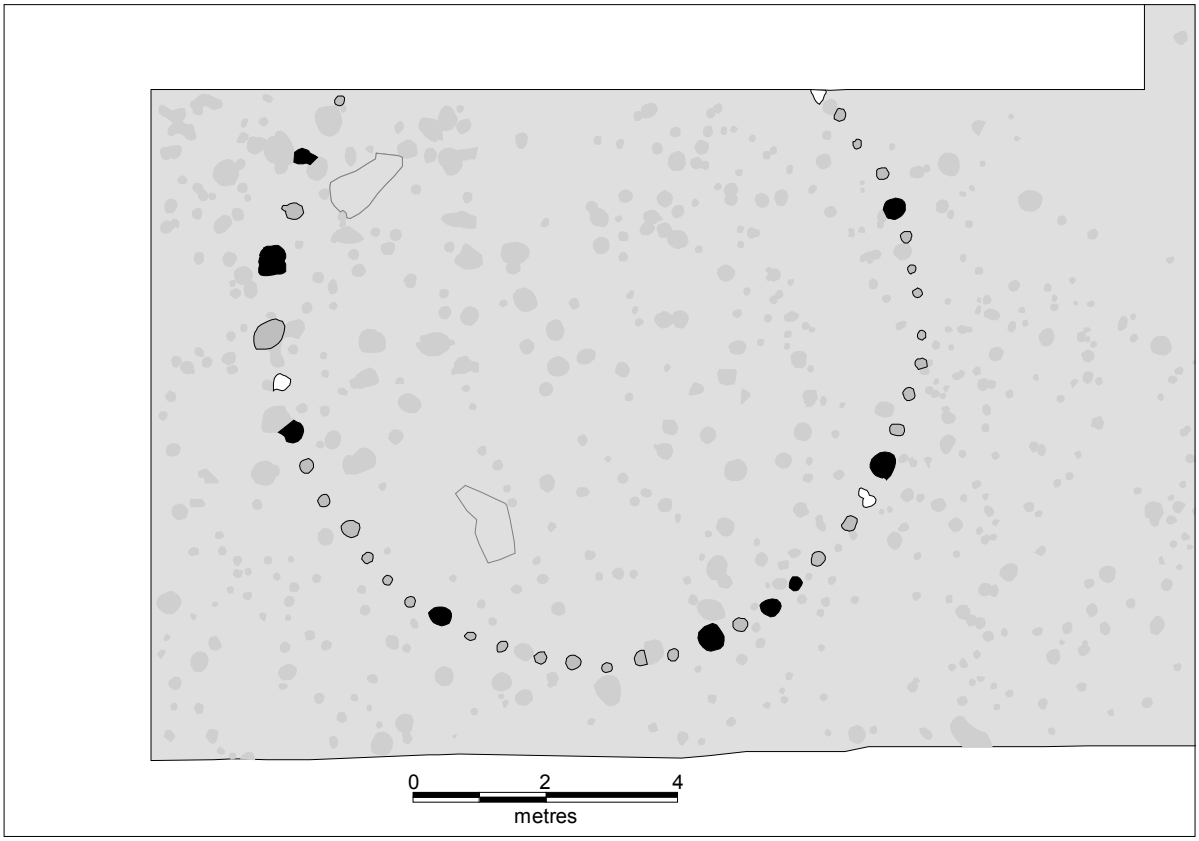


Figure 88. Structure 6.

The general concept of construction is a large circular building with roof support coming from deeper set posts within the perimeter wall. The distribution of both depths and diameters of the features throughout the structure forms a regular pattern in which massive entrance postholes are flanked by an arrangement of smaller postholes, followed by deeper posts again. These deeper posts are the equivalent of the front pair of internal posts in the other circular structures discussed so far. Thereafter, in the southwest (the northern quarter of the perimeter falls outside the excavation boundaries) an alignment of six shallower posts (≤40cm), is followed by another deep-set (73cm) roof support, followed by seven shallower posts (≤47cm), and another deep-set supporting post (91cm). Another six shallower posts (≤45cm) follow, and then one of the back support posts (55cm), followed by seven slender and shallow posts (≤42cm), of which the middle is the deepest, and another back support post (97cm). Four shallower posts continue the perimeter before disappearing under the unit boundary. This effectual abandonment of a full internal post-circle as roof support increases the internal space.

There is also a regular pattern in the diameters of the posts in the circle. The support features all have greater diameters than the other perimeter features, with those between the two back support posts being most slender in diameter, akin to the back of the other structures discussed. The great concern for symmetrical regularity in the plan is apparent in every aspect.

Given the late dating of this structure compared to that of Structure 1 (see below), there is reason to believe that this type of support given by the external wall was a later development out of the earlier type which separated wall and support. All features excavated from the internal and external constructions were vertical.

Analysis of charcoal samples from the two entrance features by Lee A. Newsom shows that the posts were from Sapotaceae (sapodilla family), matching with two different species of the *Sideroxylon* genus: *S. salicifolium* (L.) Lam. (syn. *Dipholis salicifolia*) and *S. foetidissimum* Jacq. (syn. *Mastichodendron foetidissimum*). This is a tropical hardwood, ideal for construction. It has been found in association with archaeological sites from the Archaic onwards in the Lesser and Greater Antilles (Newsom and Wing 2004). The tree produces edible soft fruits and is classified as a home-garden species by Newsom (1995). It can tolerate arid and saline conditions, making it an ideal resource in a setting such as the eastern coastal plains of Hispaniola.

Feature fills. Of all the postholes excavated, only four did not contain charcoal and these were exclusively smaller postholes. Substantial remains of burnt post stumps were recovered from the two entrance features (84-29-F293 and F178). As discussed in Chapter 4, these showed signs of combustion at high temperature. Charcoal samples were collected for dating and for species determination, and a further 220g was recovered from the fills. The fills of both features also contained substantial amounts of burnt bedrock material (>10kg) and decorated pottery sherds. There were very little food remains in the entrance features (marine shell ≤12g and bone ≤4g). The same patterns are observed in the five excavated support posts at the front, back and south. All contain charcoal (2-136g), pottery (20-230g), bedrock with signs of burning (≤ 7kg), and minimal food remains (marine shell ≤84g, crab claws ≤5g and bone ≤4g).[127]

The smaller perimeter postholes contained negligible charcoal (0-16g), gravel (4g-≤2kg), pottery (0-23g), marine shells (0-18g), and bone (0-3g).

Special finds. Two beads were recovered: one from the northerly entrance post (84-29-F293, fill 2) and one from the southerly front supporting post (84-29-F248, fill 1). These were shell or bone beads.[128]

Abandonment. This structure was burnt down. This is evident from the substantial remains of charcoal from burnt posts in the fills of the largest features. Two burnt patches (F371 and 372), where the bedrock had completely discoloured due to intense heat, occurred inside north of the entrance and in the southwest. It is interesting to note that despite the fact that the entrance posts had burnt right down to the bottom, no charcoal or only a few grams testified to this occurrence in the smaller perimeter features. This should urge caution with respect to identifying destruction, or not, by fire.

Dating. Structure 6 was erected in the late 14th century. Samples from two burnt posts give a 95% probability that construction took place between AD 1290 and 1420 (GrN-30534 and GrN-30535). If one adds a third dated sample (GrN-29035) which is spatially associated with Structure 6, yet not part of its internal or external post arrangement, a somewhat younger date is suggested, and there is a 95% probability that construction took place between AD 1300 and 1440. The structure also occupies one of the cleanest areas of the unit.

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127 Notably, relatively many ceramic sherds, including decorated pieces were recovered from the two entrance features, as well as from the other support posts. As for structure 1, structure 6 is securely dated from charcoal from posts which means that it would be worth comparing the pottery from its features. See footnote 126.

128 Exact material unknown.

Associated features. As mentioned above, Structure 6 is most probably associated with two areas of intense heat occurring as discoloured bedrock within its perimeter. The intensity of the fire which destroyed the structure at abandonment is visible in these areas. Limestone naturally weathers different colours, but here it was evident that fire was probably the agent.

A posthole feature occurring inside Structure 6, towards the centre (84-39-F30) also contained the remains of a burnt post whose date range falls within the same range as Structure 6 (see above). Although not incorporated as a structural element in Structure 6, this posthole may have been part of an internal configuration which has not been reconstructed, although it may just as likely belong to another structure which falls outside the unit.

One, and possibly two, separate secondary depositions of human bone material also occur within the perimeter of Structure 6: the deposition of bones (teeth, rib, skull, and long bone fragments) of a neonate in a small pit (84-29-F261) and the deposition of fragments of possibly a human tibia in a posthole (84-29-F16).[129] This posthole was not assigned as a structural element in any of the structures in the unit, and the bone material must have been deposited after removal of the post. Both depositions are located along a roughly east-west line across the centre of the structure, the neonate ca. 2.5m from the entrance and the tibia ca. 2.5m from the back wall. It should be noted that these bone deposits also occur within six other structures and it is not known which, if any, of them are related to the depositions.

Besides these, there are several large features and many smaller ones which occur within the perimeter of Structure 6. A clustering of unassigned large postholes towards the centre of the structure may yet prove to be part of a central configuration, although this is not necessarily the case and any configuration lacks the regularity seen in the rest of the structure. Neither is there an ideal candidate for a central post. The dense clustering of unassigned features in the west is thought most probably to belong to other structures, and again, as in Structures 2, 3 and 4, there appears to be an empty area behind the structure.

Overlaps. Structures 17, 22, 26, 27, 28, 31, 39, 42, 47, and 48. Structure 14 is too close to be contemporaneous.

Shared features. Five features are shared with other structures.

Structure 7 (Confidence Class: 1)

Spatial and physical characteristics. Structure 7 is the plan of a regular post-built structure consisting of an outer ring of 32 postholes, and a configuration of eight postholes forming an inner roof-bearing construction. The floor area is ca. 40m². The features at the entrance and flanking the entrance are doubled up. This structure is 7.3m in diameter with an average span between external posts of 64cm, and an average span between opposing pairs of internal posts 5.09m and 2.02m between the pairs. It has a narrow entrance in the west marked by the largest features in the exterior. Nine features were excavated from this structure.

The features of the entrance and those in the internal configuration are the deepest and widest, although the entrance features are set at a shorter distance (56cm) apart than the average spacing between the external posts (64cm). These entrance posts and the two adjacent posts on both sides of the entrance appear to have been further emphasized by the addition of second posts next to them

129 Pers. comm. Dr Darlene Weston.

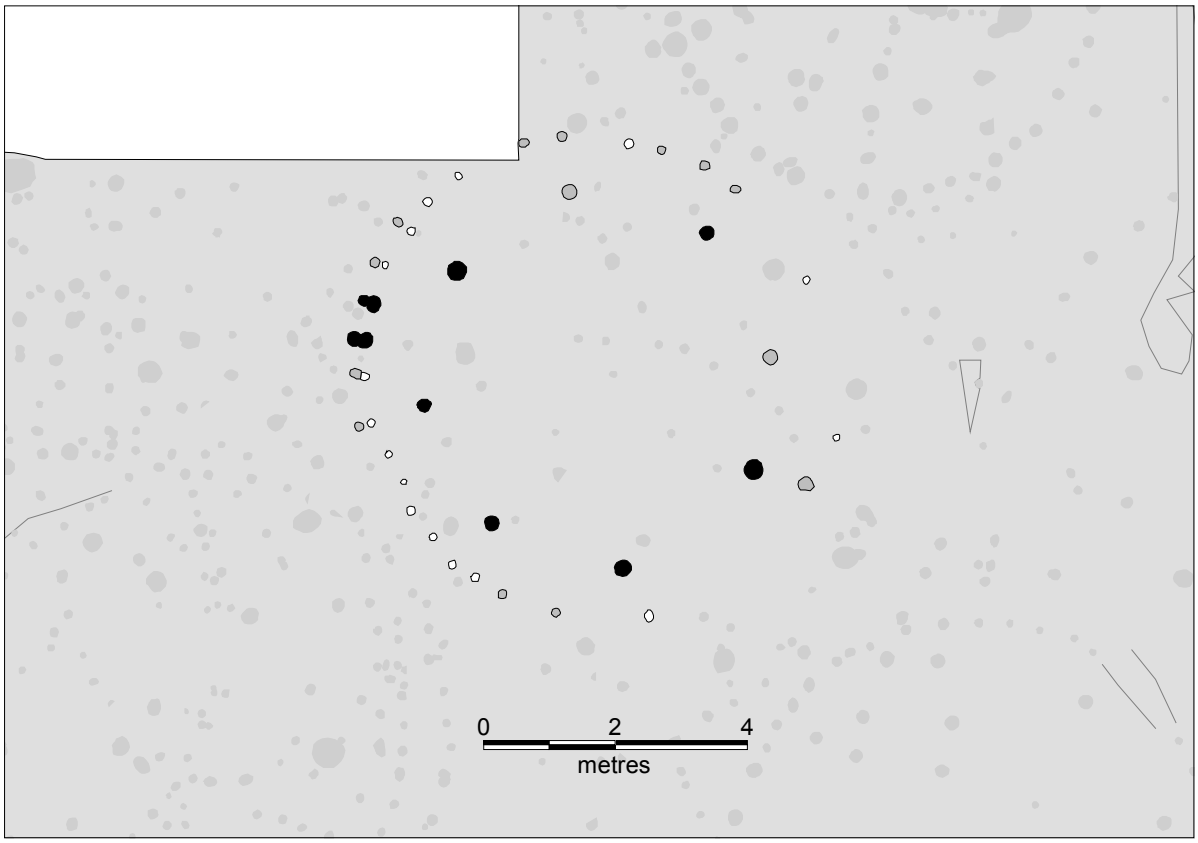


Figure 89. Structure 7.

so that the entrance configuration consists of six pairs of posts. Three of these pairs were set in intersecting postholes. Similarities in the fills of these features (see below) indicate that their abandonment processes were the same, and it is thought that they were contemporaneous rather than replacements. This would have had the effect emphasising the entrance by doubling the number of posts, as an alternative to using much larger posts as is the case for other structures.

All of the excavated features were vertical and ranged from 7 to 30cm in diameter and 8 to 80cm in depth. The structure is oriented with the entrance facing west-northwest, just as Structure 2. The distribution of depths and diameters of the features throughout the structure forms a regular pattern with an emphasized entrance flanked by slender posts. Posts in the external circle at the top and bottom of the structure (i.e. north-northeast and south-southwest) are also heavier set and aligned on the internal postholes. Akin to Structures 1 and 6, the front pair of internal posts is slightly more widely spaced (by 40cm) than those at the back. These features align on the entrance. The internal posts are set on average 84cm away from the outside wall.

In the external circle, over one third of the eastern portion of the perimeter has large gaps. There are only four features along this stretch of the wall. No other nearby features can be incorporated into the reconstruction, and the excavators did not record any depressions in the bedrock which might account for these lacunae, as is the case for Structure 2. Although we occasionally missed features in the field (often due to sand and dust collecting in the crevices between dipping planes), this is not believed to be the case here, where multiple features appear to be absent from an otherwise very regular structure which was checked in the field for consistency. This may be a more minimal or extreme version of

Structures 1 to 6 whereby the posts along the back wall are in any case the slightest of the structure. The posts at the rear of the structure may have been dug through the topsoil alone.

Feature fills. Six of the largest excavated features contained small amounts of charcoal: less than 1g each in two internal posts and 16g spread over four entrance posts. The presence of such small amounts of charcoal in the feature fill indicates that the structure was not burnt down.

The four posts, forming two pairs, at the entrance were excavated together as there was no distinction in the fills of the intersecting features. Their fills were almost identical. The same fill characteristics, only with less pottery, are shared by the two internal posts excavated (85-40-F130 and 84-49-F260). These six features contained 7-24g of bone material, 26-130g of pottery, 79-132g of marine shell and 4-12g of crab claws. The features also contained more than 1 to <9kg of bedrock, probably as packing material.

The three smaller features excavated in the southwest perimeter contained one or two grams of organic material and gravelly fills.

Special finds. None.

Abandonment. Posts were either removed or left to rot *in situ*. The structure was not burnt down.

Dating. A Chicoid sherd was found in one of the entrance postholes.

Associated features. Only nine unassigned features occur within the perimeter of Structure 7, and these do not seem to perform any discernible partitioning or structural function. The clustering of features at the entrance of the structure is most likely related to other structures as this is an area of dense features on the edge of the unit.

Overlaps. Structures 10, 12, 39, 40, and 52.

Shared features. None.

Structure 8 (Confidence Class: 1)

Spatial and physical characteristics. Structure 8 is the plan of a regular post-built structure consisting of a ring of 26 postholes. No suitable features inside the regular perimeter circle could be found that suggested an internal configuration. The floor area is ca. 31m². This structure is 6.5m in diameter with an average span between external posts of 77cm. Features range from 8 to 20cm in diameter, and 10 to 40cm in depth. No features were excavated from this structure.

Deeper postholes are interspersed with shallower ones throughout the structure, with a gap in the eastern section. Initially, it was thought that akin to Structure 6, pairs of heavier-set roof-supports were incorporated within the perimeter of Structure 8. However, although heavier posts do occur in the north, south, east and west, these do not form pairs which are as regular as those in other structures.

The gap in the eastern wall section is in contrast with the otherwise rather complete perimeter. No postholes or natural bedrock depressions could be identified in this area. This gap is flanked by two of the deepest-set postholes in the perimeter.

Feature fills. No excavated features.

Special finds. None.

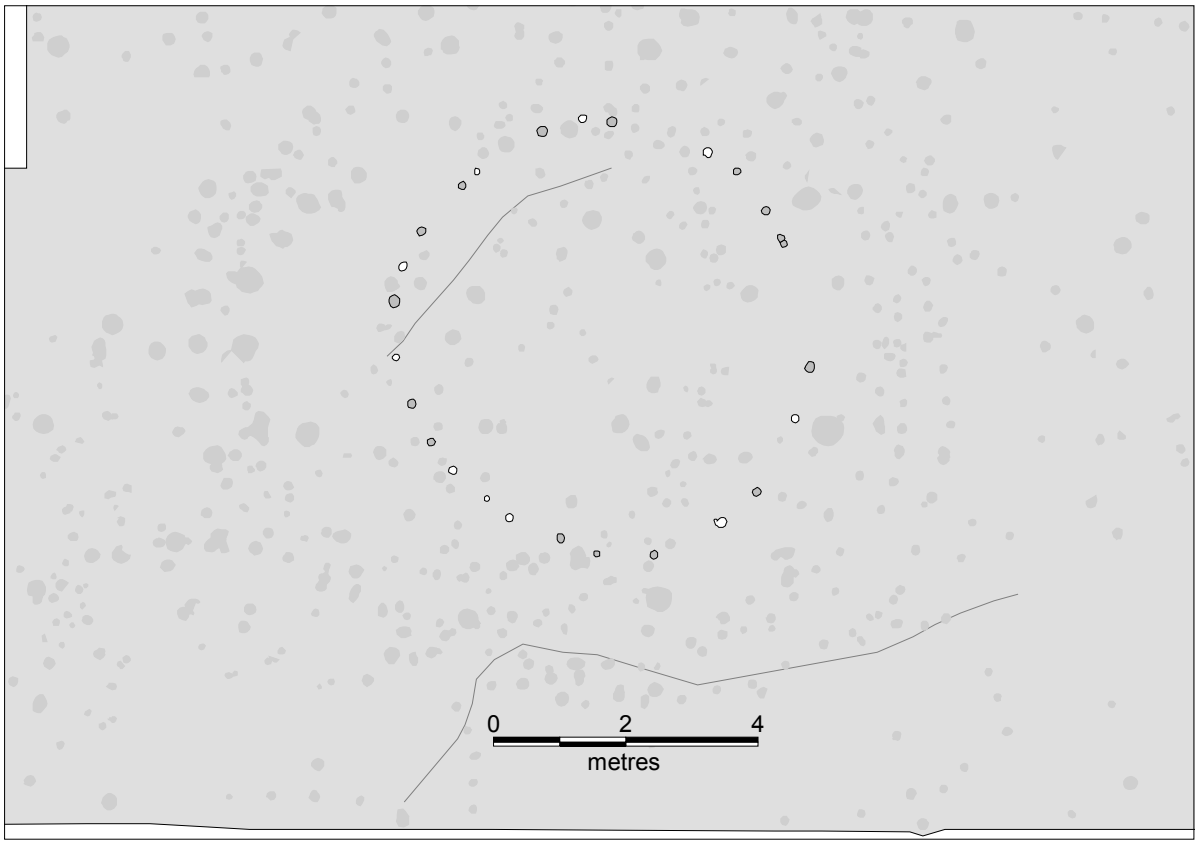


Figure 90. Structure 8.

Abandonment. Unknown.

Dating. This structure can only be placed by proxy within a relative unit chronology based on the artefact density (see Chapter 6).

Associated features. There are a few small features both in and around Structure 8, although it is not thought they are related.

Overlaps. Structures 4, 11, 13, 14, 41, 44, and 50. Structure 51 is too close to be contemporaneous.

Shared features. None.

Structure 9 (Confidence Class: 1)

Spatial and physical characteristics. Structure 9 is the plan of a regular post-built structure consisting of an outer ring of 25 postholes, and a configuration of eight postholes forming an inner roof-bearing construction. The floor area is ca. 48m². This structure is 7.8m in diameter with an average span between external posts of 54cm (excluding a large gap at the back of the structure), and an average span between opposing pairs of internal posts of 6.08m and 2.64m between the pairs. It has an entrance in the west marked by a pair of broad and deep-set postholes. Five features were excavated from this structure.

The distribution of depths of the features throughout the structure forms a very regular pattern in which features in the western half of the external ring, including the entrance postholes diminish in depth and width towards the back of the structure. Despite the completeness of the western half, there is a conspicuous absence of perimeter postholes in the eastern half of the structure, seawards. No depressions in the bedrock were documented in this area (although they were documented in the area just west of the projected back of the structure), which

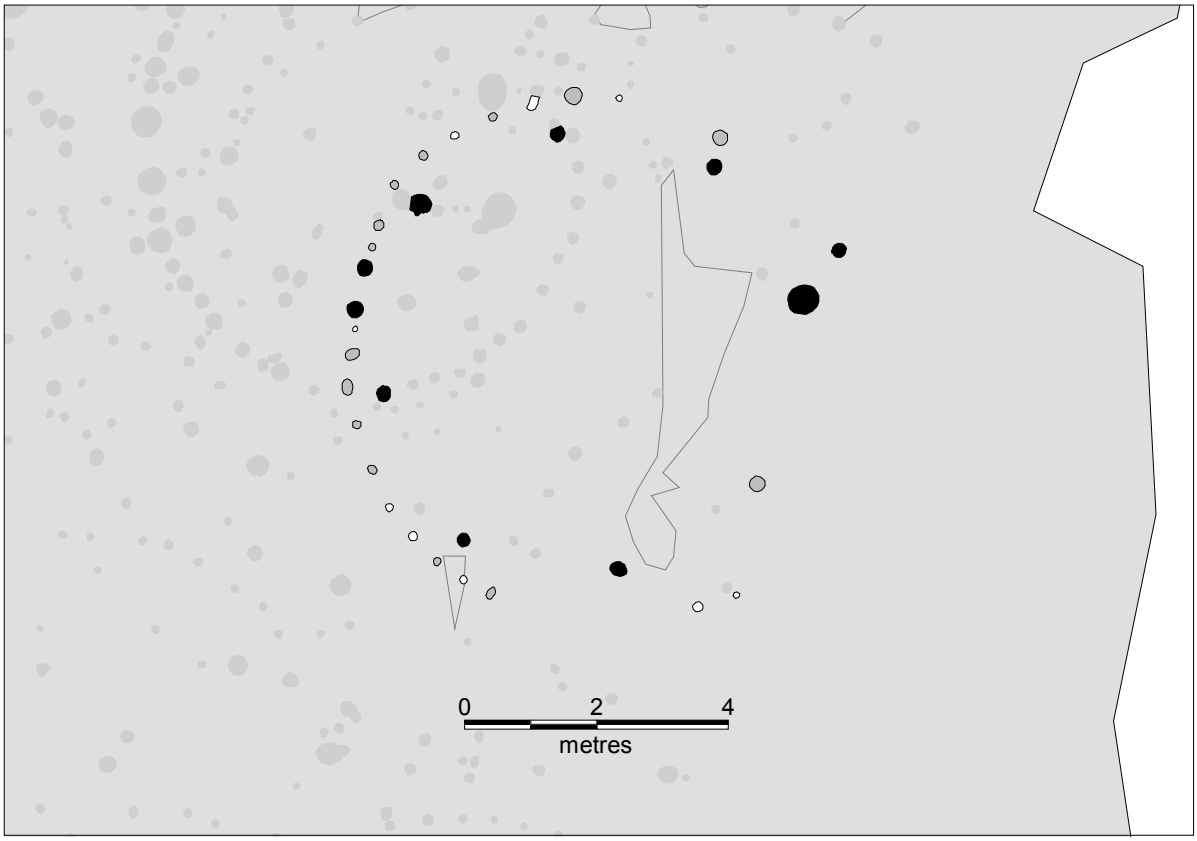


Figure 91. Structure 9.

in general is devoid of features. Again, one might posit a construction which had no need of wall or roof supports at the back, or they were so shallow that they were wedged into the thin covering of soil on top of the bedrock.

The eight postholes of the internal construction range from 53 to 74cm in depth, with the exception of an unexcavated posthole at the back which was only 25cm deep when probed.

As well as conforming to the pattern of structures with a heavier-set western half, the depths and diameters of the features also oscillate between wide and deep and slender and shallow, as is very clear in Structure 1. The two entrance postholes are 60cm deep, flanked by shallow postholes (11 and 25cm), and thereafter by two deeper ones (39 and 44cm), and subsequently by smaller features, at which point gaps appear in the perimeter of the circle and posthole dimensions become more variable. The structure is oriented west-northwest and bears many resemblances to Structure 2, in terms of orientation, distribution of internal posts and the narrowness of the space between the outside wall and the internal construction (53cm). Features range from 8 to 74cm in depth, and 7 to 47cm in diameter.

Of the five excavated postholes, two in the external circle were documented as slanting. However, seeing as these angles were noted as slight, and the posts were not oriented towards the centre of the structure, the evidence suggests that features were generally vertically set into the ground.

Feature fills. All the excavated postholes of Structure 9 had small amounts of charcoal in their fills. The two entrance posts (85-50-F108 and F109) as well as the excavated internal posthole contained ca. 2kg of bedrock material, probably packing material as well as relatively large proportions of small organic material such as marine shells (50-189g; including chitons, limpets, nerites, tritons,

Purpura sp. and fragments of *Cittarium pica*), crab claws (8-24g) and bone (18-30g). The fills also contained 51-250g of pottery, including decorated pieces, and a griddle fragment of 117g in one of the postholes of the entrance. The two postholes excavated in the perimeter have similar fill contents, only in smaller volumes, both containing around 300g of gravel and negligible organic and pottery remains.

Special finds. There was a medium-sized griddle fragment (117g) in one of the entrance postholes.

Abandonment. This structure was not burnt down owing to the small quantity of charcoal in the fills. It is not possible to determine whether this structure had the posts removed, or whether they were left to rot *in situ*.

Dating. Chicoid.

Associated features. There are only 12 unassigned features inside Structure 9, a few of which may represent repairs to the structure. There are hardly any features occurring outside the immediate perimeter of the structure and none at all at the back.

Overlaps. Structures 1, 16, 20, 34, and 39.

Shared features. Five features are shared with other structures, including one of the features from the central configuration.

Structure 10 (Confidence Class: 1)

Spatial and physical characteristics. Structure 10 is a configuration of eight deep-set and wide postholes in a regular configuration of opposed pairs. The structure is identical to the internal constructions of the other circular buildings, but lacks an outer perimeter wall. The diameter is ca. 6m with the mean span between opposing posts at 5.93m and 2.42m between adjacent pairs. It is comparable in size of internal structure to Structures 2, 5 and 9. Seven of the eight features were excavated.

The excavated postholes are all 74-91cm deep, with the only unexcavated posthole of the eight-post configuration being documented by probing at 41cm. Given the fact that the excavated depths show remarkable consistency, three posts being exactly 91cm deep and two others 81 cm deep, it is likely that on excavation this feature would prove deeper. The probed depth of one of the excavated postholes (84-59-F69) was also much deeper on excavation. The depths of (excavated) opposing pairs differed by maximally 17cm.[130] All excavated features are vertical.

A number of unassigned and loose postholes scatter the area around Structure 10, but given the regularity of the eight posts, and the irregular and intermittent spacing of these smaller postholes, plus lack of any conceivable deeper entrance posts or patterns akin to any of the other circular structures discussed, it is thought more credible to reject an outer perimeter. This eight-post constellation stands alone as a wall-less structure. Was this perhaps an unfinished building? Or did it simply have a different function? The latter interpretation is preferred due to a number of similar structures in the unit.

Feature fills. There is consistency between all the excavated fills of these features which range between ca. 50 to 90L in volume. All contain small organic matter including 18-53g of animal bone (including the upper jaw of an *Islobodon* sp.),

130 These depths should be equivalent if they support the same horizontal beam.

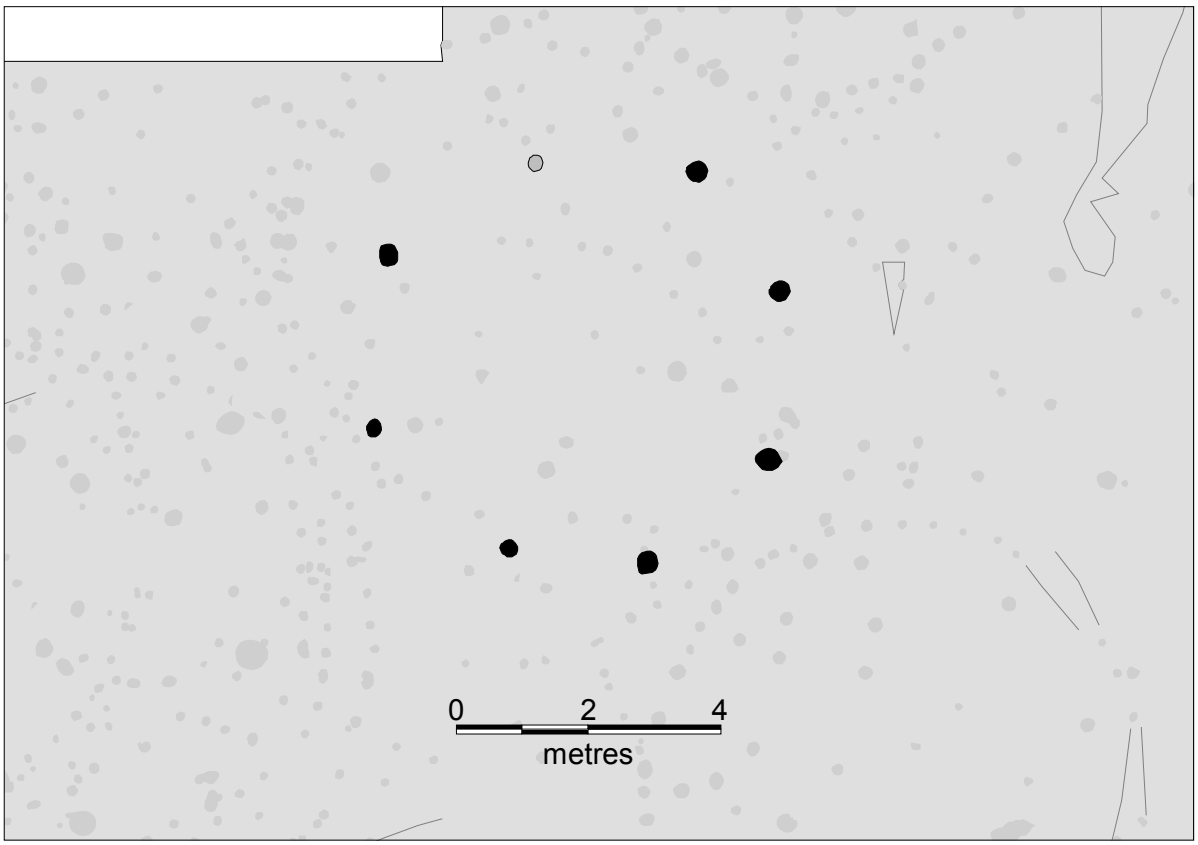


Figure 92. Structure 10.

80-300g of marine shell, 6-26g of crab claws, 1.5-5kg of stone material, including larger pieces for packing material, and negligible (0-10g) amounts of charcoal, incorporated into the fill rather than suggestive of burning of the structure. Features also contained 100-300g of pottery, some decorated pieces (Chicoid) and griddle pieces.

Special finds. A dog's tooth with a perforated root, possibly for suspension, was recovered from halfway down fill 1 of the northernmost postholes of the western pair (85-40-F125). A few other canine teeth were recovered from the unit, one less than 3m south of Structure 10 from layer 1. Another, from an internal posthole of Structure 2, and most strikingly another with elaborate Chicoid incision was recovered from a posthole in the northeastern part of the unit, from Structure 29.

Abandonment. This structure was not burnt down. Posts were either left to rot *in situ*, or were removed and the features back-filled.

Dating. The structure is in a relatively clean area of the unit, and the features contained Chicoid decorated pottery.

Associated features. There are a very few small features which occur within and around Structure 10. A small posthole just northwest of the centre may be incorporated, but is preferably left out of the interpretation. This will be discussed in Chapter 6.

Overlaps. Structures 7, 12, and 52.

Shared features. None.

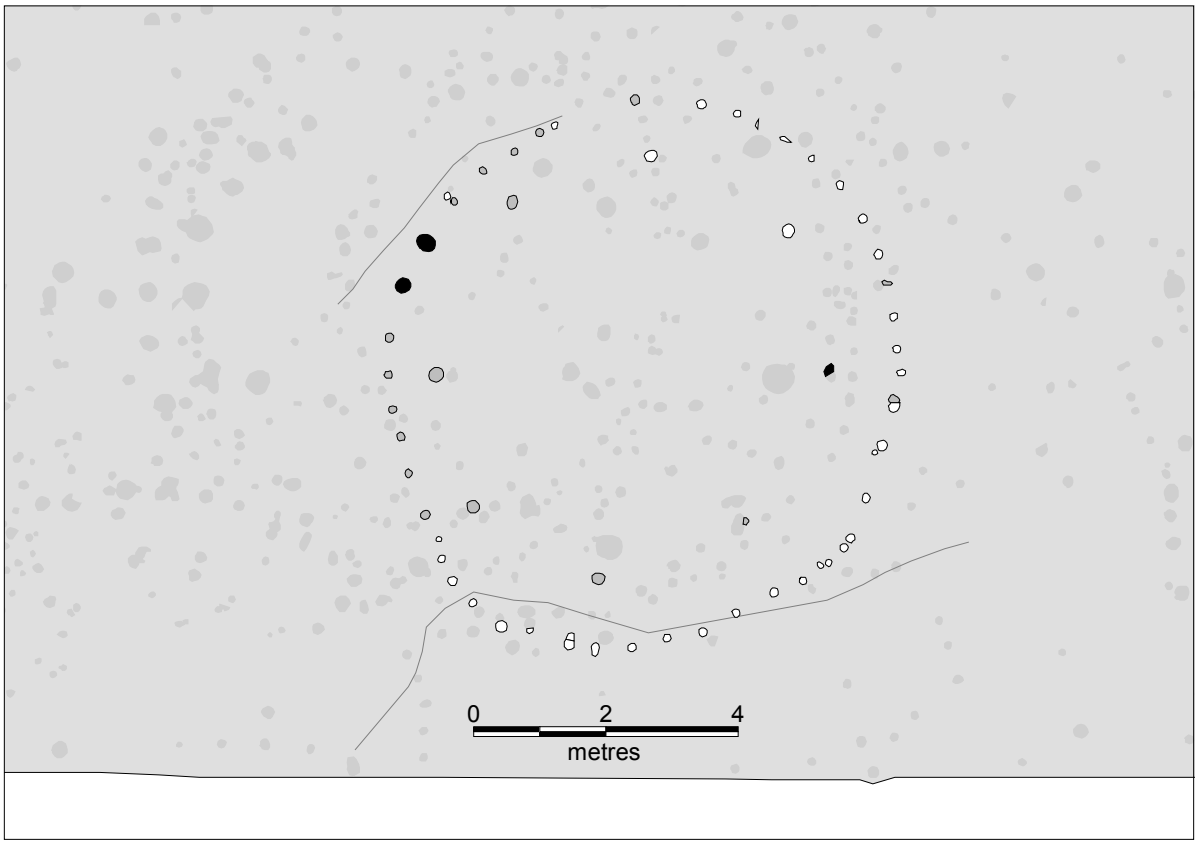
Structure 11 (Confidence Class: 1)

Spatial and physical characteristics. Structure 11 is the plan of a regular post-built structure consisting of a slightly elliptical outer ring of 56 postholes, and an internal roof-bearing configuration of eight posts. The floor area is ca. 50m². This structure is 8.5m in diameter with an average span between the external posts of 56cm, and an average span between opposing pairs of internal posts of 5.65m and 2.51m between the pairs. It has an entrance in the west-northwest marked by the largest postholes in the perimeter. Features range from 7 to 31cm in diameter, and 4 to 74cm in depth. Six features were excavated from this structure.

The external circle is complete and very regularly spaced, with the exception of a small gap in the northwest. The width from front to back, is a metre shorter than that from side to side which accounts for its slightly elliptical shape as compared to more perfect circles like Structures 1 and 2. The distribution of posthole depths and diameters across the perimeter conforms very well to the pattern seen in other regular circular structures in the unit, with the entrance posts being the largest in the perimeter, flanked by deeper postholes on either side of the entrance at the front of the structure along about 40% of the perimeter. The rest of the postholes in the perimeter are smaller and shallower. In a few areas postholes have been doubled or occur very close to each other. This may represent repairs.

Five postholes in the exterior circle were slanting. This includes features from the north, south and east. All were oriented towards the centre of the structure. The posts were thus placed into the ground at an angle. The only vertical posthole in the exterior was the excavated entrance posthole.

Figure 93. Structure 11.



The internal post configuration is very regularly spaced, with an average of 90cm between internal and perimeter posts. The depths, however, are variable and range from 11 to 74cm in depth. The northeast posthole pair is especially shallow (11 and 18cm deep). However, spatial similarities to Structure 2 and the indication from other structures in the unit of the importance that regularity plays in construction suggests that these are indeed the internal postholes. Moreover, as none of these features were excavated, the possibility remains that stony fills prevented accurate depth probing. Indeed, the internal structure is considered very secure.

The floorplan of Structure 11 corresponds exactly with an area artificially flattened bedrock. This is indicated in the plan drawing by solid lines. The peaks of the bedrock had been clearly lopped off within this area.

Feature fills. There were negligible remains (0-3g bone material, 0-8g pottery, 0-20g marine shell, 0-1g crab claws and 2-823g of gravel) in the features excavated, including the larger entrance feature (ca. 50L). No charcoal was encountered in any of the fills, except for 1g in the entrance feature.

Special finds. None.

Abandonment. The posts were probably left to rot *in situ* or removed.

Dating. Unknown.

Associated features. A number of small postholes occurring inside and outside the perimeter of Structure 11 may represent repairs of the wall. Otherwise there are very few other features spatially associated with this structure.

Overlaps. Structures 4, 8, 13, 14, 41, 46, 50, and 52. Structure 12 is too close to be contemporaneous.

Shared features. None.

Structure 12 (Confidence Class: 2)

Spatial and physical characteristics. This is a small structure consisting of a circular arrangement of 23 slender (10 to 20cm) and shallow (8 to 24cm) postholes. The circle formed is incomplete, especially in the southwest and east. The diameter of the circle is 6m, and it has a floorplan of 26m². There is no indication of a central or internal structure. Three features were excavated from this arrangement.

This circular configuration bears similarities to Structure 8, which also consists of just a perimeter circle. However, there is less indication that it was ever intended to be a closed perimeter circle as the features form three alignments of more or less equal length and number of features (two stretches of eight postholes and one stretch of seven), with gaps in between over 1.5m. The mean distance between the features is 84cm, although this decreases to 62cm if one does not count the gaps between the three separate parts. The features are metrically and spatially consistent with each other and not assigned to any other structure.

All three excavated features were vertically set into the bedrock.

Feature fills. The excavated features contained negligible remains, in part due to their small volume (≤ 3L). All contained small amounts of gravel (≤77g) and hardly any organic remains or pottery (marine shell ≤3g, crab claws ≤1g, bone ≤1g, pottery ≤6g).

Special finds. None.

Abandonment. Unknown but not burnt.

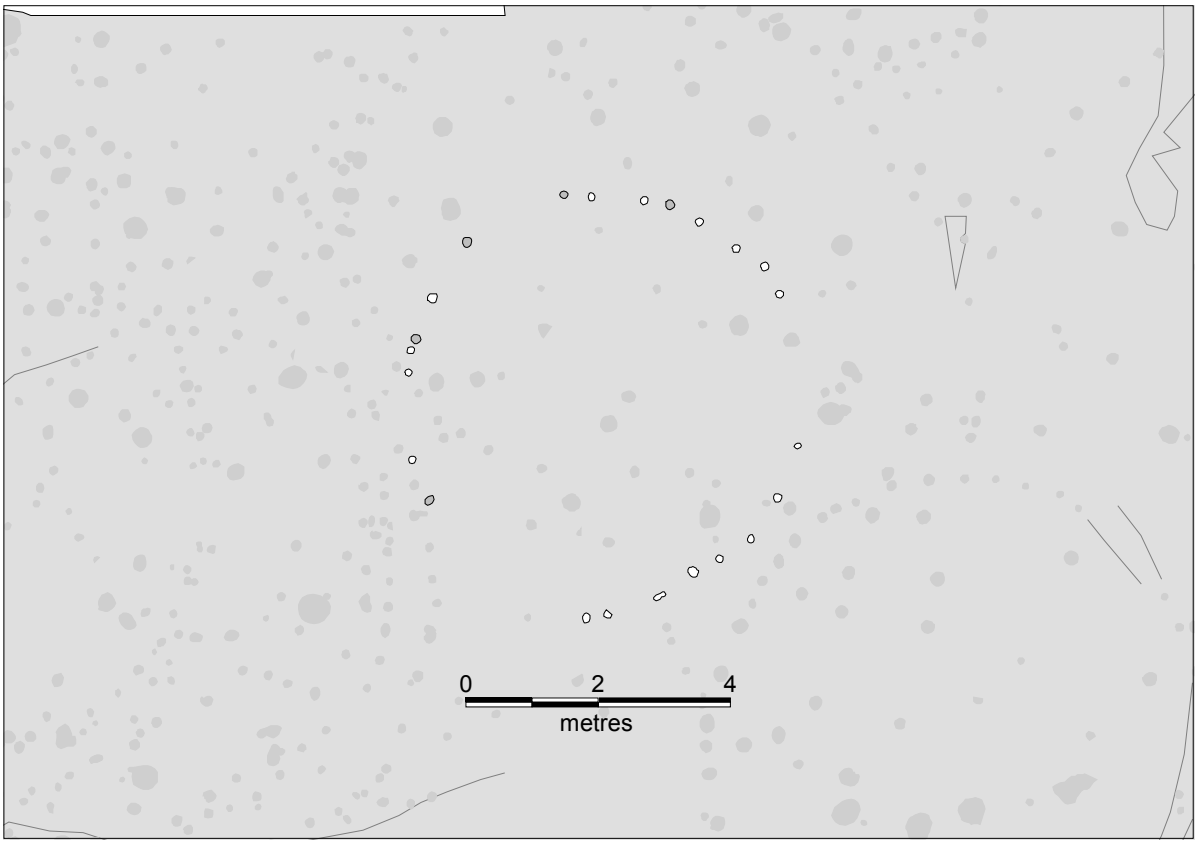


Figure 94. Structure 12.

Dating. No diagnostic material or dated samples, but overlapping with Structures 7 and 10 it is in quite a clean area of the unit.

Associated features. Very few features are spatially associated with this structure.

Overlaps. Structures 7, 10, 46, and 52. Structure 11 is too close to be contemporaneous.

Shared features. None.

Structure 13 (Confidence Class: 2)

Spatial and physical characteristics. Structure 13 is the plan of a regular post-built structure consisting of an outer, slightly elliptical, ring of 47 postholes and a configuration of eight postholes forming an inner roof-bearing construction. The floor area is ca. 48m². This structure is 8.2m in diameter with an average span between the external posts of 57cm, and an average span between opposing pairs of internal posts of 5.77m and 2.51m between the pairs. It has a probable entrance in the west (see more below). Features range from 7 to 42cm in diameter to 8 to 93cm in depth. Four features were excavated from this structure.

The distribution of depths of the features across the structure is regular with a division between deeper set posts in the west, at the front of the structure, and shallower posts in the east, at the back of the structure. Features in the west, running ca. 40% of the length of the perimeter, are deeper-set and wider than those posts in the rest of the perimeter, especially the back. The central pair of features in this western front section are not particularly wide or deep (26 and

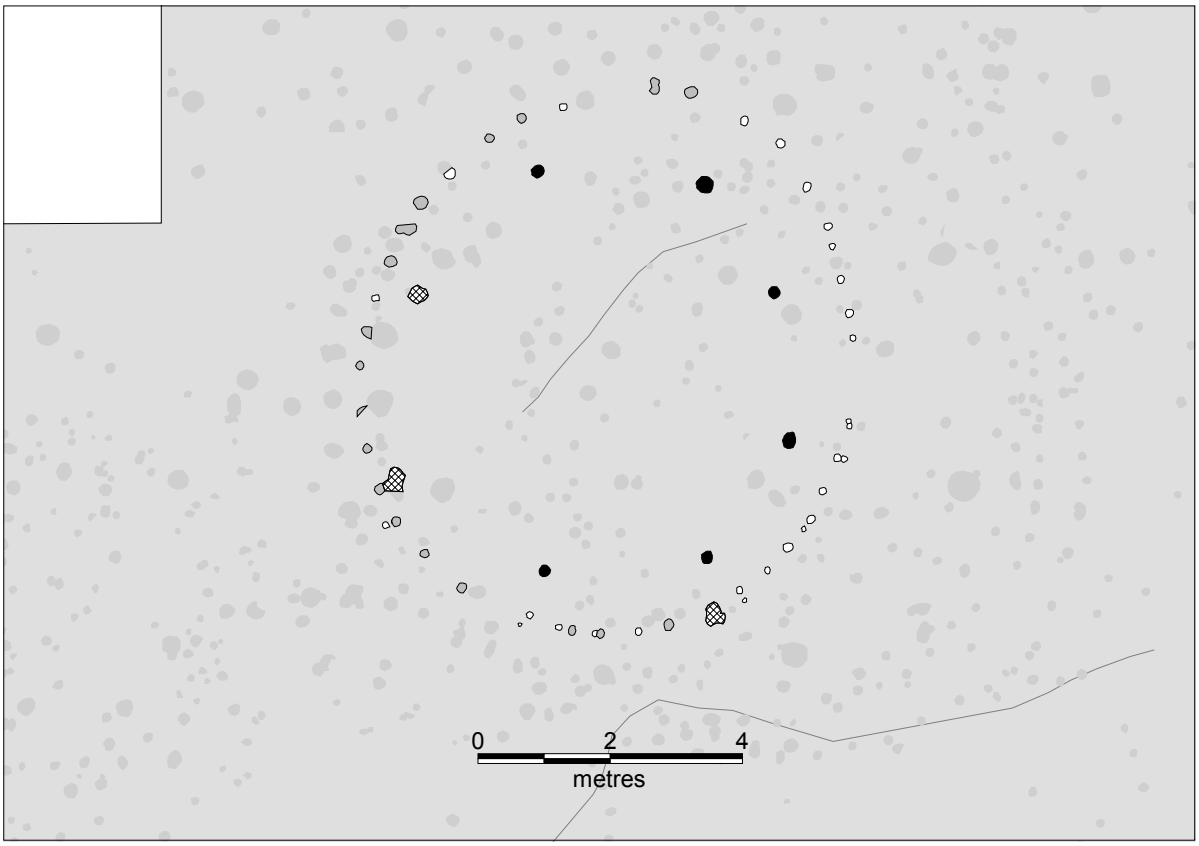


Figure 95. Structure 13.

39cm in depth, 14 and 18cm in diameter),[131] but are the most likely candidates for the entrance as they align on the internal structure in a westerly direction and are consistent with the patterning in the rest of the perimeter, forming an entrance façade at the centre of the deeper-set postholes. The spacing between them (68cm) is also larger than the mean spacing of the rest of the postholes in the perimeter (57cm). However, it is possible that the large entrance features of Structure 4 (which overlaps Structure 13 and shares the same orientation) may have been used to support larger posts for Structure 13 also. Slightly deeper postholes also occur in the north and south of the perimeter, aligned with the central configuration. A gap at the back of the perimeter aligns with the entrance and internal configuration. It is not clear whether this absence is an access point, or simply that the back was not in need of dug-in support. There is also a small gap in the north of the perimeter.

The two features excavated in the perimeter were vertical, whereas another small one in the north wall (not excavated, but visibly slanting in level 1) was slanting towards the centre of the structure. Whether the perimeter postholes were manufactured at a slant is therefore inconclusive. Two excavated internal features were vertical.

The internal configuration of eight large postholes is regularly spaced with depths ranging from 47 to 93cm. Depth information is not available for the front pair (crosshatched in Fig. 95), but at least the southern one is deeper than 42cm (this is the depth of the smaller, adjacent feature).

131 The southernmost entrance feature, 84-39-F143, appears as a small crescent on the plan drawing. However, this marks the modification of the bedrock at the top of the feature as seen in level 1, and the actual feature is a circular posthole, intersecting the adjacent feature.

Feature fills. The fills of the four features excavated comprised similar small quantities of organic and pottery remains consistent with their respective volumes. This comprised 1.5 to 3kg of bedrock material in the two internal posts (of which the back posthole is ca. 40L, the front unknown), 21-54g of marine shell, 1-7g crab claws, 0-6g bone material, 0-4g charcoal and 4-50g of pottery. The posthole excavated in the southwest perimeter circle contained all these categories, except charcoal, in negligible quantities.

Special finds. None.

Abandonment. This structure was not burnt down. Posts were either left to rot *in situ*, or were removed and the features back-filled.

Dating. Unknown, but see Chapter 6 for its position within the El Cabo relative chronology.

Associated features. A number of smaller features are spatially associated with this structure, mainly inside the perimeter. However, it is not possible to associate them directly with Structure 13 as there are multiple overlapping structures in this area.

Overlaps. Structures 4, 8, 11, 14, 41, 44, 50, and 51.

Shared features. Six features are shared with other structures, including two from the central configuration.

Structure 14 (Confidence Class: 2)

Spatial and physical characteristics. Structure 14 is the plan of a regular post-built structure consisting of an outer ring of 60 postholes and a configuration of eight postholes forming an inner roof-bearing construction. The perimeter wall at the back has undergone replacement at some stage in the structure's history, hence the high number of external features. The floor area is ca. 54m². This structure is 8.3m in diameter with an average span between external posts of 64cm, and an average span between opposing pairs of internal posts of 6.09m and 2.83m between the pairs. It has an entrance in the west marked by deep-set postholes. Six features were excavated from this structure.

The metric dimensions of the features across the structure share the same pattern as many of the other circular structures in the unit: heavy-set posts at the front and a lighter construction at the back. The spacing between the postholes is regular. Gaps are noticeable in the north of the perimeter and in wider spacing between postholes at the back. About 40% of the perimeter in the east has been replaced, appearing in the plan as a doubling of the back wall. It is not clear which, the inner or the outer, came first. Interesting in this respect is the repetition of the gap in the north wall and the wider spacing at the back, a 2.5m gap broken each time by the addition of a posthole. This not only bolsters the interpretation that this stretch of features represents different phases of the same structure, but also that the gaps seen in the north and back of some structures may indeed represent additional access points. Larger postholes flank the entrance posts, with those adjacent to the entrance on either side being larger in diameter than the others. The rest of the postholes in the perimeter are slighter. The two perimeter postholes flanking the pair of back posts are deeper than their neighbours, in both phases of (re-) building.

The entrance postholes in the west are the deepest and some of the widest in the perimeter. The northernmost is a double posthole where the features intersect. The westernmost of these has the same depth as its adjacent entrance

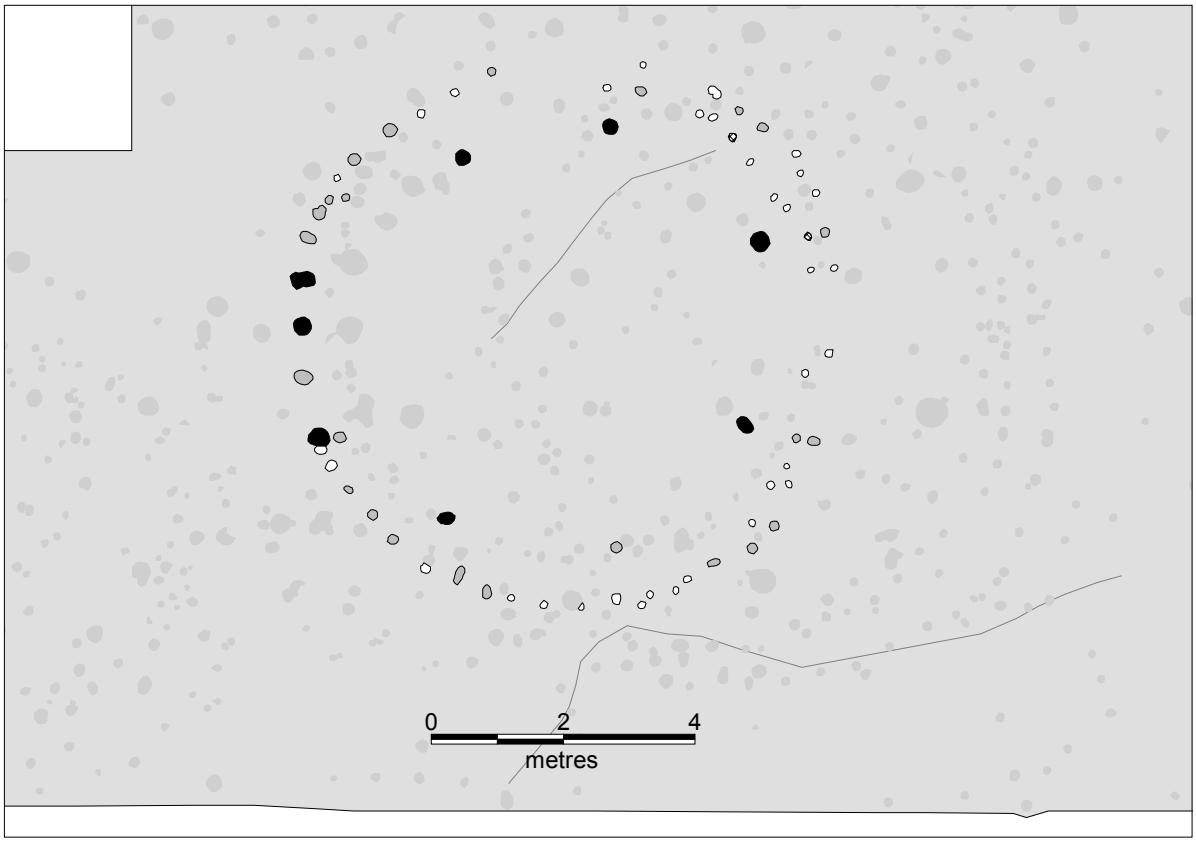


Figure 96. Structure 14.

posthole to the south (58 and 59cm), the easternmost being slightly shallower (50cm). This feature may have been enlarged on manufacture to fit a particular post, or perhaps the positioning was slightly altered during manufacture, leading to the doubling. It could also represent a repair. The exact nature is inconclusive as these features have not been excavated.

The spacing of the internal posts is very regular and aligns on the entrance of the structure. Depths are quite variable, however, and range from 25 to 75cm, with the front pair of internal postholes, behind the entrance, being smaller than the back pair (37:69cm and 25:69cm deep). Given that uprights supporting horizontal beams should be of roughly the same depth, and that this is the case for structures in which opposing pairs have been excavated (e.g. Structures 1 and 2), either the probed depths are inaccurate, or the assigned features are not the correct ones.

In general, features range from 4 to 75cm in depth and 9 to 35cm in diameter.

Four postholes (of which two were not excavated but visibly slanting in level 1) from different sides of the perimeter are slanting: two clearly towards the middle of the structure, one unclear and another one, shared by Structure 4, outwards. Two others are vertical. This structure therefore possibly had slanting postholes in the perimeter.

Feature fills. Three internal and three external postholes were excavated from this structure. The back posthole pair, each ca. 60L in volume, contained similar fills consisting of relatively little organic remains (marine shell 29-98g, bone 2-12g, crab claws 3-5g, charcoal 1-2g), some pottery (16-141g) including an *adorno* in fill 1 of 84-49-F163, and 1.5-3kg of bedrock, probably used as packing material. Despite having a much smaller volume (20L), the southwest internal

posthole has very minimal remains (2g marine shell, <300g stone material), significantly less than an adjacent external feature (84-39-F193, ca. 7L) which had <15g of organic material and pottery next to 800g bedrock material. Differential fills may offer clues to abandonment (see below).

Special finds. None

Abandonment. This structure was not burnt down. Posts were probably removed and the features back-filled.

Dating. Unknown, but see Chapter 6 for its position within the El Cabo relative chronology.

Associated features. A number of smaller features are spatially associated with this structure, inside and outside the perimeter. However, it is not possible to associate them directly with Structure 14 as there are multiple overlapping structures in this area.

Overlaps. Structures 4, 5, 8, 11, 13, 41, 44, 50, and 51.

Shared features. Six features from the perimeter are shared with other structures.

Structure 15 (Confidence Class: 2)

Spatial and physical characteristics. Structure 15 is the plan of a regular post-built structure, with extensive re-building, consisting of an outer ring of 31 postholes and a configuration of eight postholes forming an inner roof-bearing construction. The different phases are shown by dividing the structure into 15a and 15b. Figure 97, Structure 15a, shows the basic plan of Structure 15, and Figure 98 includes an additional 36 features (Structure 15b). Structure 15 (a and b) is much smaller than the other circular buildings in the unit, with a floor area of ca. 19m² and a diameter of 5m. The average span between external posts is 50cm, between opposing pairs of internal posts 3.21m and 1.55m between the pairs. Features range from 7 to 31cm in diameter and 9 to 114cm in depth. Structure 15 has what is possibly an entrance in the west marked by a pair of deep-set postholes, but this is inconclusive. An additional 36 features interpreted as multiple phases of repair and re-building to both the exterior and interior are shown in Figure 98, Structure 15b. These additional features do not form a separate structure on their own, but represent phases of the same building. Thirty-one features were excavated from Structure 15a and b.

Overbuilding of this small circular structure occurred in this spot at least once and possibly more times. The plans indicate repeated repairing of various portions of one basic structure throughout its lifetime, with replacement of both internal and perimeter elements. This explanation is preferred over one of successive building of the same type in the same spot. This is due to the fact that only one satisfactory discrete structure can be pulled from the external circle(s). However, existing postholes may have been used multiple times.

Orientation is unclear. A northwesterly pairing (84-39-F39 and F47) bears similarities to other entrances, but does not align on any potential internal structure. This leads to a preference for an entrance due west formed by two postholes (84-39-F312 and F315), both 32cm deep and set slightly back from the rest of the perimeter so that the entrance is sunken. This pairing is also slightly wider (57cm) than the mean distance between the external postholes (50cm).

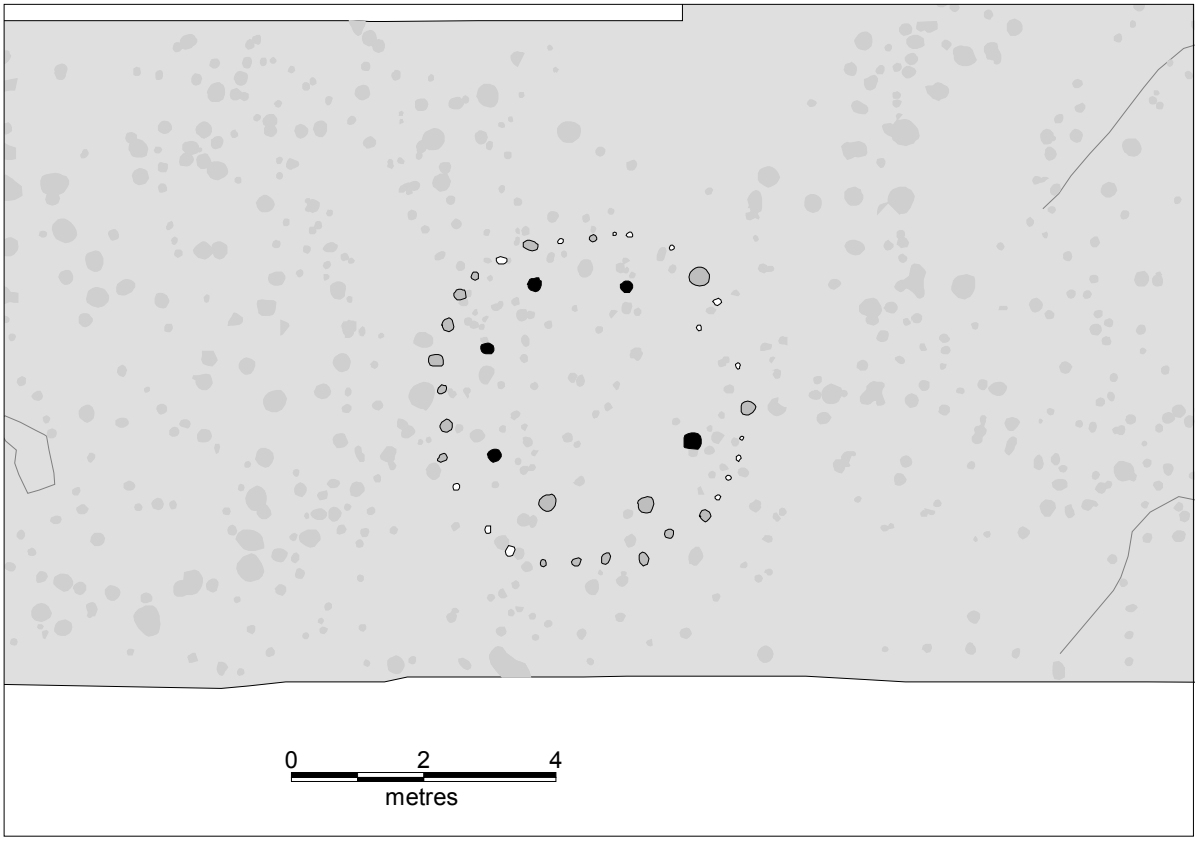


Figure 97. Structure 15a.

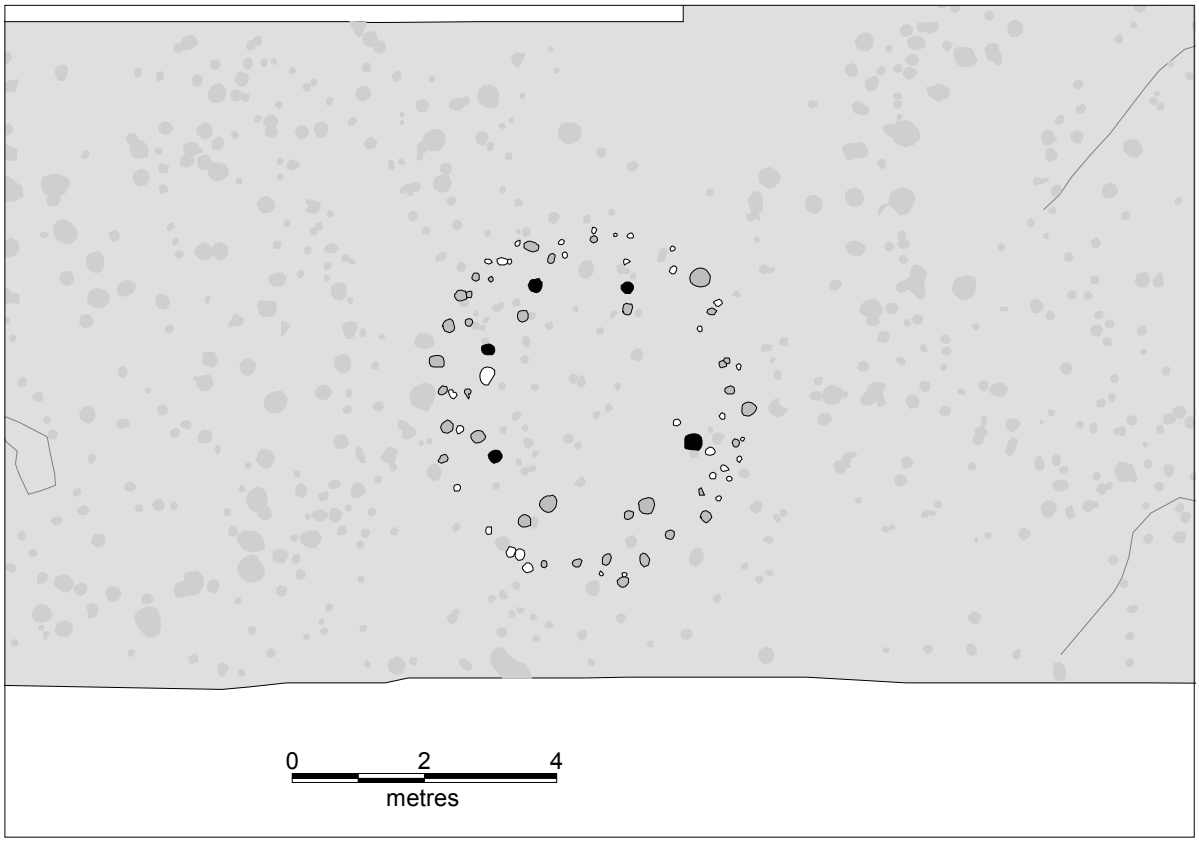


Figure 98. Structure 15b.

In general, the distribution of depths and diameters of features across the structure are greater in the west, at the front. However, several of the features here are shared with other structures and may have become larger due to remodelling. Heavier set features are also seen in the southeast of the structure. Features at the back (east), north and southwest are slenderer. The overall impression, however, is one of a regular circular structure much like the others in the unit.

Seven excavated postholes from the perimeter and from all phases of building were set at an angle in the bedrock so that the uprights would be leaning towards the centre of the structure. Seventeen were, however, vertical in the bedrock. One of the features from the internal configuration was also slightly angled southeast, something not seen elsewhere in the internal configurations of the unit.

The internal eight-post setting is regular in spacing and diameter of its features with the exception of the small feature forming the most northern feature of the back pair (84-39-F172). This posthole is only 14cm in diameter and 15cm in depth.[132] There is no alternative large feature nearby. As we can see from other structures in the unit, postholes with the same function generally share the same properties, and thus this small feature is an anomaly. This is especially the case given that five other internal posts are some of the deepest in the site (73, 48, 97, 110, and 114cm). The southerly pair, however, are similarly also quite shallow (25 and 31cm), although considerably wider than F172. Nevertheless, these three features were not excavated, whereas the other deeper features of the internal setting were excavated. Moreover, the small feature is in the boundary area between units excavated in successive years, and consequently may have been overlooked. The structural logic displayed by the other structures in the unit suggests that the lack of a suitable feature here may be to do with excavator oversight. The possibility always remains, however, that this is an anomalous structure.

Feature fills. Four large features (ca. 20-65L), excavated from the interior of Structure 15, had remarkably sparse remains in their fills. This comprised minimal organic (0-3g bone, 0-4g crab claws, 1-3g charcoal and 1-211g of marine shell) and pottery (0-15g) remains as well as <3kg of bedrock material. This pattern is repeated in the minimal remains from the external features excavated which contained <10g of organic material, 0-23g of pottery and <1kg of stone material. The largest exterior feature, potentially serving another purpose in another structure (as yet unreconstructed) also contained a small griddle fragment.

Special finds. No special finds were encountered in the features of this structure. However, two pieces of the same stone belt were found within the perimeter of Structure 15 in layer 1. This will be discussed in Chapter 6.

Abandonment. The emptiness of the fills of the features mirrors that of the sparseness of the layer 1 material. The posts were either removed or left to rot *in situ*.

Dating. Unknown, but see chapter 6 for its position within the El Cabo relative chronology.

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132 In principle, a main supporting feature of these small dimensions is no problem. Among the present-day Trio, major supporting posts of far larger structures are frequently within this size range. Wood strength, not volume matters (J. L. J. A. Mans, pers. comm and Mans forthcoming).

Associated features. A number of smaller features are associated with the inside of Structure 15, although these are more likely part of alignments which intersect the plan. There are very few features outside the structure.

Overlaps. Structures 5, 6, 17, 31, 43, 44, 47, 48, and 51.

Shared features. Ten features from the perimeter are shared with other structures.

Structure 16 (Confidence Class: 2)

Spatial and physical characteristics. Structure 16 is a post row consisting of 41 posthole features running north-south and extending 53m along the whole of the eastern excavated part of the unit. This alignment is parallel to the coast and possibly continues beyond the unit boundaries in the north and south. It is the most easterly structure in the unit and runs slightly north-northeast in the south where it enters the unit, and curves further outwards, to the east, in a wide bow towards the north of the unit, before curving back in again and following the line of the cliff top and exiting the unit. Ten features were excavated from the post row.

All features fall within similar relatively shallow depth and diameter ranges: 6 to 25cm across and 5 to 44cm in depth, with a mean depth of 21cm. Of the ten features excavated, half were set at a slight angle in which the major orientation was south: either southwest or southeast. The angle was often very slight. In three of the four cases where adjacent features were excavated, one of the two features was vertical, the other set at an angle. All features excavated terminated in rounded bottoms, with a couple being noted as particularly regular.

The mean spacing between the features is 132cm. However, this distance is decreased (to about one metre) if one omits gaps which coincide with depressions in the bedrock and another large span where there appears to be a break in the alignment.

There doesn't appear to be a strict pattern in the distribution of depths of the features along the alignment. Shallower and deeper postholes are interspersed with each other following a pattern of two to four shallower postholes, followed by one to two deeper postholes. But the range of variation in the depths is relatively small and this is not thought to be significant.

A break appears after the first 25 features in the south of the unit which divides the northern portion of the alignment from the southern portion. The reconstruction assumes that the two portions are contemporaneous and that they were part of the same structure. However, this may not be the case and in the extreme north of the alignment there is some choice as to which features belong to it. Both portions, however, follow the same line, running along the cliff edge. Moreover, the east of the unit, nearest the sea and devoid of topsoil, does in places have an uneven micro-topography, eroded by exposure, which in places confounded the distinction between natural pockets and anthropogenic features.

Feature fills. The features, owing to their relatively small volumes, do not contain much organic or cultural material (0-2g bone, 0-8g pottery, 0-20g marine shell, 0-3g crab claws, 0-1g charcoal, 1-200g bedrock). Two of the largest features, in the north of the alignment, contained the least amount of material. These features also occurred closest to the edge of the cliff and therefore are most exposed.

Special finds. None.

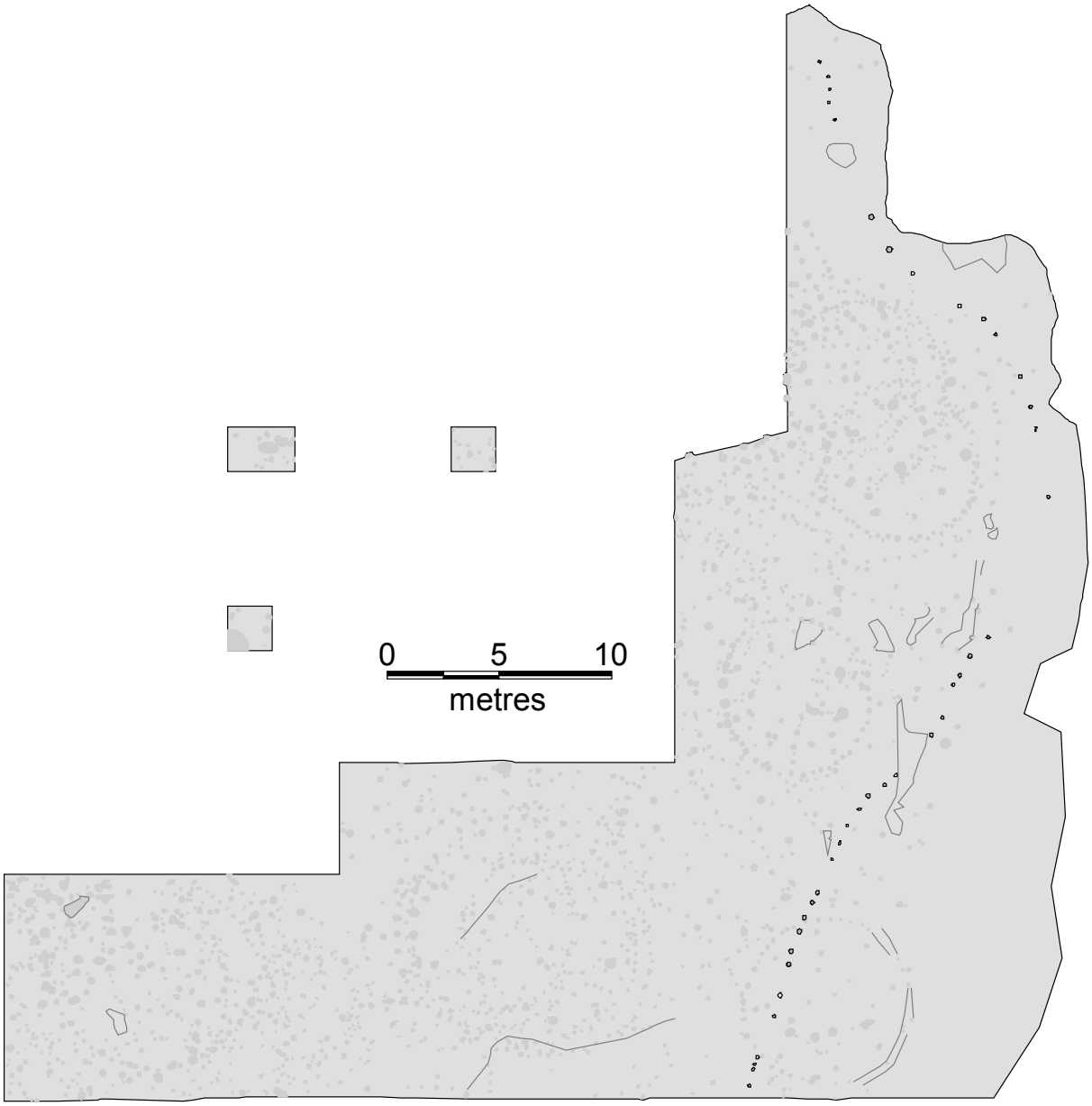


Figure 99. Structure 16.

Abandonment. Unknown, but not burnt.

Dating. Unknown, but see chapter 6 for its position within a relative chronology.

Overlaps. Structures 2, 9, 39, and 52.

Shared features. One feature is shared with another structure.

Structure 17 (Confidence Class: 1)

Spatial and physical characteristics. Structure 17 is an alignment consisting of 26 posthole features extending 10.3m in a slightly curved formation running north-northwest at the top of the unit and straightening to a more southerly direction where it exits the unit at the bottom. This post row possibly continues beyond the unit boundaries in the north and south. All but one feature was excavated from this post row.

Of the 25 features excavated, over half (n=16) were manufactured at an angle. In the majority of cases postholes were oriented so that the posts would have been oriented southwest.

The mean spacing of the postholes is 49cm; roughly twice as close as for the post row of Structure 16. Features are rather small and consistent within a narrower size range than for Structure 16: Diameters range from 8 to 20cm, and depths from 10 to 37cm. There is no other noticeable pattern within the distribution of posthole dimensions. In three places along the post row, features are doubled or trebled, possibly representing replacement, or repair.

In general this was a closely set palisade structure with posts slanting to the southwest, following a slight curve. The curve indicates that we should not exclude the possibility that the alignment forms part of the eastern wall of a circular or oval structure. However, this would make it larger than any of the other structures excavated in the unit, and no internal posts can be securely assigned to its west.

Feature fills. As for Structure 16, the small volume of these features also correlates to negligible remains. There was less than 6g of organic material and 11g of pottery in all postholes excavated, and less than 0.5kg of bedrock material.

Special finds. None.

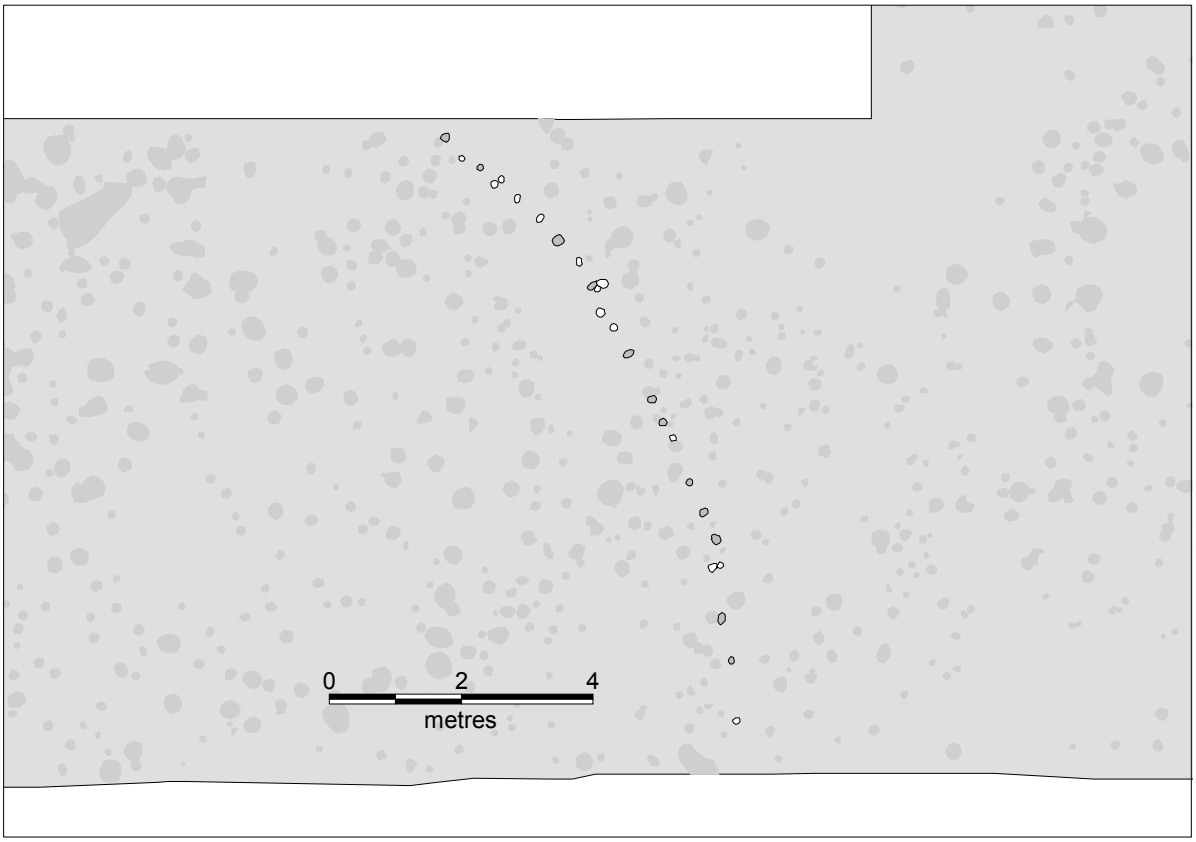
Abandonment. Not burnt, posts left to rot *in situ* or removed and back-filled.

Dating. Unknown, but see chapter 6 for its position within the El Cabo relative chronology.

Overlaps. Structures 6, 15, 28, 31, 43, 47, and 48. Structure 51 is too close to be contemporaneous.

Shared features. One feature is shared with another structure.

Figure 100. Structure 17.



Structure 18 (Confidence Class: 1)

Spatial and physical characteristics. Structure 18 is an alignment consisting of 22 posthole features extending 14.5m in a wide curve, almost a semicircle, open to the north and east. It is located in the north of the unit, on the cliff-top, and appears to bracket off Structure 3. Twelve features were excavated from this alignment.

The distribution of features across this structure is a configuration of 11 posts running east-west and 10 posts running north-south, with one, deeper, feature in the middle of the row, flanked by a wider spacing on either side (1.6 and 1.3m). The mean spacing between the features is 76cm. Features range from 9 to 25cm in diameter and 9 to 50cm in depth. The two postholes at the extreme ends of the alignment, plus those on either side of the central post are deeper than most other features in the structure, lending symmetry to the formation.

Over half the excavated postholes (n=7), including the larger posthole in the centre of the alignment, appear to have been manufactured at a slant, oriented south in the east-west oriented portion, and east in the north-south one. This would have the effect of a palisade semi-circle in which the posts are splayed outwards, rather than inwards as is the case with the roof/walls of the circular structures.

Feature fills. The features contained negligible organic material (0-5g bone, 0-1g crab claws, 0-1g charcoal, 0-12g marine shell) and a few grams of pottery (0-13g), as well as varying amounts of stone material, dependent upon feature volume (6g to 1.5kg).

Special finds. None.

Abandonment. Not burnt, posts left to rot *in situ* or removed and back-filled.

Figure 101. Structure 18.

Dating. Contemporaneous with Structure 3.

Overlaps. Structures 49 and 52.

Shared features. None.

Structure 19 (Confidence Class: 3)

Spatial and physical characteristics. Structure 19 is a short post row consisting of six features of decreasing depth and diameter (17 to 11cm in depth and 19 to 10cm in diameter), running from northwest to southeast. The alignment is 2.23m long and the features are evenly spaced at an average 45cm apart. None of the features was excavated.

Seeing as all features are rather shallow, the colour-coded depth ranges have been refined to bring out the incremental depth changes. In this case white = 11 to 13cm deep, grey 14 to 16 and black = 17cm.

This alignment is similar to four others in the unit (Structures 32, 33, 35 and 36). Such alignments are visually arresting among the unit features because, unlike most of the other structures in the unit, they are linear formations.

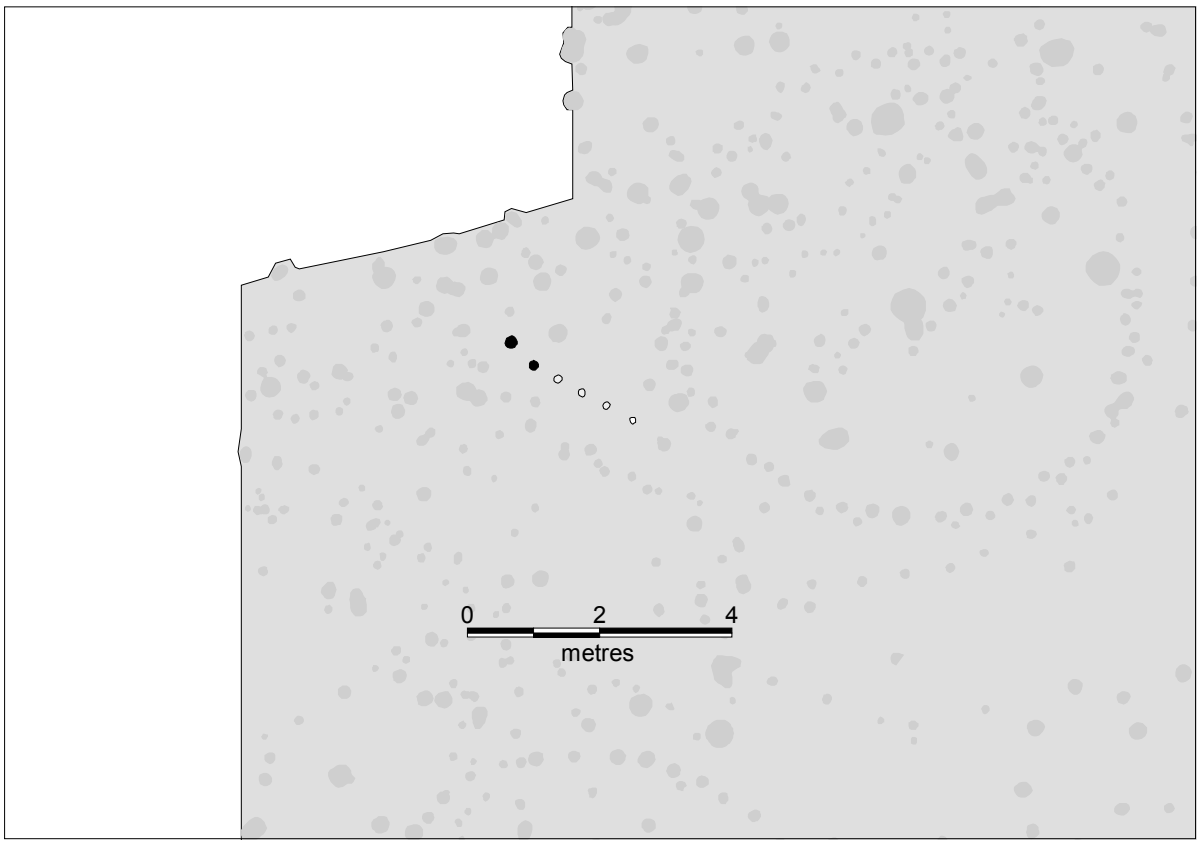
Overlaps. Structure 30.

Shared features. None.

Structure 20 (Confidence Class: 2)

Spatial and physical characteristics. Structure 20 is the plan of a regular post-built structure consisting of an outer ring of 21 postholes and a configuration of eight postholes forming an inner roof-bearing construction. The floor area is ca. 33m². This structure is 6.5m in diameter with an average span between external

Figure 102. Structure 19.

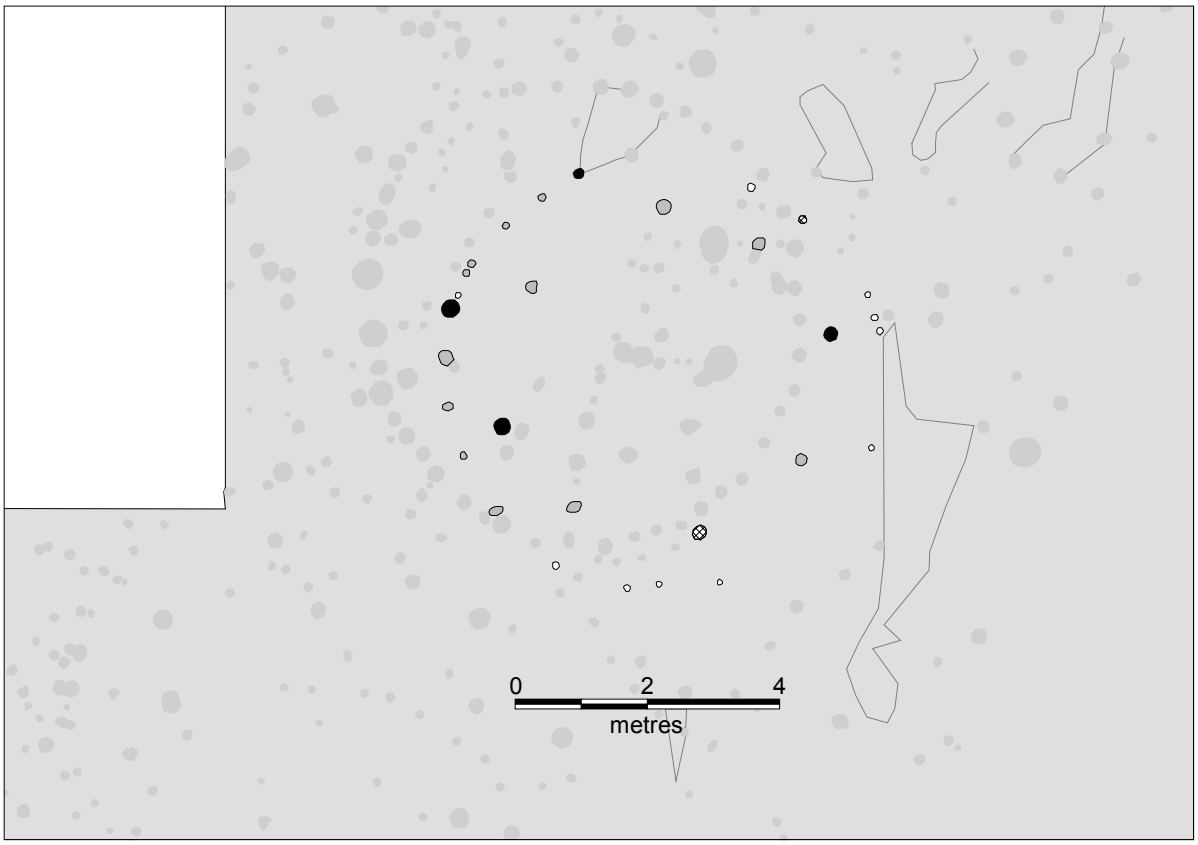


posts of 98cm, although the many lapses in the perimeter circle indicate that this may have been smaller in built reality. The average span between opposing pairs of internal posts is 4.59m and 1.9m between the pairs. It has an entrance in the west marked by the largest features in the exterior. Five features were excavated from this structure.

The features of the entrance and the inner construction align and are the deepest and widest of the structure (21 to 56cm deep and 18 to 27cm wide), with the possible exception of one of the features of the southern pair of internal posts for which the depth is unknown. However, there is no reason to suspect that the latter feature is not of equivalent depth to the others given that it is equally wide and in the "right" place in the structure. The two west-facing entrance features are 42 and 45cm in depth and 75cm apart, and flanked by deeper postholes on either side. The southernmost entrance feature (85-50-F104) intersects another, deeper (62cm) feature to its southeast which was excavated separately. The latter feature has not been incorporated into the reconstruction of Structure 20.

Overall, features range from 8 to 27cm in diameter and 9 to 56cm in depth and the distribution of depths across the structure from front to back is similar to those of other structures whereby features in the western, front half are deeper than the features in the rest of the perimeter, especially those towards the back. In the north and southeast of the perimeter, the spacing of the postholes is not as regular as that at the front of the structure. There are no features in the area which can be used to satisfy these gaps, and again one must conclude that either there were no wall features here or that the structure did not require support from foundations in the bedrock. In this respect it is useful to note that two features at the back of the structure were noted as being quite hard to distinguish in the bedrock and one was documented as possibly being a natural depression, used as a posthole. In desk-based reconstruction, this "possibly natural" feature

Figure 103. Structure 20.



fits very well into Structure 20, lending extra credibility to the fact that some of the shallowest features at the rear of structures may have been missed in the field, or may have been indistinguishable from natural pits and scrapes in the bedrock.

Both of the features excavated from the perimeter circle were vertical. However, as these were the smallest features at the back of the structure, this does not necessarily mean that the rest of the perimeter was vertical. The mean distance between the perimeter and the roof supports is 81cm.

Feature fills. The two entrance postholes (85-50-F104 and F179) both contain relatively substantial amounts of organic material and some pottery. Interestingly enough, given its smaller volume (ca. 15 and 26L), F104 contains more than F179: bone material 11:17g, crab claws 1:8g, charcoal 2:3g and marine shell 53:106g, pottery 17:85g (including decorated sherds in both features). Both features contain ca. 2.5kg of bedrock material with that of F104 being noted as consisting of larger rocks. An explanation for the difference in quantity of the fills might be that the adjacent feature F179 belonged to a later structure, and F104 was backfilled (with larger rocks) and with a more rich organic soil.

The only internal feature excavated, one of the back internal posts (85-50-F136) which contained similar components as the entrance posts (6g bone, 1g crab claws, 1g charcoal, 40g marine shell, and 73g pottery, including a griddle fragment). The two postholes excavated from the perimeter at the back of the structure contained ≤1g of each material category.

Special finds. None.

Abandonment. Posts removed and backfilled.

Dating. Chicoid.

Associated features. A few small features inside Structure 20 are not necessarily thought to be related. Very few features occur outside its perimeter, and none at the back.

Overlaps. Structures 1, 9, 34, 39, 40, and 52.

Shared features. Four features, including two from the internal construction, are shared with other structures.

Structure 21 (Confidence Class: 2)

Spatial and physical characteristics. Structure 21 is the plan of a regular post-built structure. The plan is incomplete due to the fact that the western half of the structure falls outside excavation boundaries. The remaining half consists of an outer ring of 24 postholes and a configuration of four postholes (and a fifth possibly indicating repositioning in the north) forming an inner roof-bearing construction. The interpolated floor area of the complete plan is ca. 49m². This structure is 8m in diameter with an average span between external posts of 56cm. The span between the only revealed opposing pair of internal posts is 5.57m and between the only adjacent pair is 3.24m. There is no obvious entrance in the revealed perimeter, and it is assumed that the entrance was in the unexcavated western portion of the structure (see below). One feature from this structure was excavated.

The features in the perimeter of the structure show great uniformity in terms of size, all falling between 7 to 23cm in diameter and 9 to 28cm in depth. These are regularly spaced and relatively shallow features, concomitant with their interpretation as forming the back portion of the structure.

The features of the inner construction, ranging from 42 to 61cm in depth are also regularly spaced and potentially align on a west-northwest facing entrance. The most northwesterly of the internal structures has an elongated form from which two depths were taken. It is assumed that this includes two features, the deeper perhaps a repositioning of the shallower one.

As no features from the external post circle were excavated, it is not known whether these features are vertical or not.

Feature fills. The only feature excavated was an internal feature from the south-west of the structure. This feature contained some organic remains (bone 5g, crab claws 4g, charcoal 3g, and marine shell 48g) as well as 70g of pottery and <1.5kg of stone material. It cannot be compared with other fills from the structure.

Special finds. None.

Abandonment. Posts removed or left to rot *in situ*.

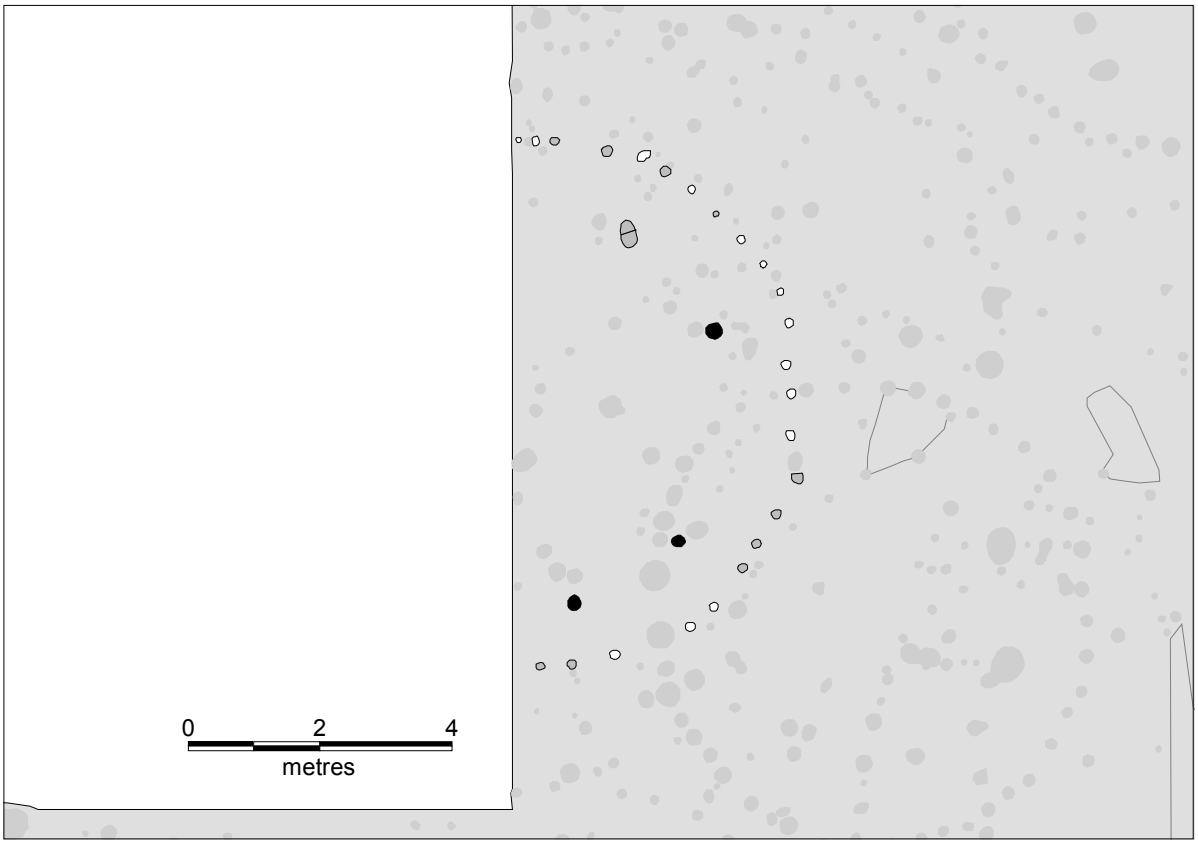
Dating. Post dates Structure 1 (see Chapter 6).

Associated features. Very few unassigned features are associated with either the inside or outside of Structure 21.

Overlaps. Structures 1, 34, 38, and 40. Structure 49 is too close to be contemporaneous.

Shared features. One feature is shared with another structure.

Figure 104. Structure 21.



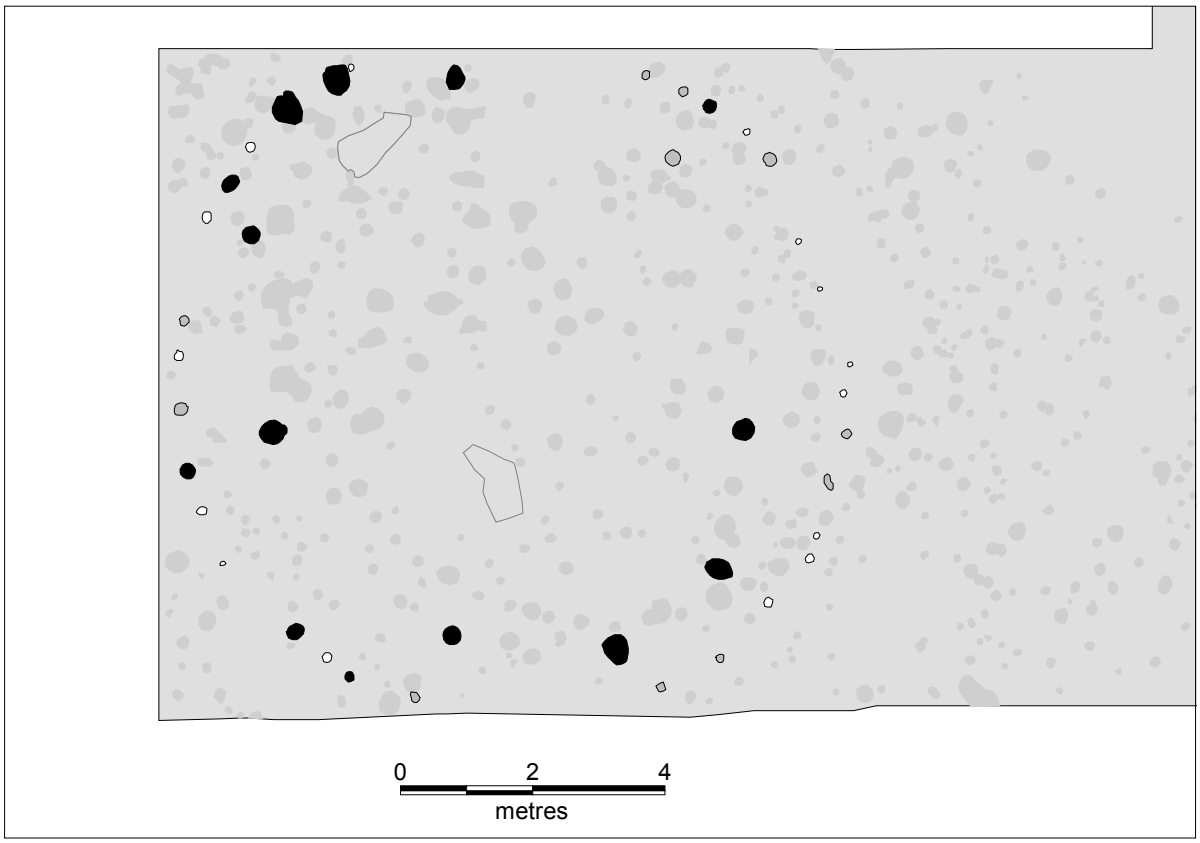
Structure 22 (Confidence Class: 2)

Spatial and physical characteristics. Structure 22 is one of the largest structures excavated. A small part of the external circle falls outside the excavation boundaries in the north and south. Its plan is that of a regular post-built structure consisting of an outer ring of 32 postholes and a configuration of eight postholes forming an inner roof-bearing construction. Floor area is ca. 82m². This structure is 10.5m in diameter with an average span between external posts of 82cm, and an average span between opposing pairs of internal posts of 7.37m and 3.56m between the pairs. It has an entrance in the northwest marked by the largest postholes in the perimeter. Sixteen features were excavated.

There are some marked differences between Structure 22 and other circular structures in the unit. First of all the entrance is oriented northwest, at a much more northerly orientation than those structures facing west northwest. Secondly, unlike the other structures, both the entrance postholes (84-29-F345 and F364) were slanting so that their posts would have been angled to the southeast, i.e. towards the centre of the structure. These are both wide, flat-bottomed features, one with a large piece of quern stone used as packing material against the inside south wall. Of the ten features excavated from the perimeter circle, all from the eastern half, four were clearly set into the bedrock at an angle. All excavated internal features were vertical. Although the entrance postholes were slanting into the structure, it remains unclear whether this was the case for the majority of the postholes of the perimeter.

The internal configuration of eight postholes is very regularly spaced throughout the structure, and aligns precisely on the northwest entrance. Depths range between 44 and 81cm. The difference in the span between the front pair (north) of internal postholes and the back pair (south) is almost two metres so that the

Figure 105. Structure 22.



pair flanking the inside of the entrance is much wider set than the pair at the back. This is an exaggerated repeat of what is seen in Structure 1 where this is also the case. Five of the internal postholes (and possibly another one in the northeast, but this falls outside the excavation boundary) also align on a deeper feature in the perimeter, as is the case with some other structures in the unit. This is not the case for the back pair of postholes (south).

There are a few omissions in the perimeter circle which shows gaps in the east and west between otherwise regularly spaced exterior wall features. The perimeter itself forms a very regular circle. The lighter setting of the perimeter postholes contrasts with the heavy-set internal configuration.

Feature fills. The two entrance features, both ca. 100L in volume, have fills very consistent with each other in terms of organic, pottery and stone content (bone 3-4g, crab claws 4g, marine shell 27-36g, charcoal 1-5g, pottery 31-43g, and 6.5-7kg bedrock material). This bedrock is interpreted as packing material (as is the quern fragment found propped against the side of F345). The three other internal excavated postholes contain similarly large quantities of bedrock material (>2-11kg) as well as some organics (1-3g bone, 0-3g crab claws, 2-44g marine shell, 1-5g charcoal). Two features contained minimal pottery (3-14g), with a third (84-29-F250) containing considerably more, i.e. 192g. Fills of ten external features contained remains consistent with each other and their respective volumes (gravel 80-1300g, ≤1-8g organic material, ≤1-14g pottery). The only exception is a feature from the southwest perimeter which revealed 94g of charcoal during cleaning of level 1 alone. This feature was not fully excavated, but given the large amount of charcoal in the top, probably contained the remains of a burnt post. In this respect it is anomalous with the rest of the features in the structure which contained minimal charcoal. Nevertheless, it is included in the reconstruction because of its place in the perimeter wall, and because its relatively large size indicates it could have been incorporated into more than one structure. Another large perimeter feature to the left of the entrance contained the spout of a Chicoid vessel, also recovered during the cleaning of the top of the feature.

Special finds. None.

Abandonment. Posts removed, or left to rot *in situ*. Not burnt.

Dating. Chicoid.

Associated features. One, and possibly two, separate depositions of human bone material occur within the perimeter of Structure 22. These are the deposition of bones of a neonate in a small pit (84-29- F261) and the deposition of fragments of possibly a human tibia in a posthole (84-29- F16). These are the same bone deposits also spatially associated with the inside of six other structures. The features in which they occur are not structural elements of any identified structure.

Otherwise, this structure occupies a location dense in unassigned features. It is not clear which, if any may be associated with the structure, although it is unlikely that any of them had a structural function as 22 is thought to be complete.

Overlaps. Structures 6, 26, 27, 28, 31, 39, 42, 47, and 48.

Shared features. Three features, including one of the internal postholes, are shared by other structures.

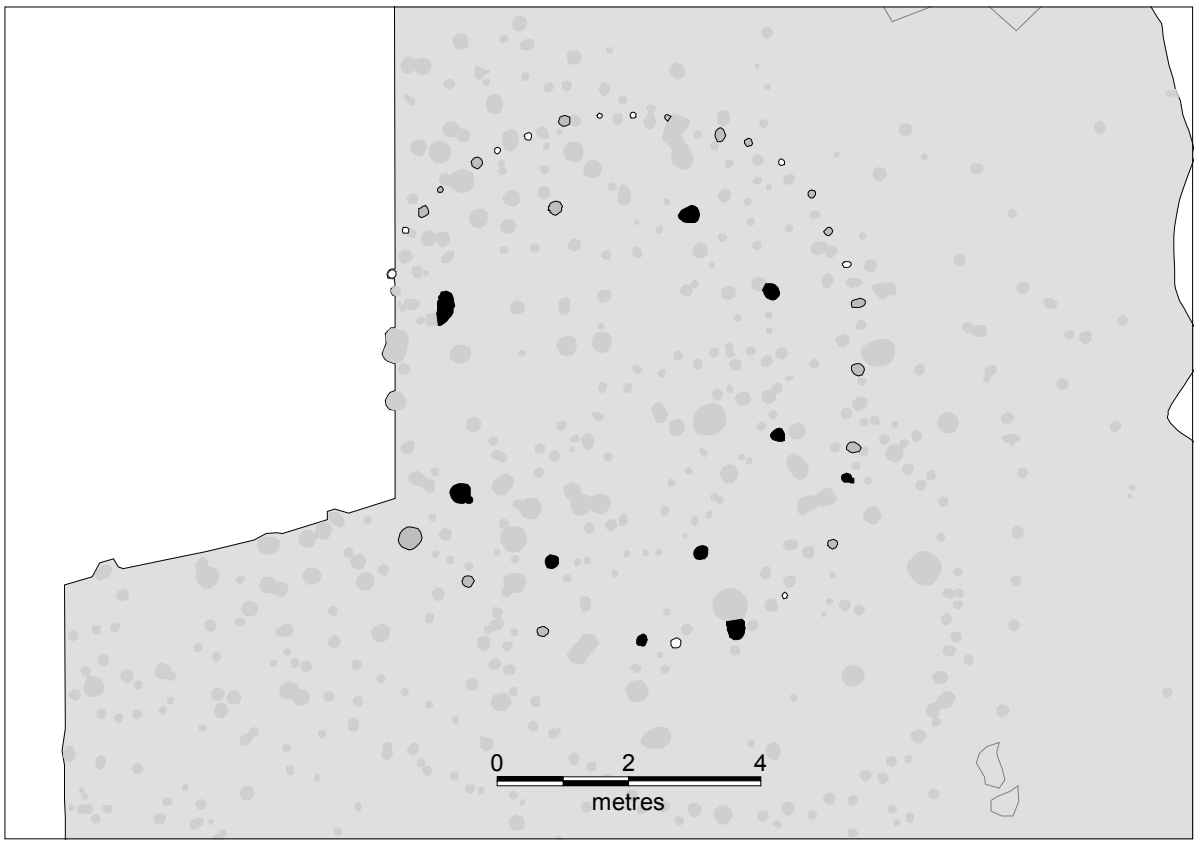
Structure 23 (Confidence Class: 2)

Spatial and physical characteristics. Structure 23 is the plan of a regular post-built structure consisting of an outer ring of 29 postholes, and a configuration of eight postholes forming an inner roof-bearing construction. The structure is complete with the exception of the perimeter in the extreme west which falls outside excavation boundaries. The floor area is ca. 48m². This structure is 8m in diameter with an average span between external posts of 74cm, and an average span between opposing pairs of internal posts of 5.07m and 2.32m between the pairs. In all likelihood the entrance was in the west, but this area has not been excavated. Two features were excavated.

Features range from10 to 87cm in depth and 7 to 50cm in diameter. Unlike many other structures in the unit, the features at the back are not the smallest in the perimeter. Instead, slightly larger features are evenly spaced all around the perimeter, mirroring each other in the north and south, and aligning with the postholes of the internal configuration. In the northern half of the perimeter these larger features are interspersed with two or three shallower and slenderer features. These smaller features are missing in the south and at the back, leaving the larger ones. Approximately four metres of the perimeter in the west are outside the excavation boundary. Given that there are no credible entrance features in the rest of the perimeter, and the internal features would align on a conventional west-facing entrance, it is assumed the entrance is here.

The sole external excavated feature from this structure is from the back. This was dug at an angle into the bedrock and the upright would have leant west, towards the centre of the structure. One internal feature from the back pair was excavated and was vertical.

Figure 106. Structure 23.



The internal configuration of eight deep and broad features forms a very regular load-bearing configuration akin to other structures.

Feature fills. The feature excavated at the back of the structure (85-62-F22), ca. 12L in volume, contained half a kilogramme of bedrock material, 10g of marine shell and 4g of pottery. The internal feature (85-62-F90) had 4kg of bedrock material spread through 37L, with most in the bottom in fill 2. This feature also contained 59g of pottery, including two decorated sherds and minimal organic material (2g crab claws, 2g charcoal, 16g marine shell).

Special finds. None.

Abandonment. Unknown.

Dating. Chicoid.

Associated features. A relatively high number of features of all size classes are spatially associated with Structure 23. This is an area dense in unassigned features, however, and it is not clear which, if any of them are related to this structure. Based on the apparent lack of non-structural dug-down elements in or immediately outside other structures, it is thought these features belong to other, unreconstructed, structures.

Overlaps. Structures 3, 24, 29, 30, 32, and 37.

Shared features. Structure 23 shares nine features with other structures: five internal postholes (with Structure 24) and four external features.

Structure 24 (Confidence Class: 2)

Spatial and physical characteristics. Structure 24 is the plan of a regular post-built structure consisting of an outer ring of 38 postholes, and a configuration of eight postholes forming an inner roof-bearing construction. The floor area is ca. 43m². This structure is 7.5m in diameter with an average span between external posts of 63cm, and an average span between opposing pairs of internal posts of 5.26m and 2.62m between the pairs. The entrance is marked by two heavy-set postholes in the western perimeter. Eight features were excavated.

Structure 24 shares most of the inner construction, except for the northern pair of postholes and one of the back pair, with Structure 23 which it overlaps with minimal spatial displacement between the two building episodes.[133] The two structures also share three postholes from the perimeter circle (not the entrance), and Structure 23 has a slightly larger floor area. The relative sequence of the structures is not known (which came first, 24 or 23?), but it is likely that one succeeded the other immediately the first was decommissioned.

Features range from 9 to 56cm in diameter and 7 to 87cm in depth. The distribution of posthole depths and diameters shows a regular pattern across the structure, from front to back, whereby the postholes at the entrance and those flanking the entrance are some of the largest in the perimeter, and those at the back of the structure are the most slender and shallow ones. The northernmost entrance feature is a double posthole (85-52-F19 and F20) which mirrors the setting of a deep posthole next to its partner to the south. This entrance configuration (as well as that for Structure 23 which is missing) is exactly on the excavation boundary, and would be clearer with further excavation to the west. Deeper postholes in the north, south and at the back are interspersed with shal-

133 It is possible that Structures 23 and 24 share exactly the same internal configuration, but the principle of not using the same feature twice in the presence of an alternative makes the latter preferable.

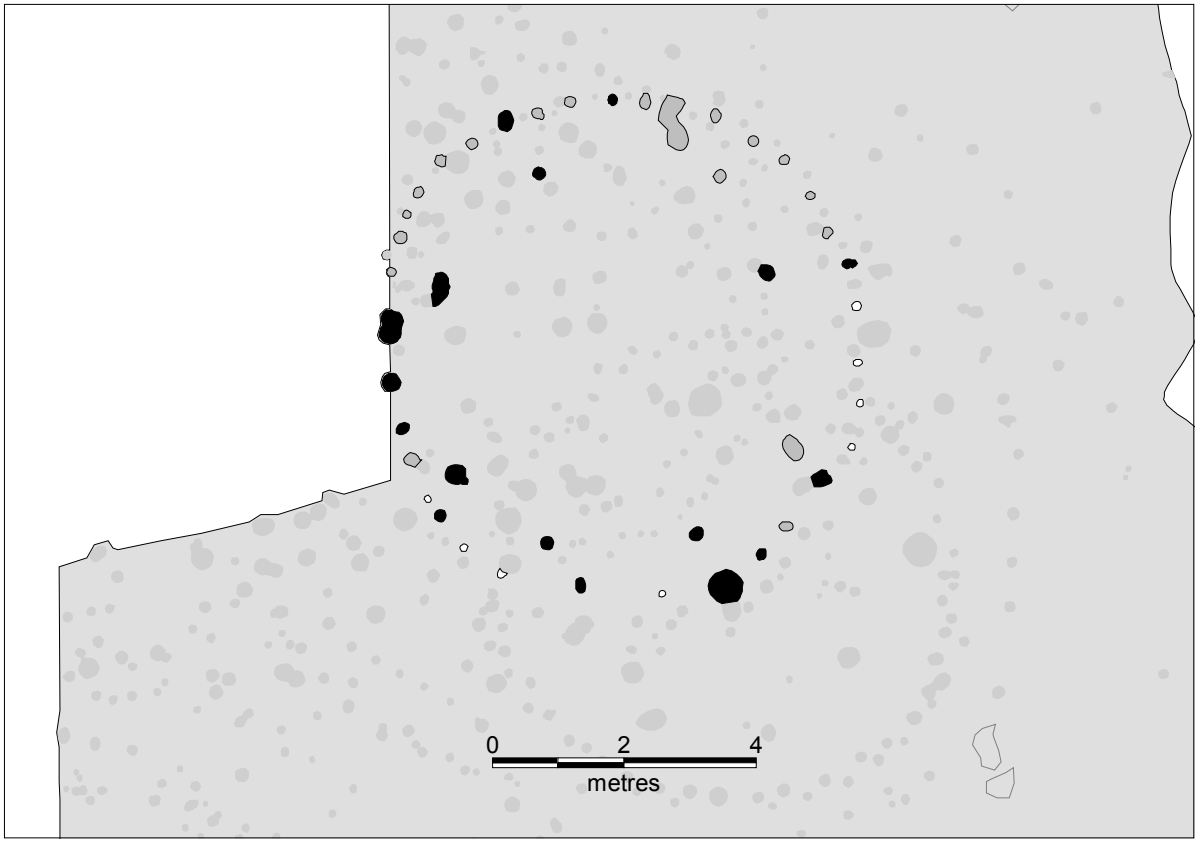


Figure 107. Structure 24.

lower ones around the perimeter. One particularly large feature in the southeast (85-51-F282) may have been used to house a post in the exterior circle, but it was probably made for other purposes as it is extremely large (56cm wide and 82cm deep) and bears similarities to two other large postholes in its vicinity (85-62-F100 and 85-61-F69). It is not known whether this posthole pre- or post-dates Structure 24.

Of the six postholes excavated in the perimeter, three are slanting. These would have supported posts leaning towards the centre of the structure. Interestingly, as for Structure 22, one of the slanting postholes is an entrance feature (85-52-F17), as well as the feature adjacent to it to the south.

Feature fills. The excavated entrance feature and internal feature had very similar fills (taking into account their volumes, ca. 37 and 47L), both having small amounts of organic material (1-2g bone, 16-108g shell, 1-2g crab claws, 0-2g charcoal), some pottery (59-80g), including decorated sherds and 4-5kg of bedrock material. The same is true of the larger feature flanking the excavated entrance feature, which also contained 54g of pottery griddle. The other exterior features, reflecting their volumes, contained very small amounts of material, whereas the very large feature (200L) in the southeast of the perimeter will be discussed in the context of Structure 30 where it serves as an internal posthole the fill of which more likely reflects activities associated with this structure.

Special finds. None.

Abandonment. Post removed or left to rot *in situ*.

Dating. Late, possibly colonial, see Structure 30.

Associated features. A relatively high number of features of all size classes are spatially associated with Structure 24. This is an area dense in unassigned features, however, and it is not clear which, if any, of them are related to this structure. Based on the apparent lack of non-structural dug-down elements in or immediately outside other structures, it is thought these features belong to other, unreconstructed structures.

Overlaps. Structures 3, 23, 29, 30, 32, and 37.

Shared features. Twelve features are shared with other structures, including five internal features with Structure 23.

Structure 25 (Confidence Class: 2)

Spatial and physical characteristics. Structure 25 is a regular but unique collection of eight posts in an oval configuration on the edge of the cliff. This structure is ca. 1.5 by 2.5m in diameter with an internal area of 3m² and an average of 82cm between each feature. Five features were excavated.

Features range from18 to 26cm in diameter and 47 to 80cm in depth, and from ca. 15 to 30L in volume and sit in a relatively tight cluster with few features in the vicinity which bear a resemblance to them or could be interpreted as belonging to the same structure. Of the five excavated features, four were set at an angle in the bedrock. These were all slightly angled leaning out from the structure so the uprights would have splayed apart. The excavated fills are also extremely consistent with each other (see below) and not at all consistent with any other adjacent excavated features. The combination of these characteristics makes a good case for interpreting this as a structure, which given its position

Figure 108. Structure 25.

on the edge of the cliff may have been positioned to take advantage of the wind or the sight lines. Structure 25 is in an area where there was no layer 1 due to proximity to the edge of the cliff.

Feature fills. The fills of the five excavated features are some of the richest in terms of organic and pottery remains in the whole unit. The mean contents of the features were 37g bone, 107g shell, 4g crab claws, 2g of charcoal, 198g pottery, and 3kg of bedrock material with a tight range between the individual figures. Three of the features also contained decorated sherds. One of the features, with almost 5kg of bedrock material in the fill, contained a large stone, horizontally placed, halfway down the fill. This indicates that the features were backfilled after the uprights were removed.

Special finds. None.

Abandonment. Features backfilled after the posts were removed.

Dating. Chicoid.

Associated features. Structure 25 is a relatively isolated configuration with no features occurring within its small perimeter, and two larger features occurring to the east. It is not known how or if these relate to Structure 25.

Overlaps. None.

Shared features. None.

Structure 26 (Confidence Class: 3)

Spatial and physical characteristics. Structure 26 is the plan of what appears to be a regular post-built structure. The plan is incomplete due to the fact that more than half the structure falls outside the excavation boundaries. The remaining half consists of an outer ring of 13 postholes, and a configuration of three postholes forming an inner roof-bearing construction, the details of which are not certain without more exposed surface area. The interpolated floor area of the complete plan is ca. 57m². This structure is 8.2m in diameter with an average span between the external posts of 84cm. The distance between the only revealed adjacent pair in the north is 3.28m. Overall, features range from 9 to 32cm in diameter and 7 to 75cm in depth. There is no obvious entrance in the perimeter. Two features were excavated from this structure.

There is not enough evidence to draw conclusions about this structure. However, the metric and spatial properties of the external postholes are consistent with other more complete circular structures in the unit, being a slender 9 to 13cm wide, with more close-set postholes in the west (consistent with a westerly entrance) and more wide-set in the east. Two of the internal posts are also metrically and spatially consistent, whereas the third one in the east is somewhat shallower (26cm) and also slightly angled to the southwest. It is possible that one of the larger postholes slightly to the west was used instead, although these have been assigned to other structures.

Feature fills. The two features excavated were from the internal construction and the difference in their fills reflects their different volumes (ca. 60L vs. ca. 7L), both containing 1g of bone, crab claws and charcoal, but the larger feature having 10g (as opposed to none) of pottery and 26g (as opposed to 1g) marine shell. Both features contained <1kg of bedrock material, although the smaller

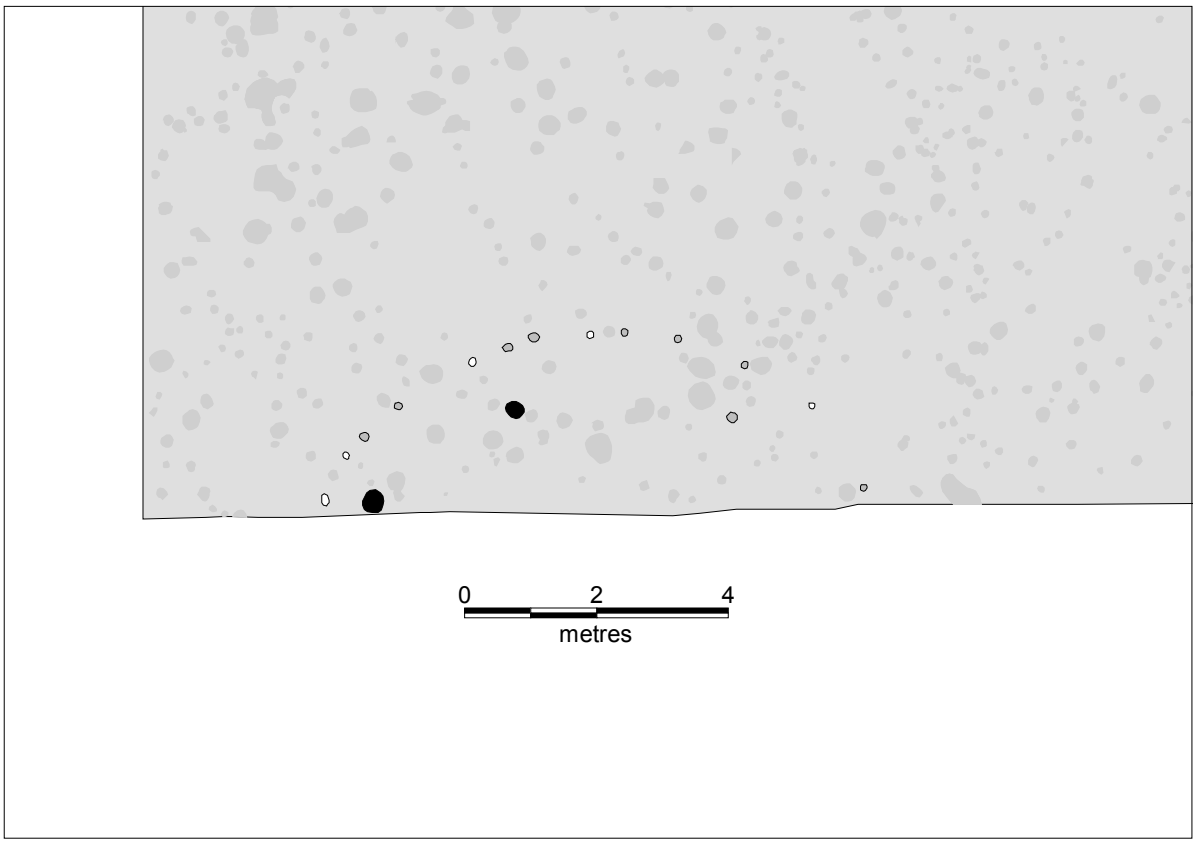


Figure 109. Structure 26.

volume was from the larger feature. This may be explicable by the fact that 1kg of the dry-sieved fill from this feature (84-29-F193) was taken as a geophysical sample.

Special finds. None.

Abandonment. Unknown.

Dating. Unknown, but see Chapter 6 for its position within the El Cabo relative chronology.

Associated features. Few unassigned features are associated with this structure. Three larger features within its perimeter may belong to other structures.

Overlaps. Structures 6, 22, 27, 31, 42, and 45.

Shared features. Two perimeter features are shared with other structures.

Structure 27 (Confidence Class: 3)

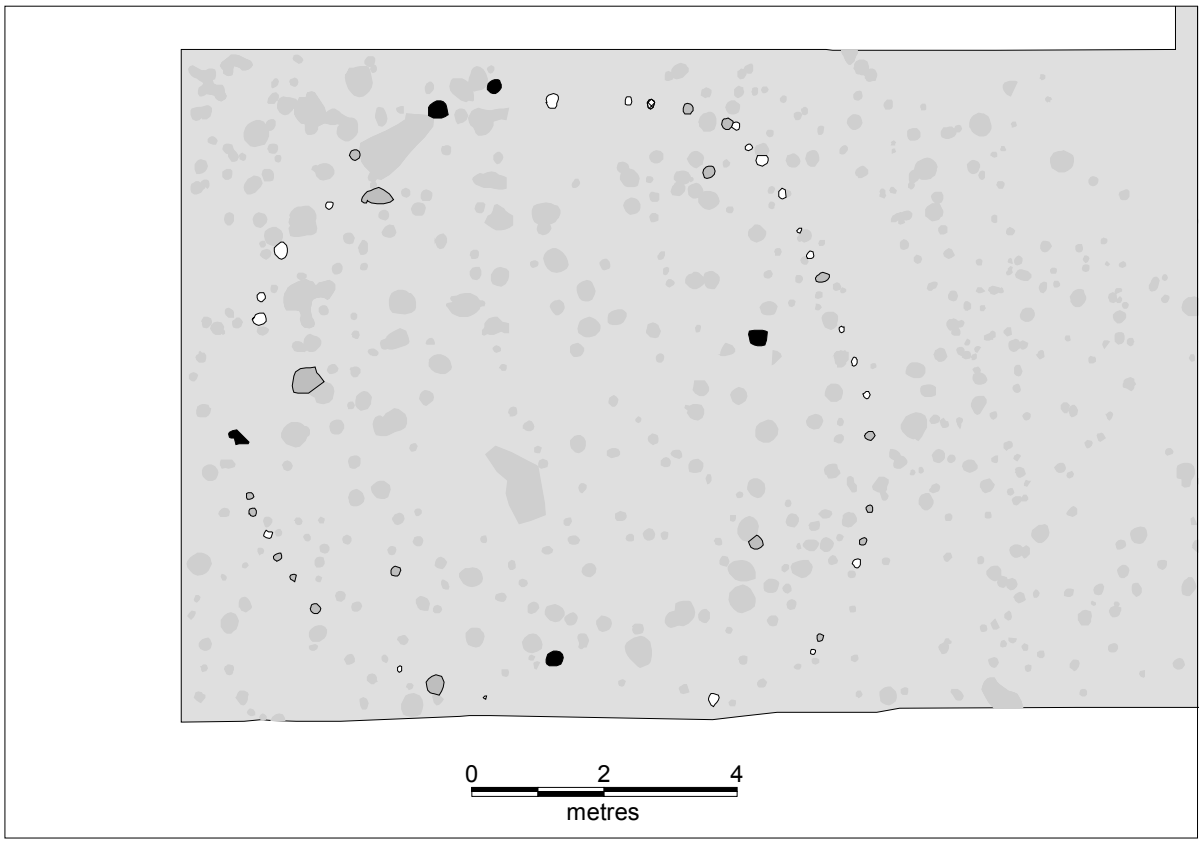
Spatial and physical characteristics. Structure 27 is the plan of a slightly irregular post-built structure consisting of an outer ring of 38 postholes and an internal roof-bearing configuration of eight posts. The plan is incomplete in the south where it extends beyond the excavated boundaries. The floor area is ca. 72m². This structure is 9.8m in diameter with an average span between external posts of 80cm, and an average span between opposing pairs of internal posts 7.02m and 3.06m between the pairs. It has an entrance in the northwest marked by the largest postholes in the perimeter. Features range from 6 to 46cm in diameter, and 8 to 63cm in depth. Twenty features were excavated from this structure.

Structure 27 has a somewhat lower reliability score than the other structures due to the insecurities which exist within its inner structure in particular. It bears many similarities to Structure 22 in terms of orientation and positioning within the unit. However, the interior structure does not share the regularity of other examples. Nevertheless, a structure of this form and with these dimensions is deemed plausible, despite uncertainty in the details.

The perimeter circle is a ring, flatter along the eastern portion, of regularly spaced postholes. Gaps appear in the perimeter on either side of the entrance in the northwest, formed by two deep-set postholes (58 and 45cm deep). Absences are present in the west portion also. Incompleteness in this area may potentially be due to the different, less compact, consistency of the bedrock here, which may explain the "loss" of smaller features. Unlike other structures, there is no striking distinction between the larger features at the front of the structure, and the lighter ones at the back. This is also the case for Structure 22, which is comparable in many aspects. In general, shallow and deep features are interspersed with each other, with deeper features relatively regularly spaced throughout the perimeter.

The internal configuration of eight features consists of postholes of variable depths and diameters, including a small one (17cm deep) in the northeast which is shared by another structure. This was assigned for reasons of symmetry, being needed as a counterpart to its opposite posthole at the rear of the structure. It is not seen as a convincing option, however, although it is always possible that this part of the structure, being on the edge of the unit boundary, may have been morphologically different. Further excavation might resolve this. The other internal features range from 29 to 48cm in depth, and their somewhat variable

Figure 110. Structure 27.



diameters and irregular plans are an indication of the different consistency of the bedrock in this area – i.e. it does not cut so cleanly as in other, more easterly, parts of the unit.

Three features from the perimeter were found to be set at a slant into the bedrock. These were all from the eastern wall and slant towards the centre of the structure. However, other features excavated, including those from the entrance, were vertical.

Feature fills. Three excavated internal postholes and the excavated entrance posthole, ranging between 10 to 50L, are consistent in terms of volumes of pottery and organic material (4-27g pottery, 0-2g bone, 1-12g marine shell, 0-1g crab claws). However, there is variability in the amount of charcoal in these features, ranging from negligible (1g) to significant (a sample of unknown weight was taken for species identification from 84-29-F249, >10g). The two features (the entrance feature and an internal posthole in the west) with the most charcoal were also those with significantly more bedrock material (<76g as opposed to 4->7kg). This is interpreted as packing material for the post in both cases, as can be clearly seen in the section drawing of 84-29-F249 (Fig. 72). In particular, this feature is similar to the two features with burnt post remains from Structure 6, and indeed F249 intersects with a perimeter feature of Structure 6. Charcoal from F249 was not dated as it was thought to be contemporary with the two other burnt features in the vicinity. However, seeing as these structures overlap, they cannot be exactly contemporaneous. The smaller features have similar fill contents: minimal remains (0-1g bone, 0-10g pottery, 1-6g marine shell, 0-1g crab claws, 0-1g charcoal, and 1-40 g gravel), also with the exception of a feature (84-29-F185) in the south of the perimeter, wider than adjacent features which contained 2kg of burnt bedrock material and had a very irregular bottom with signs of intensive heating and 6g of charcoal in the fill.

Special finds. A tubular black and white diorite bead with a central perforation, ca. 2cm long, was excavated from internal posthole 84-29-F17.

Abandonment. Unknown.

Dating. Unknown, but see Chapter 6 for its position within the El Cabo relative chronology.

Associated features. One, and possibly two, separate depositions of human bone material occur within the perimeter of Structure 27. As mentioned before, these are the deposition of bones of a neonate into a small pit (84-29- F261) and the deposition of fragments of possibly a human tibia into a posthole (84-29- F16). These are the same bone deposits also spatially associated with the inside of six other structures. The features in which they occur are not structural elements of any identified structure.

Otherwise, this structure occupies a location dense in unassigned features. It is not clear which, if any may be associated with the structure.

Overlaps. Structures 6, 22, 26, 28, 31, 39, 42, 47, and 48.

Shared features. Three features, including one from the internal configuration, are shared with other structures.

Structure 28 (Confidence Class: 1)

Spatial and physical characteristics. Structure 28, akin to Structure 10, is a configuration of eight deep-set and wide postholes in a regular configuration of opposed pairs. The structure is identical to the internal constructions of the

other circular buildings, but lacks an outer perimeter wall. The diameter is ca. 4.6m with a mean span between opposing posts of 4.54m and 2.04 between adjacent pairs. Its internal structure is comparable in size to Structures 3 and 20. Seven of the eight features were excavated.

The eight large postholes are all vertical in the bedrock and range from 47 to 70cm in depth. The depths of the excavated opposing pairs differ by a maximum of 8cm, so very closely equivalent, and as expected, closer than that of the adjacent features.[134] The features are all very regular with flat or rounded bottoms.

Feature fills. Fill information is available for six of the large features of the configuration, which range between ca.18 and 37L. Fills are generally equivalent, with 1g of bone, 2-28g pottery, 2-12g marine shell, 12-300g gravel, 0-1g of crab claws, and 1g of charcoal in two of the postholes.

Special finds. None.

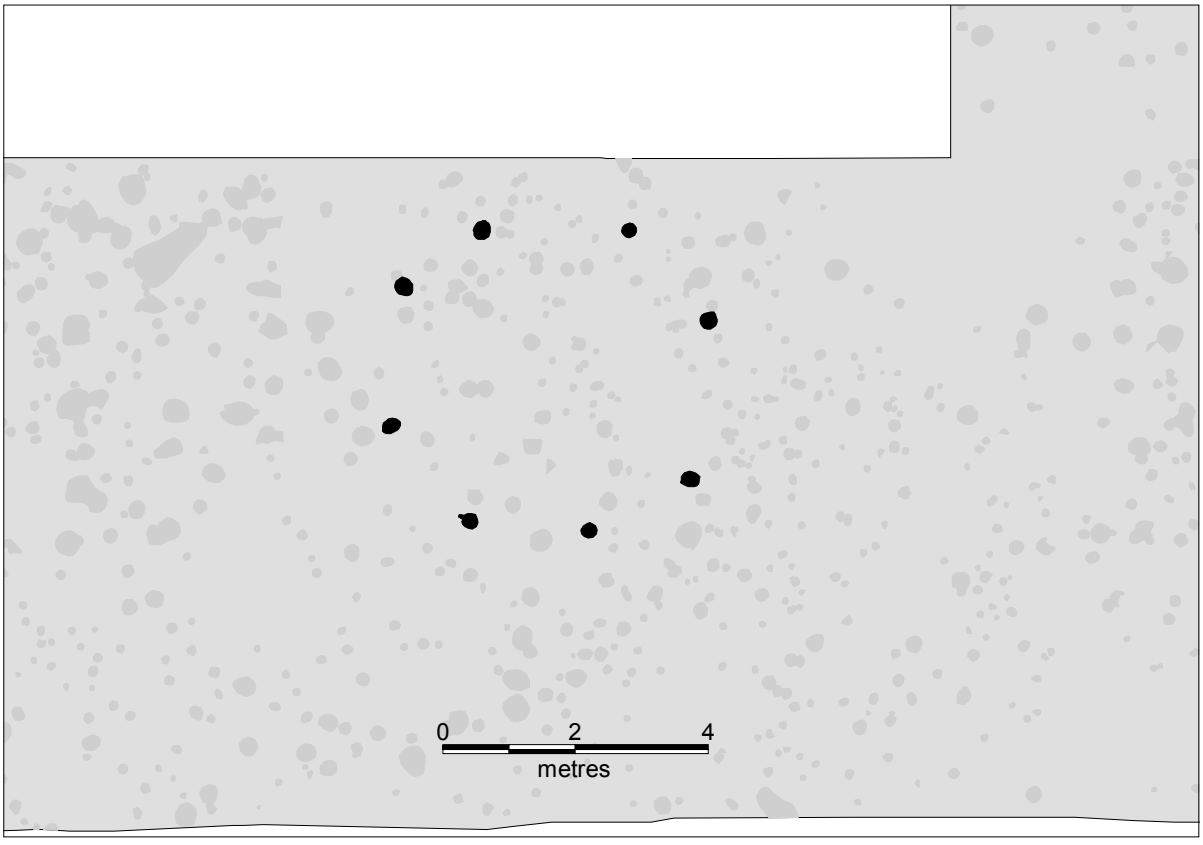
Abandonment. Not burnt, posts removed, or left to rot *in situ*.

Dating. Unknown.

Associated features. The deposition of fragments of a possibly human tibia occurs in a spatially, but not structurally associated posthole (84-29-F16) with Structure 28. This is the same bone deposit also associated with the inside of six other structures.

Otherwise, there are many features of all size classes which occur within and around Structure 28, including a small posthole in the centre of the structure, as is the case in Structure 10 of the same type, although this is thought not to

Figure 111. Structure 28



134 Again, these depths should be equivalent if they support the same horizontal beam.

be related to the structure, as will be discussed below. This area on the edge of the unit is generally dense with unassigned features and these are not necessarily related to Structure 28.

Overlaps. Structures 6, 17, 38, 27, 31, 39, 42, and 48.

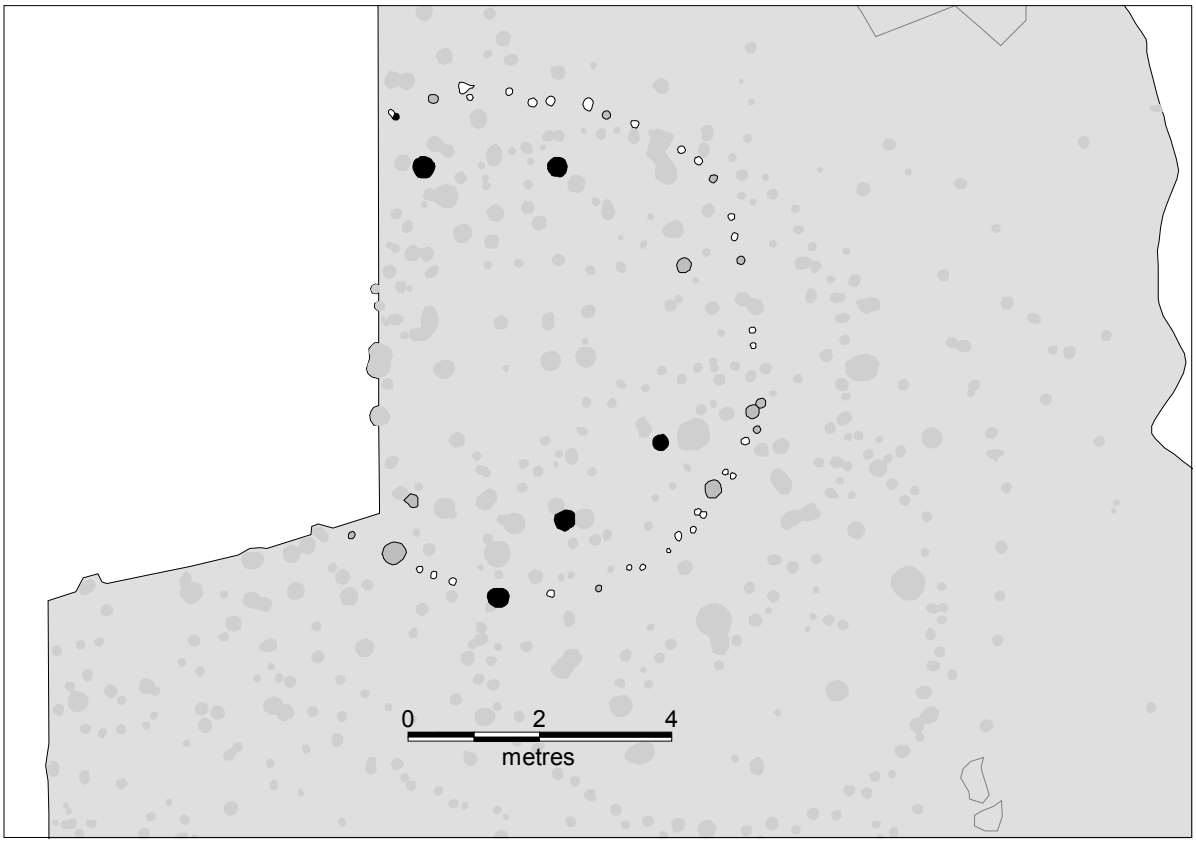
Shared features. None.

Structure 29 (Confidence Class: 2)

Spatial and physical characteristics. Structure 29 is the plan of a regular post-built structure consisting of an outer ring of 41 postholes and an internal roof-bearing configuration of six posts. The western quarter of the plan falls outside the excavation boundaries which accounts for the fewer than usual number of internal posts, and probably also the lack of an evident entrance configuration. The floor area is ca. 45m². This structure is 7.6m in diameter with an average span between the external posts of 56cm, and an average span between opposing pairs of internal posts 5.2m and 2.37m between the pairs. Features range from 6 to 35cm in diameter, and 5 to 114cm in depth. Two features were excavated, both from the internal configuration.

The visible portion of the exterior circle in the north, south and east consists mainly of shallow and slender postholes. Three or four larger postholes in the south and southeast are an exception to this, being much larger than the adjacent features and larger than most perimeter features in general. In the case of the two largest postholes in the south, this can be accounted for by the fact that these features are shared by other structures, performing a supportive function in these structures. A relative chronology of the successive structures is proposed in the following chapter. The other two large perimeter postholes may be accounted for by other, as yet unreconstructed, structures in this area of quite a

Figure 112. Structure 29.



high feature density. Moreover, a modern-day fence in this area may have made use of and enlarged indigenous postholes. The doubling of some postholes in the north and southeast may indicate repairs to this structure. No features have been excavated from the perimeter; therefore it is unknown whether the postholes were vertical or not.

The six internal postholes form a regular setting of what would have been an eight-post roof-bearing structure. The two excavated features were dug vertically into the bedrock and are 61 and 76cm deep. The other features were in this range, except for the slightly smaller southwest internal posthole which was 34cm deep. Its adjacent pair in the southeast is one of a cluster of three large postholes, remarkably regular and similar in their manufacture (85-51-F265, F266 and F267), the most easterly of which is incorporated into the inner configuration of Structure 3 (the third has not been assigned) (Fig. 153). These postholes intersect each other at the top, but thereafter maintain very thin (a few centimetres) walls between them all the way down their considerable lengths. Such large and well made postholes, all with similar toolmarks showing vertical chiselling on their inside walls, so close to each other, suggests that they were made with knowledge of the presence of each other. Their similarity and incorporation into different structures potentially indicates that a succession of similar structures on this spot took place either within a relatively short time of each other, within the lifetime of a building group, or that traditions were strict and well maintained. In this sense, postholes are like fingerprints. This will be discussed further in Chapter 6 in terms of *renewal*.

Feature fills. The two postholes excavated from the internal configuration were from an opposing pair (ca. 40 and 54L in volume), both containing relatively large amounts of pottery, including decorated pieces (61g in one and >30g in the other, but the weight of ceramic concentration halfway down the feature is not included, so this would be more), as well as large pieces of bedrock lower down in the fills (both ca. 6kg), and minimal organic remains (1-11g bone material, 14-49g shell material, 1-4g crab claws, and 1-2g of charcoal). Both features also contained pieces of what appears to be a sedimentary iron-rich mineral which appears also frequently in the layer 1 material in this area of the unit, next to the coast. At first these fragments were taken to be pieces of corroded iron, but on further inspection they appear to be a mineral of some sort. Their significance is unknown.

Special finds. A perforated dog's tooth incised with Chicoid motifs was recovered from fill 1 of the northeastern internal posthole (84-52-F94). The tooth is perforated in the root, and has anthropomorphic eye incisions on either side (Fig. 25). Stylistically it is identical to the cache of 3000 dog and seal teeth with incised decorative motifs found by local children in the 1970s near a rock overhang in the vicinity of the site (Ortega 1978a). This find is perhaps also related to the concentration of Chicoid decorated pottery found just below the tooth, upon which it was possibly laid when deposited.

Abandonment. Posts were removed and back-filled.

Dating. In a relative sequence with Structures 3, 23, 24 and 30. This is discussed in Chapter 6.

Associated features. A relatively high number of features of all size classes are spatially associated with Structure 29. This is an area dense in unassigned features, however, and it is not clear which, if any, of them are related to this struc-

ture. Based on the apparent lack of non-structural dug-down elements in or immediately outside other structures, it is thought these features belong to other, unreconstructed structures.

Overlaps. Structures 3, 23, 24, 30, 32, 37, and 36.

Shared features. Five features are shared with other structures, including one of the postholes of the internal configuration.

Structure 30 (Confidence Class: 2)

Spatial and physical characteristics. Structure 30 is the plan of a regular post-built structure consisting of an outer ring of 39 postholes and an internal roof-bearing configuration of seven posts. The northwestern quarter of the plan falls outside the excavation boundaries which accounts for the fewer than usual number of internal posts. The floor area is ca. 60m². This structure is 8.8m in diameter with an average span between the external posts of 79cm, and an average span between opposing pairs of internal posts of 5.31m and 2.34m between the pairs. Features range from 6 to 56cm in diameter, and 9 to 82cm in depth. An entrance in the west is marked by two deep-set posts. Two features were excavated from this structure.

The perimeter is a regular circle of postholes with wider and deeper postholes in the westerly section, with less regular spacing and gaps in the perimeter circle in the east of the structure. Two deeper postholes in the west are probably the entrance pair, with the southernmost feature of the pair being a double posthole. The perimeter immediately to the north is outside the excavation boundaries, obscuring the rest of the entrance facade. Given the perfect alignment of this putative entrance on the central configuration, however, it is likely this was the entrance, slightly south of west. The features are also part of a heavier-set section of the perimeter, as seen in the front of other structures. Slightly deeper postholes also occur in the north of the perimeter. The gap at the back of the perimeter is similar to that of other structures. However, the lack of postholes in the southeast cannot be explained by natural depressions or a rough bedrock surface (making smaller features difficult to identify), seeing as other small perimeter features from structures in the area were recovered. In the northeast, east and south, portions of the wall have been repaired or re-built. In the east, this has the effect of making the structure slightly bigger.

One of the external postholes at the back of the perimeter, partially excavated due to a concentration of large base fragments of a pottery vessel, was found to be slanting west, towards the centre of the structure. Seeing as this structure bears similarities to other structures with slanting postholes, it was probably the case that the perimeter wall was slanting.

The internal configuration of seven posts (the eighth falling outside the excavated area) is spatially very regular with postholes of similar depths forming the north and south opposing pairs. However, the back pairs, although of similarly large widths (48 and 56cm), are very different in depth, with the southernmost posthole being 82cm and its northern partner only 9cm deep. This posthole was not excavated and it may perhaps be that stones prevented effective depth-probing. Its excavated counterpart contained in excess of 10kg of stone material, another over 2kg.

Feature fills. The two internal features excavated are of very different volumes (ca. 27 as opposed to 200L), yet contain the same fill categories and relative quantities. Both contain 26-44g of bone, 8-113g of marine shell, 1-16g of crab claws, 1-4g of charcoal, 6-83g of pottery, and as mentioned above more than

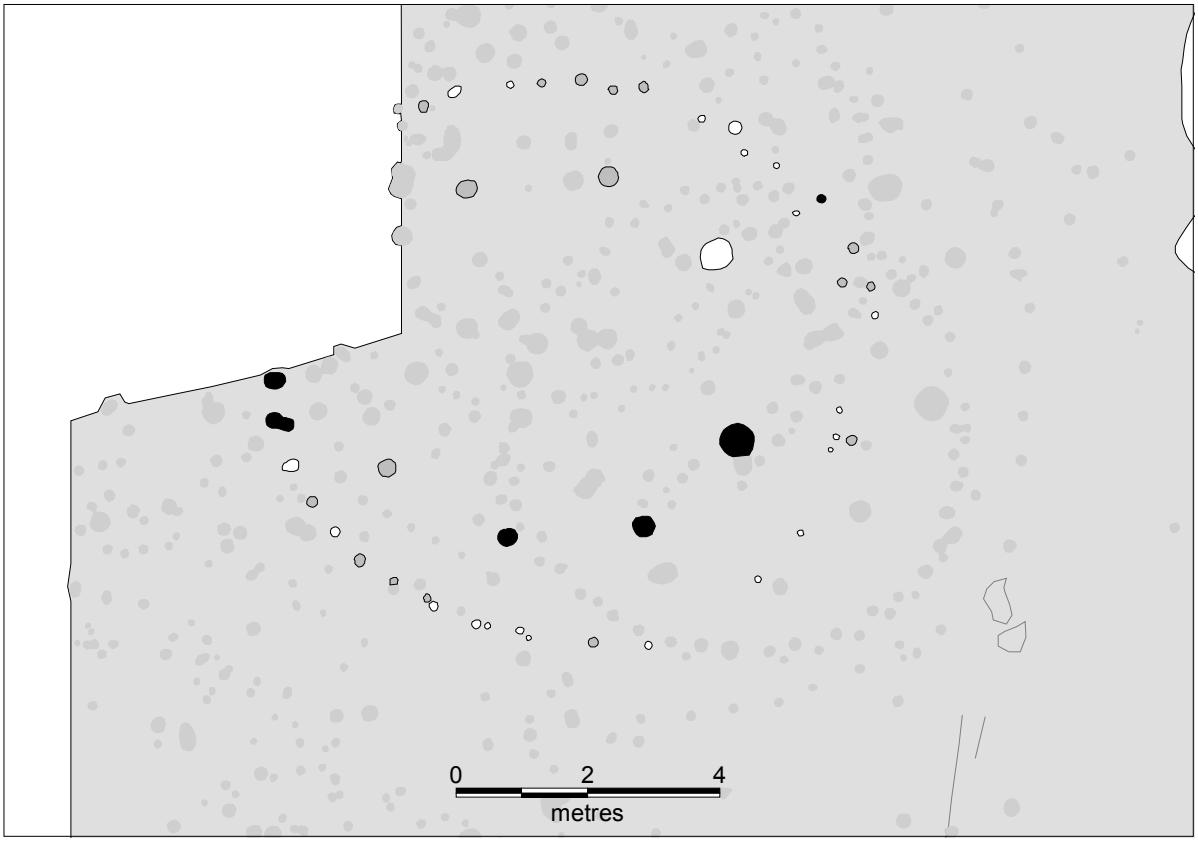


Figure 113. Structure 30.

2->10kg of bedrock material in one single fill. In comparison to other features there are remarkably few finds for such a large feature. In addition, two pieces of (fitting) glass of variable thickness (3 to 4mm) were also recovered from the fill of this feature, probably fragments of a bottle neck showing an iridescent sheen on the surface and opaque light green/brown in colour.[135]

Special finds. See description of the glass fragments above. In addition, the base of a vessel was recovered from layer 1 between features 85-62-F97 and F98.

Abandonment. The stony single fill of the large internal features suggests that posts were removed and the features backfilled.

Dating. Colonial, due to glass in the feature fill.

Associated features. A relatively high number of features of all size classes are spatially associated with Structure 30. This is an area dense in unassigned features, however, and it is not clear which, if any, of them are related to this structure. Based on the apparent lack of non-structural dug-down elements in or immediately outside other structures, it is thought these features belong to other, unreconstructed structures.

Overlaps. Structures 3, 23, 24, 29, 32, 37, and 36.

Shared features. Two features are shared with other structures, including one of the internal postholes which served as a perimeter posthole for another structure.

135 This material needs to be further investigated and more precisely identified.

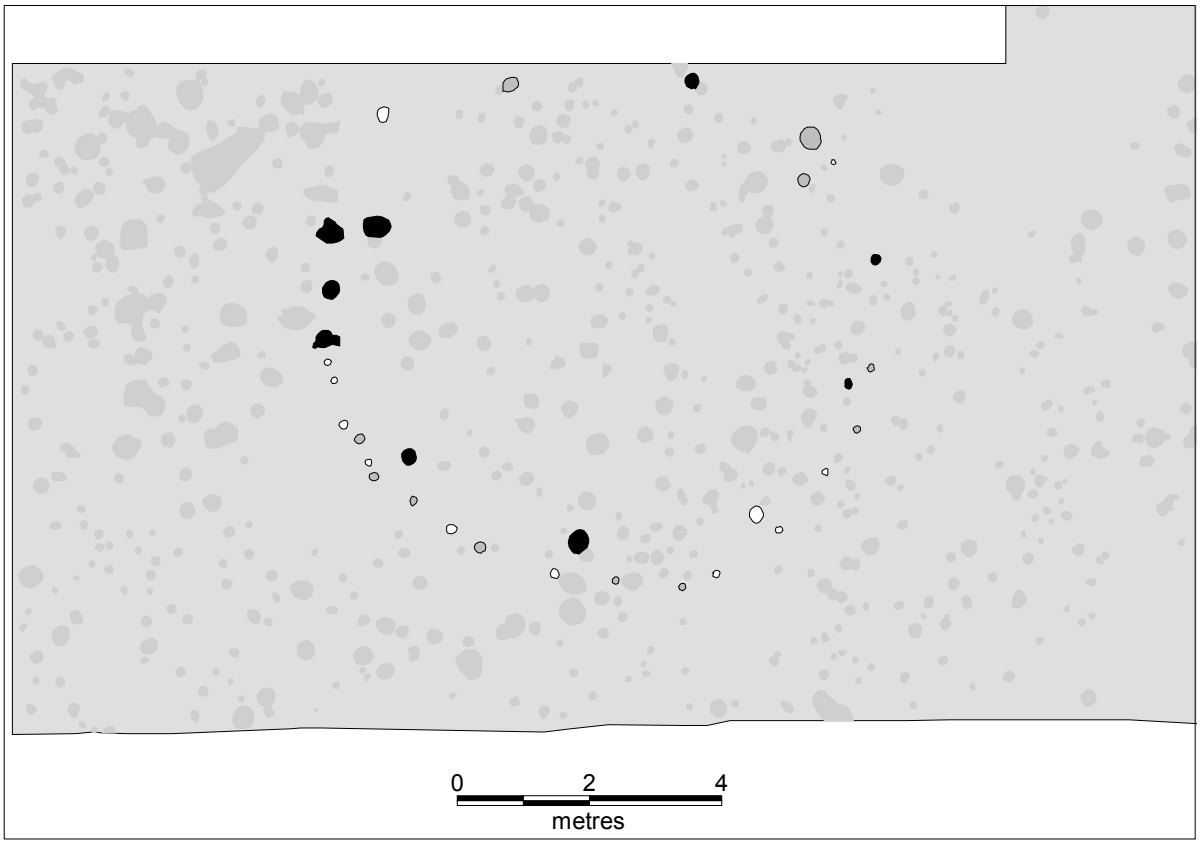
Structure 31 (Confidence Class: 3)

Spatial and physical characteristics. Structure 31 is the plan of a post-built structure consisting of an outer ring of 25 postholes and an internal roof-bearing configuration of eight posts. The northern portion of the perimeter falls outside the excavation boundaries. The floor area is ca. 56m². This structure is 8.3m in diameter with an average span between external posts of 84cm, and an average span between opposing pairs of internal posts of 6.72m and 3.02m between the pairs. An entrance in the west is marked by two deep-set postholes. Features range from 8 to 42cm in diameter and 10 to 88cm in depth. Eleven features were excavated from this structure.

Although this is not the most regular structure in the unit, there are plenty of similarities between other circular structures and this combination of a perimeter circle, including entrance features and a regular central configuration. The southern part of the perimeter circle is complete and regularly spaced. However, gaps occur in the east, northeast and northwest. Two features in the west, 57 and 61cm deep, are interpreted as the entrance with, to the north, another large posthole feature, and to the south small postholes continuing the perimeter wall. Hence, there is not the symmetry in the entrance configuration seen in other structures. An alternative perimeter configuration favours three smaller postholes northwest of entrance posthole 84-29-F260 instead of the northern entrance (84-29-F279) feature and its large adjacent feature. However, without further excavation the preferred interpretation is the former due to its more regular floor plan and convincing entrance configuration.

The internal configuration is a regularly spaced configuration of eight large posts. There is inconsistency in the depth of some of these features, namely somewhat shallow features in the northwest and southeast. Of the northeasterly

Figure 114. Structure 31.



posthole there can be no doubt as this one was excavated to a depth of 27cm. The southeasterly posthole was 19cm when probed. The other internal posts range from 43 to 88cm in depth.

All internal and external postholes excavated were vertically set into the bedrock, apart from a small one at the back. Six perimeter features were all vertical, however. Although the internal configuration is quite regular, it does not align as comfortably on the entrance as is the case with the majority of the circular structures in the unit, the southern front internal posthole being a metre more distant from the southernmost entrance post than its counterpart with the northernmost entrance feature. Nevertheless, there is in general a good fit between both the outer and inner construction.

Feature fills. Fill information is available from four of the postholes of the internal configuration, three of which are ca. 9L and the one in the west ca. 100L. Interestingly, this larger feature was partially filled with stones and coral. The other features contained ≤210g of gravel. They all contained 1g each of charcoal, bone and crab claws, 3-11g of marine shell, and 1-6g of pottery. Fill information from three smaller postholes was consistent, with the larger perimeter feature in the northeast (ca. 25L) containing 39g of pottery, more than the others which contained 1g.

Special finds. None.

Abandonment. Not burnt, posts removed or left to rot *in situ*.

Dating. Unknown.

Associated features. The deposition of fragments of a possibly human tibia occur in a spatially, but not structurally, associated posthole (84-29-F16) with Structure 31. This is the same bone deposit also associated with the inside of six other structures.

Otherwise, there are many features of all size classes which occur within and around Structure 31 as this area on the edge of the unit is dense with unassigned features.

Overlaps. Structures 6, 15, 17, 38, 26, 27, 28, 39, 42, 43, 24, 47, 48, and 51.

Shared features. Seven features are shared with other structures, including two from the internal configuration.

Structure 32 (Confidence Class: 3)

Spatial and physical characteristics. Structure 32 is a short post row oriented northeast-southwest, consisting of five features of decreasing depth (14 to 20cm in diameter and 21 to 45cm in depth). The alignment is 1.9m long and the features are evenly spaced an average 47cm apart. None of the features was excavated.

Seeing as all features are rather shallow, the colour coded-depth ranges have been refined to bring out the incremental depth changes. In this case white = 1 to 25cm deep, grey = 26 to 40cm deep, and black = 41 to 45cm deep.

This structure is akin to four other similar post rows in the unit: Structures 19, 33, 35 and 36.

Abandonment. Unknown.

Dating. Unknown.

Overlaps. Structures 3, 23, and 30.

Shared features. None.

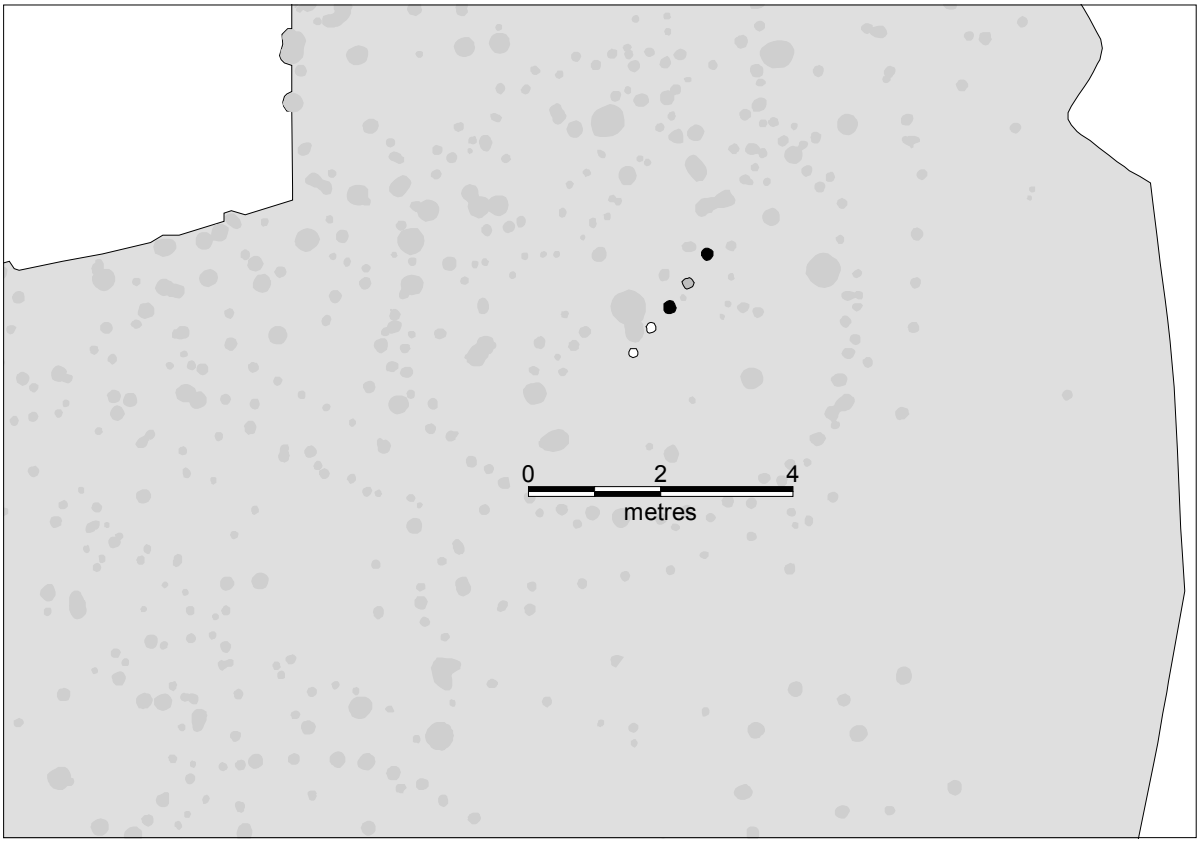


Figure 115. Structure 32.

Structure 33 (Confidence Class: 3)

Spatial and physical characteristics. Structure 33 is a short post row oriented northwest-southeast, consisting of four features of different depths (14 to 27cm in diameter and 25 to 47cm in depth), with the shallowest and deepest postholes at either end of the row as in Structures 19 and 32. The alignment is 90cm long and the features are evenly spaced an average 30cm apart. None of the features was excavated.

Seeing as all features are rather shallow, the colour-coded depth ranges have been refined to bring out the incremental depth changes. In this case white = 1 to 26cm deep, grey = 27 to 40cm deep, and black = 41 to 50cm deep.

This structure is akin to four other similar post rows in the unit: Structures 19, 32, 35 and 36.

Abandonment. Unknown.

Dating. Unknown.

Overlaps. Structure 3.

Shared features. None.

Structure 34 (Confidence Class: 2)

Spatial and physical characteristics. Structure 34 is the plan of a regular post-built structure consisting of a slightly elliptical outer ring of 29 postholes and a configuration of eight postholes forming an inner roof-bearing construction. The floor area is ca. 50m². This structure is 8.4m in diameter with an average span between the external posts of 95cm, and an average span between opposing

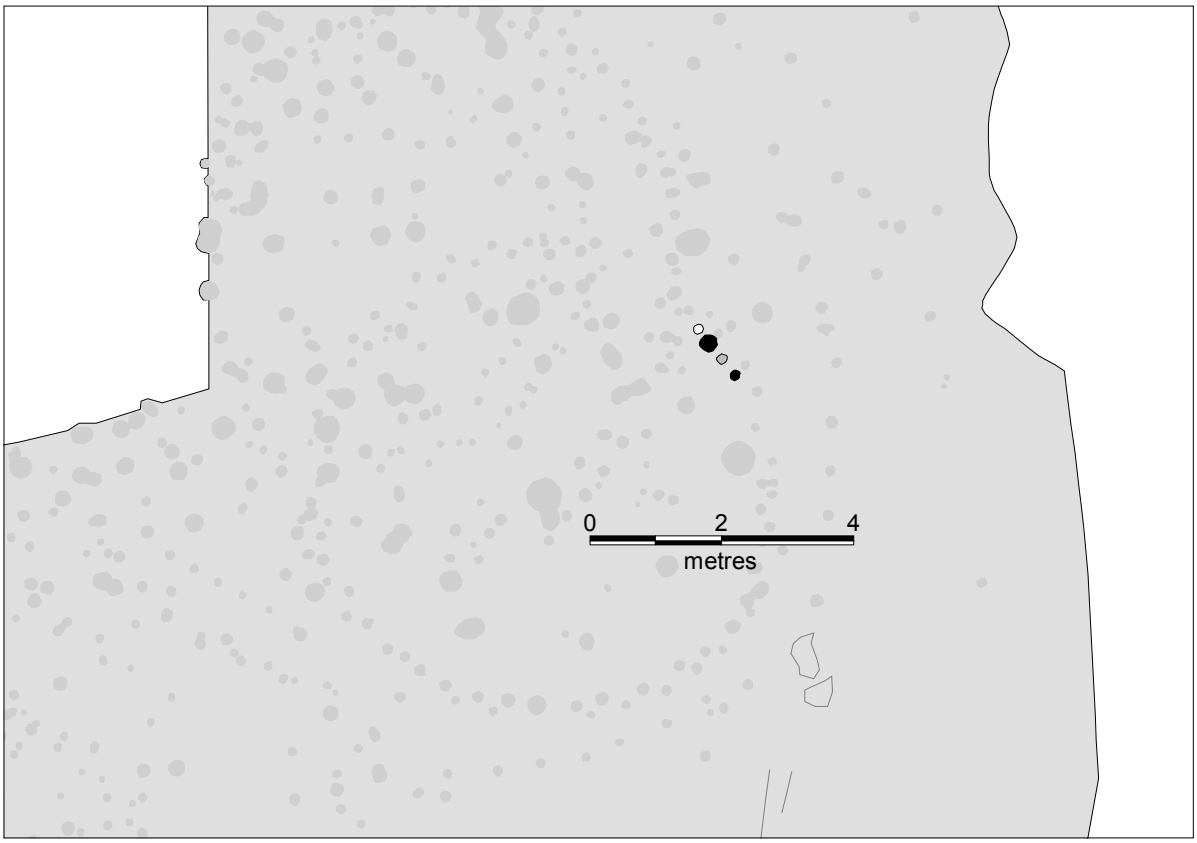


Figure 116. Structure 33.

pairs of the internal posts of 5.36m and 2.39m between the pairs. It has an entrance in the west-northwest marked by deep-set postholes. Three features were excavated from this structure.

The perimeter circle is ca. 80cm wider in a north-south direction than from front to back. A probable entrance in the west-northwest is formed by two differently sized postholes, the northernmost one being wider and deeper than its southern counterpart (39cm wide and 55cm deep vs. 19cm wide and 21cm deep), yet nevertheless this pairing aligns very well on the internal configuration and no other features satisfy the criteria for an entrance. Moreover, the structure here abuts the excavation boundary and may therefore be slightly obscured. The perimeter is generally regularly spaced, but gaps are present in the eastern portion and also in the southwest, south of the entrance. The doubling of postholes in the north suggests some minimal repair and rebuilding. The two postholes excavated from the perimeter were vertical in the bedrock, one of which was deemed too shallow and irregular to be a posthole and was cancelled as a natural depression. Its position within the perimeter led to the reinstatement of this feature.

The internal configuration of eight postholes is very regular in terms of spacing. It shares two postholes with other structures (Structures 1 and 20), and depths are variable with two postholes being only 19 and 23cm deep. However, these features were unexcavated and the structure forms such a consistent and convincing whole that this is not seen as a problem. Other internal features range from 31 to 60cm in depth with a good correspondence between opposing pairs.

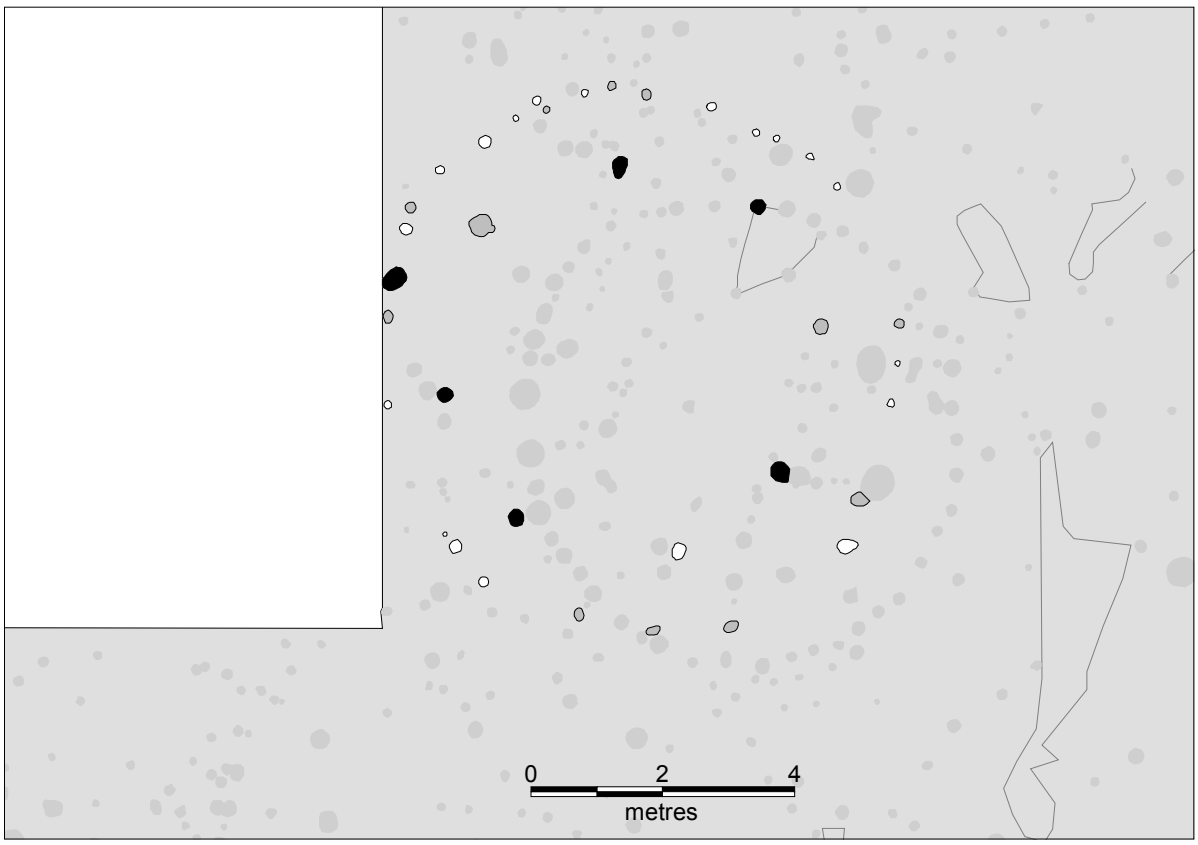


Figure 117. Structure 34.

Feature fills. Two adjacent postholes excavated in the perimeter revealed similar amounts of organic and stone material (4-6g bone, 15-32g marine shell, 1g charcoal, 3g crab claws, 198-500g bedrock). However, one contained 40g of pottery including a decorated sherd. The excavated internal posthole, also an external posthole from Structure 1, was relatively rich in organic and ceramic material: 24g bone, 46g marine shell, 4g charcoal, 6g crab claws, 94g pottery (including a decorated sherd), and more than 1kg of bedrock material.

Special finds. None.

Abandonment. Unknown.

Dating. Unknown.

Associated features. A few small features occur inside this structure. Many of these are thought to belong to other structures. There are very few features around the exterior and hardly any at all at the back.

Overlaps. Structures 1, 9, 20, 21, 38, 39, 40, 49, and 52.

Shared features. Four features are shared with other structures, including two internal postholes.

Structures 35 and 36 (Confidence Class: 3)

Spatial and physical characteristics. Structure 35 is a short post row oriented north-northwest to south-southeast, consisting of five features of very variable depths (15 to 28cm in diameter and 1 to 62cm in depth), with the deepest postholes at either end of the row. The alignment is 2.3m long and the features are evenly spaced an average 58cm apart. Three of the features were excavated, all are vertical.

Structure 36 runs parallel to it, at a distance of 90cm to the west. This is another slightly longer alignment, 3.9m long, consisting of six features an average of 79cm apart. The features are 23 to 30cm in diameter and share a similarly variable range of depths: between 22 and 71cm deep. Again the alignment terminates in two of the deepest features. Two features were excavated, both vertical.

The possibility was considered that the features formed east-west pairs rather than north-south alignments, but the very different depths between the pairs and their similarities to other alignments nearby in the unit (19, 32, 33) as well as impressions gained in the field cautioned against this interpretation.

However, they share similarities in addition to their proximity and identical orientation: two features from Structure 36, on the left, and one from Structure 35, on the right, bore very similar morphological characteristics on excavation: they had a very defined bottom edge, with a sharp transition from the walls to the bottom of the posthole, marked by a groove around the bottom.[136] The alignments may represent the re-building of the same small structure in different phases.

It is the variability in the depths of the features of the alignments which is their most striking factor (a difference of 49cm between the shallowest and the deepest features in Structure 36, and one of 61cm in Structure 35). Uprights supporting horizontal beams should be of roughly the same depth, so clearly, as with the other similar alignments (Structures 19, 32 and 33) these are not alignments which support uprights, at least not along their whole lengths. An example of this is Structure 35, in which the middle feature (85-52-F147) is only 1cm deep! This is not an error of depth probing, as this feature was excavated and

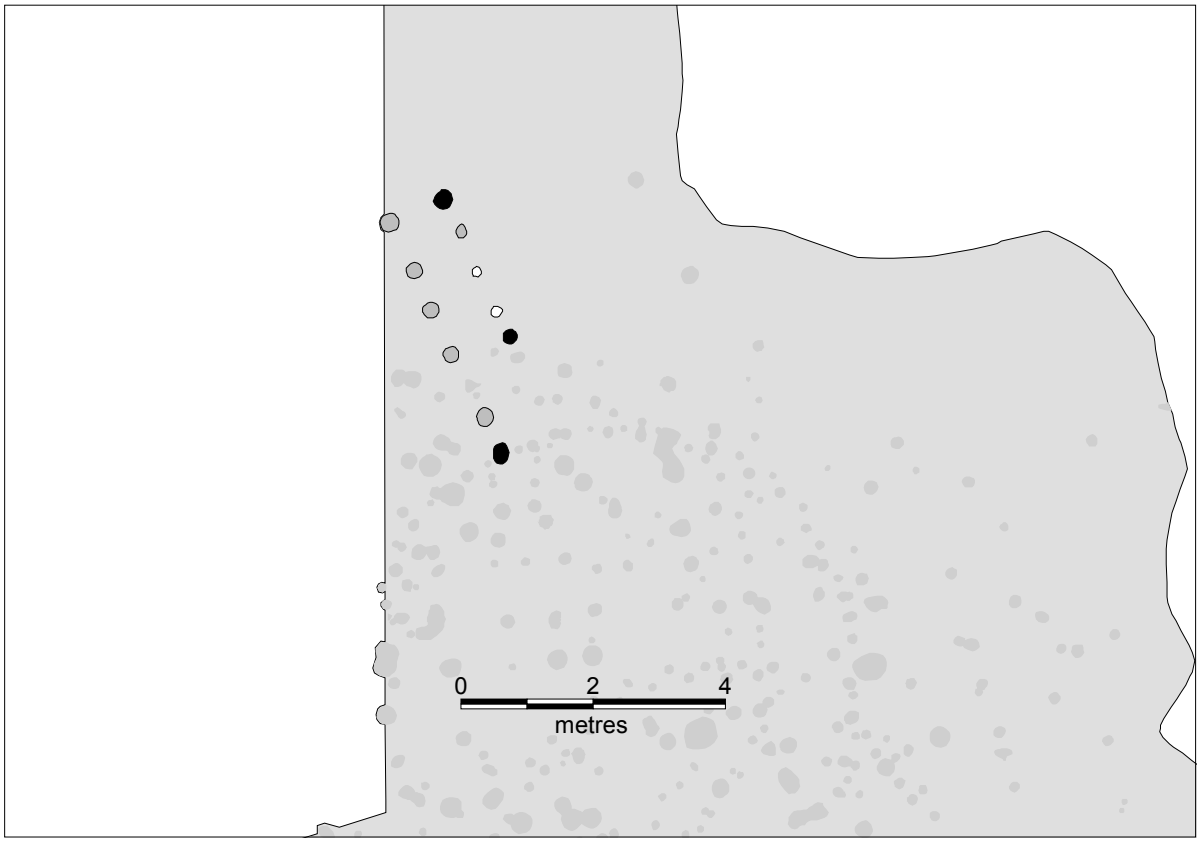


Figure 118. Structures 35 and 36.

136 This a characteristic also shared by one of the internal postholes in Structure 30, which interestingly enough aligns on Structure 36, although at a distance of 3.3m.

found to be a very shallow, yet unmistakably anthropogenic, 15cm wide, and cut depression. Perhaps the decision was made to abandon the making of a posthole after it had been marked out in the bedrock.

During fieldwork, the area outside to the west of the excavation boundary was thoroughly checked for the presence of more features in the same orientation. This was possible as only a thin covering of sand is present in this area. However, no features were found, and this is deemed to be the northern extent of these post rows.

Due to the presence of more unassigned features in this area of the unit of comparable diameter, and the relative scarcity and functional uncertainty of these sorts of structures, it was tempting to extend the alignments southwards and incorporate additional features. However, there is not enough positive evidence to justify this at this point in time. The fact that they are contemporary features belonging to the same structure also cannot be ruled out. The possibility that they were additional elements of house Structures 29 and 30 in this area was also considered, but could not be justified.

Feature fills. Structure 35 understandably only revealed finds from the two deeper postholes at either end of the alignment, and not the 1cm-deep feature in the middle. The largest one at the north end (85-52-F132), ca. 30L in volume, had relatively large amounts of pottery (84g), as well as a coral rubbing/grinding tool, a flint flake and in addition to 52g of marine shell, a circular disc cut from the thinner part of the lip of a *Strombus* sp. This disc was rough around the edges, as if a rough-out for something. Furthermore, the feature contained minimal organic remains (2g bone, 2g crab claws and 1g charcoal), and almost 5kg of bedrock material. The feature at the southern end (85-52-F125) contained similar amounts of bedrock material and, although not much smaller in volume (20L), considerably less pottery and organic remains (1g bone, 2g marine shell, 17g pottery).

The two features from Structure 36, ca. 9 and 14L, both contained ca. 1kg of bedrock material, 1g bone, 5g marine shell, ≤25g pottery, with the larger also containing very negligible crab claws and charcoal remains (1g).

Special finds. Half manufactured *Strombus* plaque, very similar to those from Punta Macao (Olsen 2004a), see above.

Abandonment. Posts removed and back-filled.

Dating. Possibly contemporary with Structure 30 (posthole manufactured similarly)?

Overlaps. Structures 24 and 29. Structure 23 is too close to be contemporaneous.

Shared features. None.

Structure 37 (Confidence Class: 3)

Spatial and physical characteristics. Structure 37 is a short post row oriented east-west, consisting of six features of similar depths (40 to 49cm) and diameters (15 to 20cm). The alignment is 6m long and the features are evenly spaced an average 120cm apart. None of the features were excavated.

The first posthole in the alignment in the west was noted as being irregular in plan, with a straight side unlike the round plans of the majority of the postholes. This alignment also follows the same orientation and is in the vicinity of a contemporary fence, which controls livestock movements. It is therefore possible

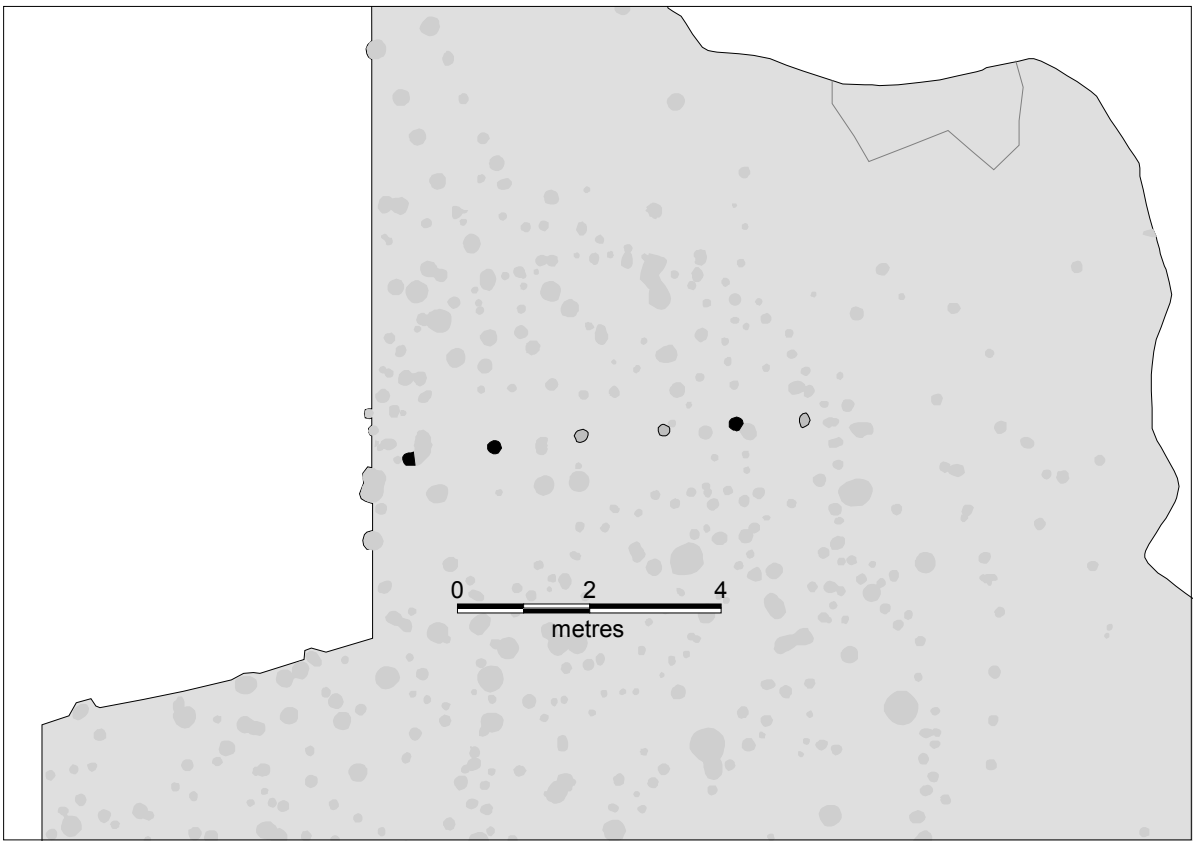


Figure 119. Structure 37.

that this post row is recent. Unfortunately, none of the features were excavated to get a better impression of the differences between pre-Columbian indigenous and contemporary or sub-recent postholes. Nevertheless, more features in this area were marked as possibly recent on the plan drawing due to their anomalous plan aspects.

Feature fills. None available.

Special finds. None.

Abandonment. Unknown.

Dating. Unknown.

Overlaps. Structures 23, 24, 29, and 30.

Shared features. None.

Structure 38 (Confidence Class: 3)

Spatial and physical characteristics. Structure 38 is the plan of what appears to be a circular post-built structure. The plan is incomplete due to the fact that half the structure falls outside the excavation boundaries. The remaining half consists of an outer ring of 11 postholes, and a configuration of four postholes forming an inner roof-bearing construction. Due to the structure's incompleteness, a minimal reconstruction is preferred. The interpolated floor area of the complete plan is ca. 31m². This structure is 6.5m in diameter with an average span between the external posts of 94cm. This spacing is relatively large and reflects the irregular spacing of the perimeter postholes. The span between the only revealed opposing pair of internal posts is 5.09m and between the only adjacent pair 2.26m. Features range from 8 to 27cm in diameter and from 8 to 68cm in

depth. There is no obvious entrance in the visible eastern half of the perimeter and given the strong precedent of the other circular structures in the unit, and the orientation of the central configuration, the entrance was probably in the west-northwestern portion of the perimeter. No features were excavated from this structure.

The features of the perimeter half circle are all rather shallow (≤22cm deep), with somewhat irregular spacing between them. Nevertheless, they maintain a relatively constant mean of 68cm between them and a collection of four heavier set and wider postholes forming the internal construction. These postholes range from 34 to 68cm in depth.

Despite the incompleteness of this structure, and the occasional gaps in the perimeter wall, its overall regularity, similarity to the other structures in the unit, and the good correspondence between the internal and external configurations make interpretation of this as a circular structure plausible.

Feature fills. None available.

Special finds. None.

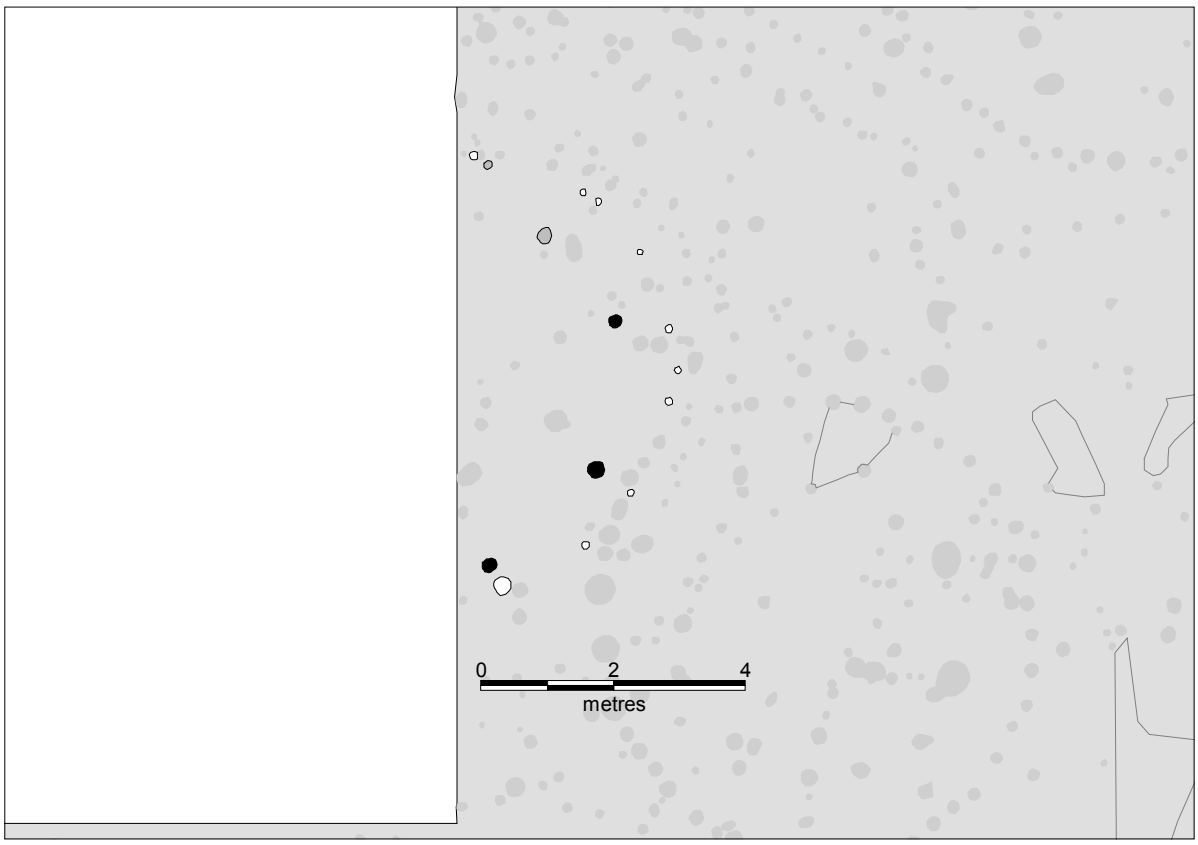
Abandonment. Unknown.

Dating. Unknown.

Associated features. Very few unassigned features are associated with either the inside or outside of Structure 38.

Overlaps. Structures 21, 34, and 40. Structure 1 is too close to be contemporaneous.

Figure 120. Structure 38.



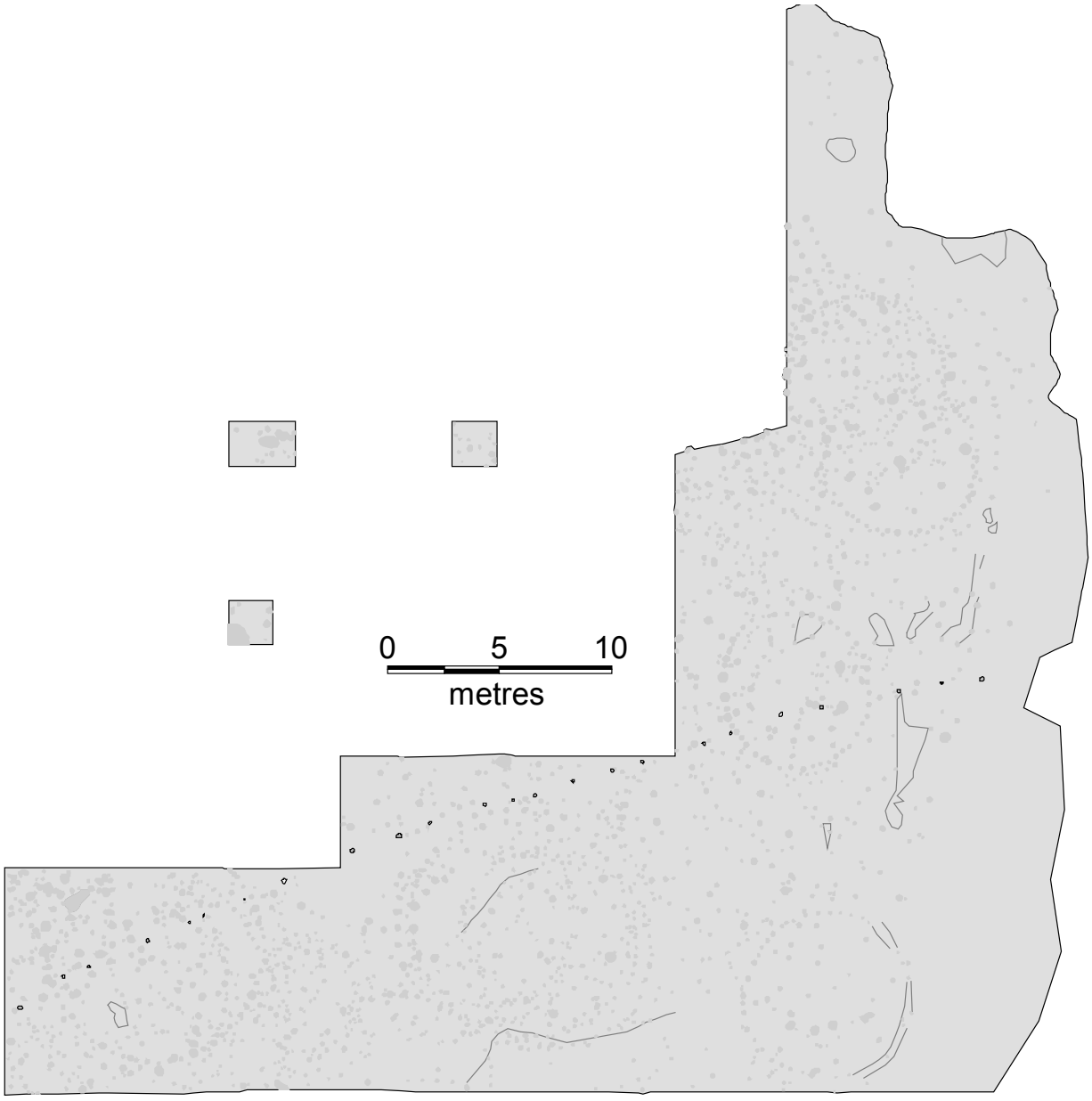
Shared features. None.

Structure 39 (Confidence Class: 3)

Spatial and physical characteristics. Structure 39 is a post row consisting of 24 posthole features running east-northeast to west-southwest and extending 46m through the whole of the unit, with the last feature stopping 2.3m short of the edge of the cliff. This alignment possibly continues beyond the unit boundaries in the west. Features range from 6 to 28cm in diameter and from 5 to 40cm in depth. Five features were excavated.

The majority of the postholes (75%) are <25cm deep, with the deeper ones occurring in the eastern half of the alignment. Two of the features were noted to be set at a slant into the bedrock, one to the southwest, the other east. The mean spacing between the features is 2m, although there appears to be a pattern of pairs of features interspersed by single features set further apart. This hold true in the western two-thirds of the alignment.

Figure 121. Structure 39.



One anomalous feature (84-39-F97) in the alignment occurs about a third of the way along from the west and is much wider than it is deep (28cm wide, 19cm deep). This is perhaps a larger posthole aborted in the early stages of manufacture.

Given the fact that the orientation of this alignment is the same as that of the contemporary fence (marked for a part by the oblique unit boundary in the northwest, Fig. 47) which crosses the unit 13m to the north, and does not seem to take account of any of the pre-Columbian structures in the unit (unlike Structure 16 for example), it may be the case that these features belong to such a sub-recent fence.[137]

Feature fills. The excavated features contained negligible remains (≤1g bone, ≤1g pottery, ≤1g charcoal, ≤1g crab claws, ≤20g marine shell, and ≤123g bedrock material).

Special finds. None.

Abandonment. Unknown.

Dating. Recent.

Overlaps. Structures 1, 6, 9, 16, 17, 23, 22, 27, 28, 31, 34, 40, 42, 44, 47, 48, and 52. Structure 7 is too close to be contemporaneous.

Shared features. One feature is shared with another structure.

Structure 40 (Confidence Class: 3)

Spatial and physical characteristics. Structure 40 is the plan of a regular post-built structure consisting of an outer ring of 20 postholes and an internal roof-bearing configuration of four posts. About 40%, the western half of the plan, falls outside the excavation boundaries which accounts for the fewer than usual number of internal posts. Otherwise, and based on the remaining evidence, this structure is expected to have an internal configuration of eight posts. The floor area is ca. 100m², with a diameter of 11.6m. Only one set of internal opposed posts is exposed and these are 7.86m apart, with an average of 2.9m between the two pairs of adjacent postholes. The average gap between postholes in the perimeter circle is rather large, 1.2m, which reflects the fact that the spacing on the perimeter, especially in the east, is wide (otherwise this would be more in the range of 90cm). Features range from 6 to 29cm in diameter and 7 to 67cm in depth. No obvious entrance configuration is present in the exposed portion of the plan. An entrance is expected in the northwestern perimeter based on the example set by other similar structures in the unit, the small size of the exposed perimeter features and the alignment of the inner configuration. One feature was excavated from this structure.

137 A note on the fence: when we began fieldwork in 2005, the fence was not there. However, in subsequent years it was erected to control the movements of sheep and goats. It stretched all the way from the edge of the cliff, back into the village. The livestock owner paid one of the men in the village to make and repair the fence, which he did several times during the course of the years we were there, once making a gate for us and our vehicles, and another time a structure with additional posts to help us clamber from one side to the other. The posts ranged from 10 to 20cm in diameter and are possibly responsible for some of the postholes in the unit, especially in the northern part of the unit where the fence currently is. We mostly distinguished between these recent postholes and the pre-Columbian examples on the basis of regularity and circularity in plan view (the pre-Columbian postholes are more regular and round).

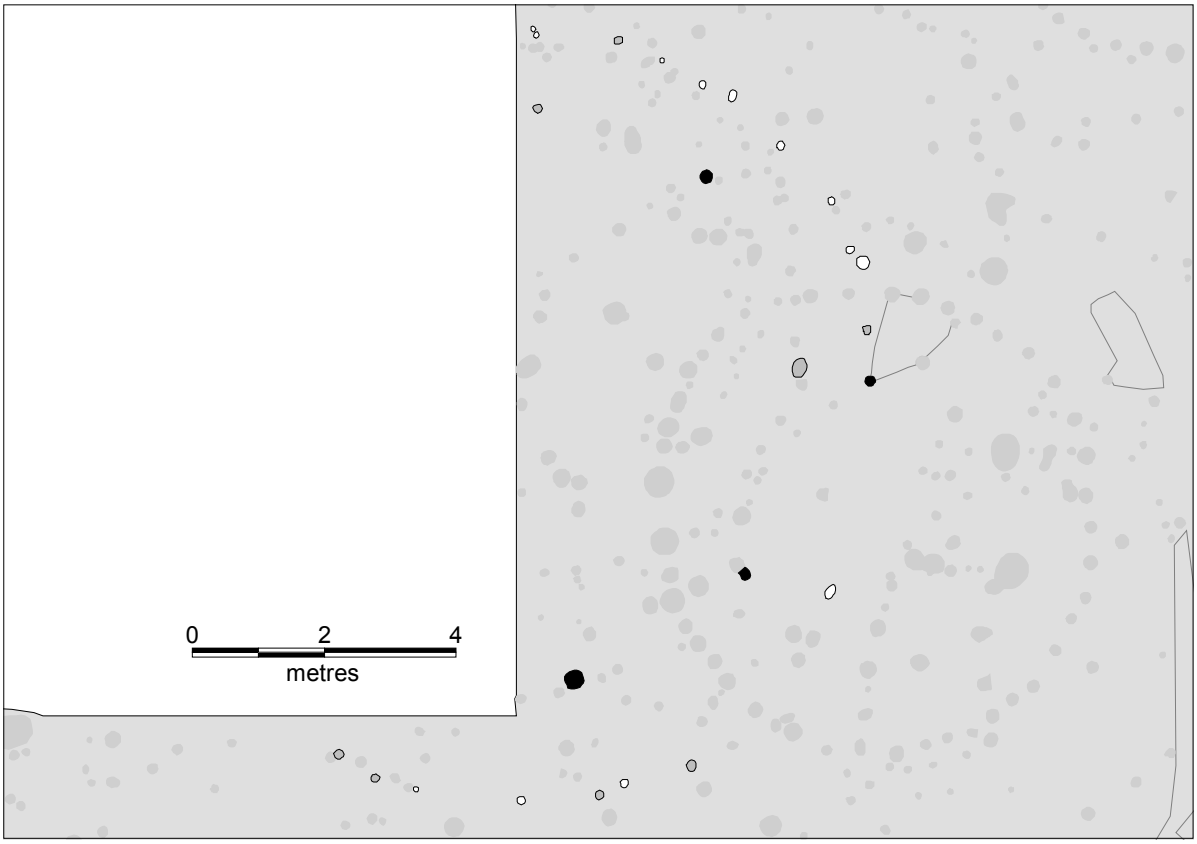


Figure 122. Structure 40.

The eastern, exposed, part of the perimeter is made up of predominantly shallow postholes, with two postholes aligned on the back pair of postholes, either side of a gap in the perimeter wall. This construction whereby a gap at the rear of the structure is flanked on the inside by a roof-bearing pair of posts is seen in other structures.

The internal structure, consisting of five postholes, is very regularly spaced and depths range from 25 to 67cm. At first, an alternative reconstruction was preferred which indicated a west-facing entrance, but the more even spacing makes the current configuration preferable. One of the internal postholes is shared with Structure 1, and this feature also has a slightly elongated, oval form which lends more credence to the fact that it may have been re-dug at some point.

Feature fills. The one excavated feature was one of the back postholes from the internal construction. This feature intersects with another feature assigned to Structure 20, and seeing as there was no distinction between the fills, these were excavated together, with a combined volume of ca. 24L. The feature contained moderate amounts of organic remains (19g bone, 116g marine shell, 5g charcoal, 12g crab claws) as well as 100g of pottery, including decorated sherds, and 3kg of bedrock material, including many large pieces, used as packing material.

Special finds. None.

Abandonment. Unknown.

Dating. Unknown.

Associated features. A few, mainly small, features occur within and outside this structure, but mainly accumulate on the boundaries of the excavation unit indicating they probably belong to other structures.

Overlaps. Structures 1, 7, 20, 21, 34, 38, 39, 49, and 52.

Shared features. Three features are shared with other structures, including one internal posthole.

Structure 41 (Confidence Class: 4)

Spatial and physical characteristics. Structure 41 is the plan of a post-built structure consisting of an outer ring of 17 postholes and an internal roof-bearing configuration of four posts. About 50%, the southern half of the plan, falls outside the excavation boundaries which accounts for the fewer than usual number of internal posts. Otherwise, and based on the remaining evidence, this structure may have had an internal configuration of eight posts. The floor area is ca. 140m², the largest one in the unit, with a diameter of 13.5m. Only one set of internal opposed posts is exposed and these are 10.7m apart, with an average of 4.53m between the adjacent pairs.[138] The average gap between the postholes in the perimeter circle is rather large, 1.17m. Features range from 6 to 24cm in diameter and 6 to 36cm in depth. No obvious entrance configuration is present in the exposed portion of the plan. Seven features were excavated from this structure.

Half this structure falls outside the excavation boundaries and the remaining portion of the external perimeter has at least four gaps in it, in different places. When compared to other structures this is not so unusual, but in this case it is united with an insecure internal configuration. This accounts for the low reliability score of the structure, which is nonetheless deemed plausible.

As mentioned, the external semi-circle has gaps in the north, east and west. Features are within the size ranges for other perimeter features, although there is no clear pattern in depth variation across the structure. All excavated features are vertical.

The four postholes of the putative internal configuration are somewhat more speculative and were selected based on spatial regularity rather than metric considerations. The only excavated feature is also the deepest (32cm), the other three being shallower (9 to 22cm). In terms of orientation, there is a preference, based on other examples, for a westerly facing entrance, although this cannot be said with security.

The structure is slightly anomalous due to its large size compared to other structures in the unit. However, this neither strengthens nor weakens the reconstruction.

Feature fills. Fill information is available for five excavated features. All except one contained very minimal remains (≤1g bone, ≤1g pottery, ≤1-5g marine shell, 1g crab claws). However, a larger external feature (84-39-F232) contained 180g of pottery and 40g of marine shell.

Special finds. None.

Abandonment. The difference in fill contents and richness of remains in layer 1 as opposed to the cleanness of most of the excavated features points to the posts having been pulled out and the postholes backfilled. This may have been the case because a dense sweeping layer was noted on top of feature 84-49-F280, including large pieces of coral (probably a rubbing tool) lying in a horizontal position

138 The span of all adjacent pairs was taken into account as too little of the plan is exposed to say with any certainty what orientation the structure has.

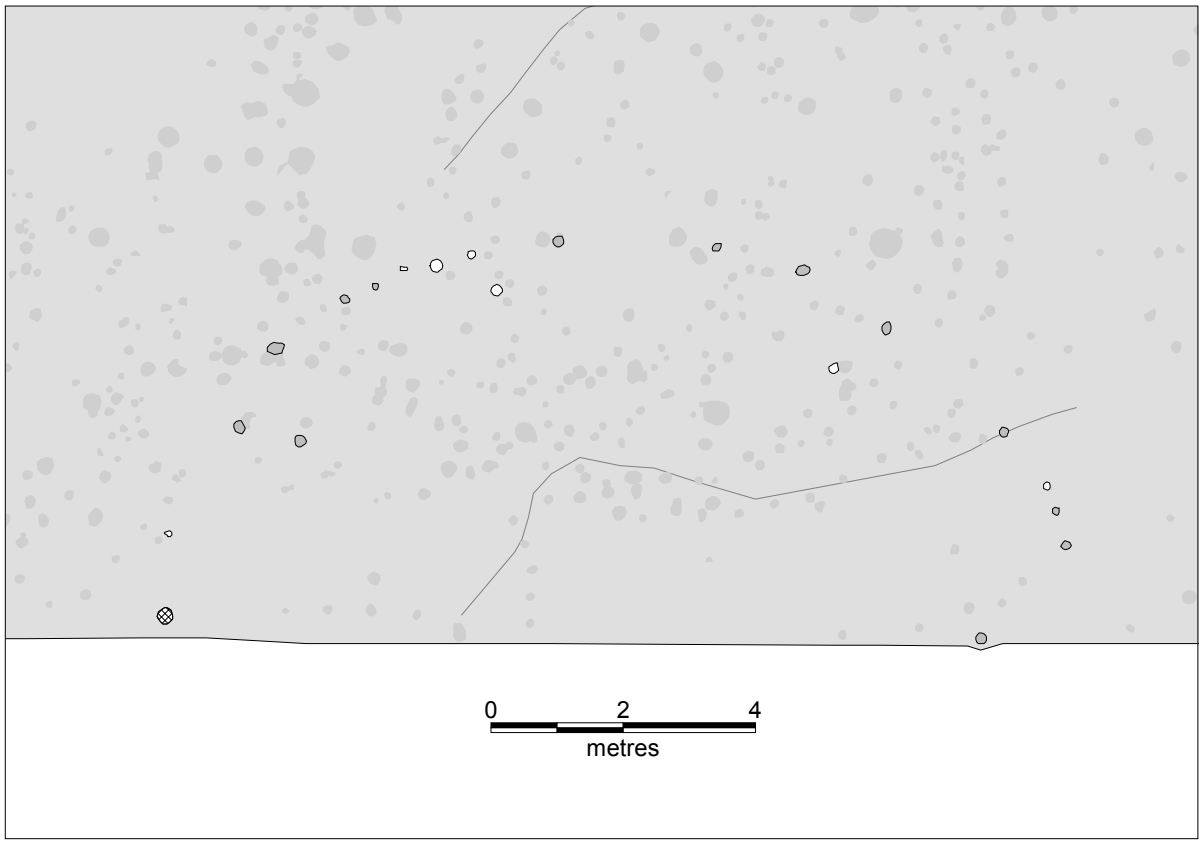


Figure 123. Structure 41.

a few centimetres above the top of the feature. The rest of the fill itself was clean (6g of organic remains and no pottery). Consequently, the posthole was filled with clean material and household residue gradually accumulated in this area.

Dating. Unknown.

Associated features. A number of smaller features are scattered across the inside of this structure, although many probably belong to other structures.

Overlaps. Structures 4, 5, 8, 11, 13, 14, 46, 50, 51, and 52.

Shared features. One perimeter feature is shared with another structure.

Structure 42 (Confidence Class: 3)

Spatial and physical characteristics. Structure 42 is the plan of a post-built structure consisting of an outer ring of 34 postholes and an internal roof-bearing configuration of eight posts. The floor area is ca. 54m^2. This structure is 8m in diameter with an average span between the external posts of 77cm, and an average span between opposing pairs of internal posts 5.54m and 3.09m between the pairs. Features range from 7 to 33cm in diameter, and 3 to 90cm in depth. Exceptionally, this structure appears to have an entrance in the east, marked by two of the deepest and widest postholes in the exterior. Seventeen features were excavated.

The perimeter circle forms a regular circle with an entrance façade consisting of postholes of decreasing depth and diameter moving away from the entrance postholes. Gaps appear in the perimeter in the north, south and west. In the west, features are not so evenly spaced as elsewhere. Seven postholes excavated in the eastern portion of the perimeter are slanting towards the centre of the structure. The two entrance features were vertically set into the bedrock.

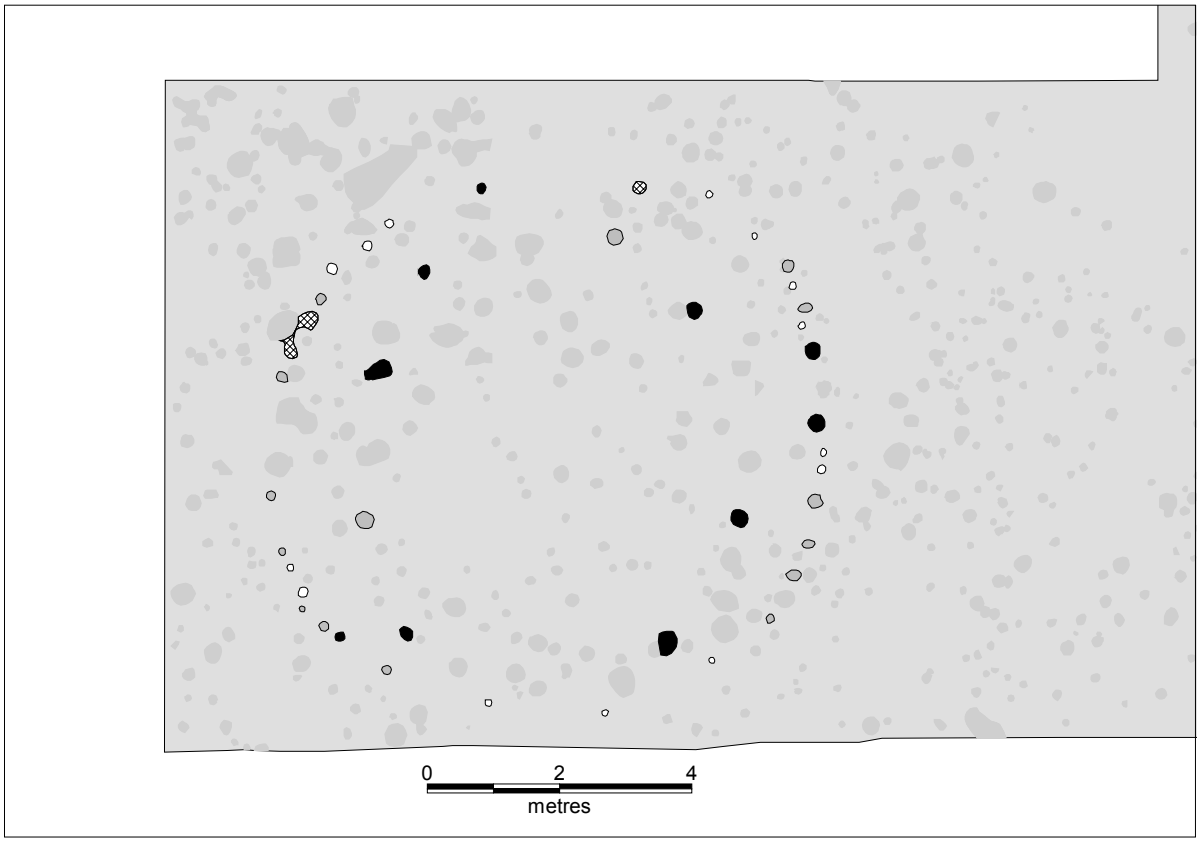


Figure 124. Structure 42.

The central configuration of eight posts does not form so much of a regular configuration as other examples. Nevertheless, depths range from 28 to 90cm deep, and the structure aligns well on the entrance. The three postholes excavated from the internal structure are all vertical.

Feature fills. Feature fills of both the internal and external features were pretty consistent with respect to their different volumes and contained minimal remains (bone ≤3g, marine shell ≤39g, crab claws ≤3g, charcoal ≤2g) and some bedrock material (≤4kg). Only the pottery varied notably in quantity among the features, with some containing none at all, and others containing moderate amounts (4-41g). Examples of features with pottery are both entrance features (24-32g).

Special finds. None.

Abandonment. Not burnt.

Dating. Unknown.

Associated features. One, and possibly two, separate depositions of human bone material occur within the perimeter of Structure 42. These are the deposition of bones of a neonate into a small pit (84-29-F261) and the deposition of fragments of possibly a human tibia into a posthole (84-29-F16). These are the same bone deposits also spatially associated with the inside of six other structures. The features in which they occur are not structural elements of any identified structure.

Otherwise, this area is dense with unassigned features and it is not possible to say which may be related.

Overlaps. Structures 6, 22, 26, 27, 28, 31, 39, 47, and 48.

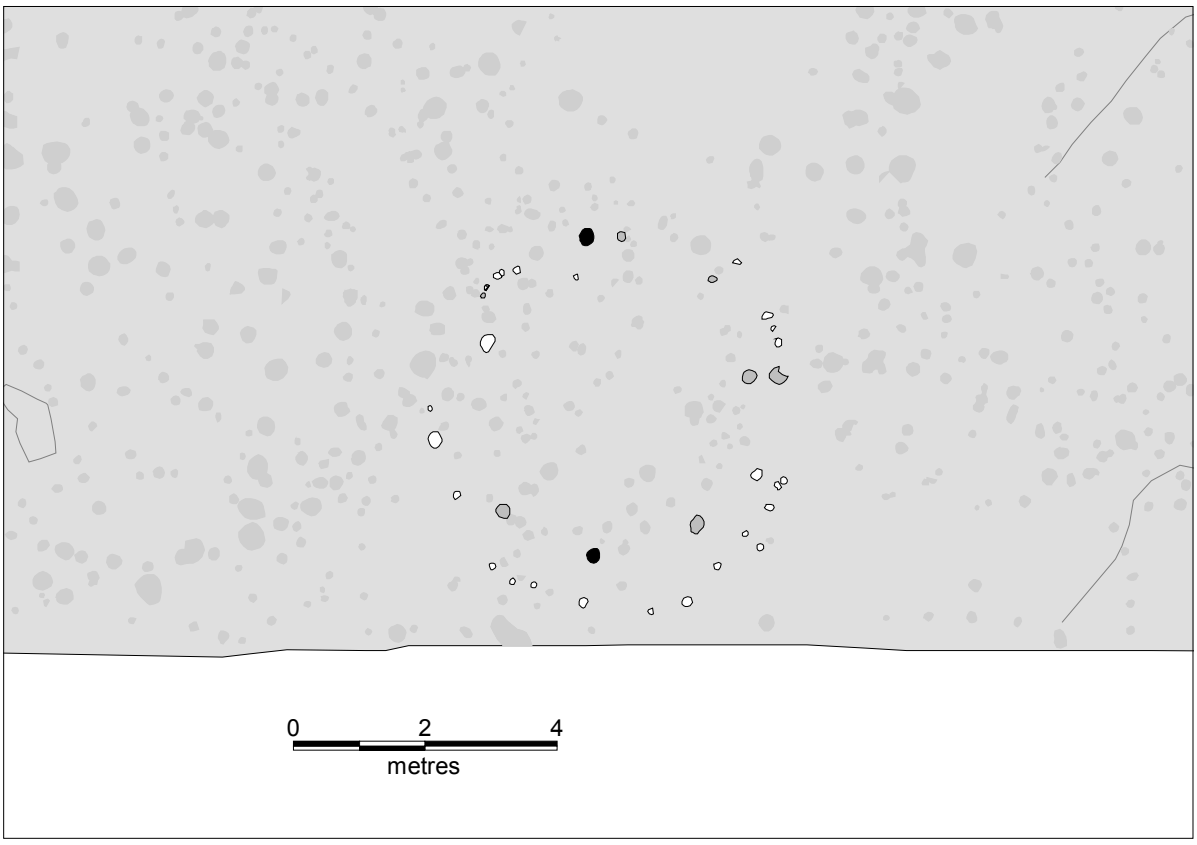
Shared features. Four features, including one internal posthole, are shared by other structures.

Structure 43 (Confidence Class: 4)

Spatial and physical characteristics. Structure 43 is the plan of a small post-built structure consisting of an outer ring of 25 postholes and a configuration of eight postholes forming an irregular inner roof-bearing construction. Structure 43, akin to 16, is smaller than the other circular buildings in the unit, with a floor area of ca. 24m² and a diameter of 5.7m. The average span between the external posts is 71cm, between the opposing pairs of internal posts 3.82m and 1.71m between the pairs. Features range from 8 to 27cm in diameter and 7 to 49cm in depth. There is no clear entrance in the perimeter. Ten features were excavated.

The external perimeter forms a rather irregular circle in places and there are many gaps, especially in the west and northeast. This would be partially solved by re-using features assigned to other structures, but a minimal reconstruction is preferred as this structure in general is not the most secure. Nevertheless, the extant parts of the perimeter are relatively evenly spaced and the size of the features is within what is expected for perimeter constructions (although there is one larger feature in the north). The gap in the perimeter in the east corresponds to similar gaps in the back of other structures, and the internal configuration aligns on this, although there is no positive direct evidence for an entrance configuration in the west. Again, however, if other already assigned features were incorporated this could be made stronger. Most of the features excavated from the perimeter were vertically set into the bedrock.

Figure 125. Structure 43.



The spatial correspondence between the perimeter and the likely internal construction is good, although overall the depths and diameters of the eight internal posts are variable (13 to 49cm in depth, 10 to 23cm in diameter), and they do not form as regular an eight-post configuration as in some of the other structures.

Feature fills. The features contained variable and minimal remains. The one internal feature for which there is fill information contained 2g of bone, 1g of pottery and 7g of marine shell. All other features contained <0.5kg of bedrock material, ≤1g bone, ≤8g pottery, ≤24g marine shell and ≤1g crab claws and charcoal.

Special finds. Two stone collar parts which are in Structure 15, also within the perimeter, against the edge of the walls of Structure 43.

Abandonment. Not burnt.

Dating. Unknown, but in a sequence with Structure 15 and its rebuilding. See Chapter 6.

Associated features. A number of smaller features are associated with the inside of Structure 43, although these are more likely part of alignments which intersect the plan. There are very few features outside the structure.

Overlaps. Structures 5, 15, 17, 31, 44, 47, 48, and 51.

Shared features. Ten features, including four from the inner construction, are shared with other structures.

Structure 44 (Confidence Class: 4)

Spatial and physical characteristics. Structure 44 is the plan of a post-built structure consisting of an outer ring of 18 postholes and an internal roof-bearing configuration of six posts. About 30%, the northwestern perimeter, falls outside the excavation boundaries which accounts for the fewer than usual number of internal posts. Otherwise, and based on the remaining evidence, this structure is expected to have an internal configuration of eight posts. The floor area is ca. 74m². This structure is 10m in diameter with an average span between the external posts of 119cm, and an average span between the opposing pairs of internal posts 7.96m and 4.08m between the pairs. Features range from 9 to 32cm in diameter, and 11 to 54cm in depth. There is no obvious entrance configuration which probably has to do with the fact that the western and northwestern parts of the perimeter fall outside the excavation boundaries. Nine features were excavated.

The perimeter circle is relatively regularly spaced, with gaps occurring in the east, concomitant with other structures in which this is the case. There are no convincing entrance configurations in the portion of the exposed perimeter, leading one to predict that any entrance should be found in the western portion. The features in the perimeter are vertical.

The internal structure of six exposed postholes is set close to the perimeter wall (mean distance 58cm). These postholes form a regular central configuration which would align on a westerly entrance. Those postholes exposed are 28 to 54cm deep, with the exception of one feature in the north for which the depth is unknown. One of the southern pair of internal postholes is slanting to the southwest. This is unusual for an internal posthole. However, the elongated, oval shape of this feature suggests it might have been used in more than one structure and its slanting orientation is of irrelevance here.

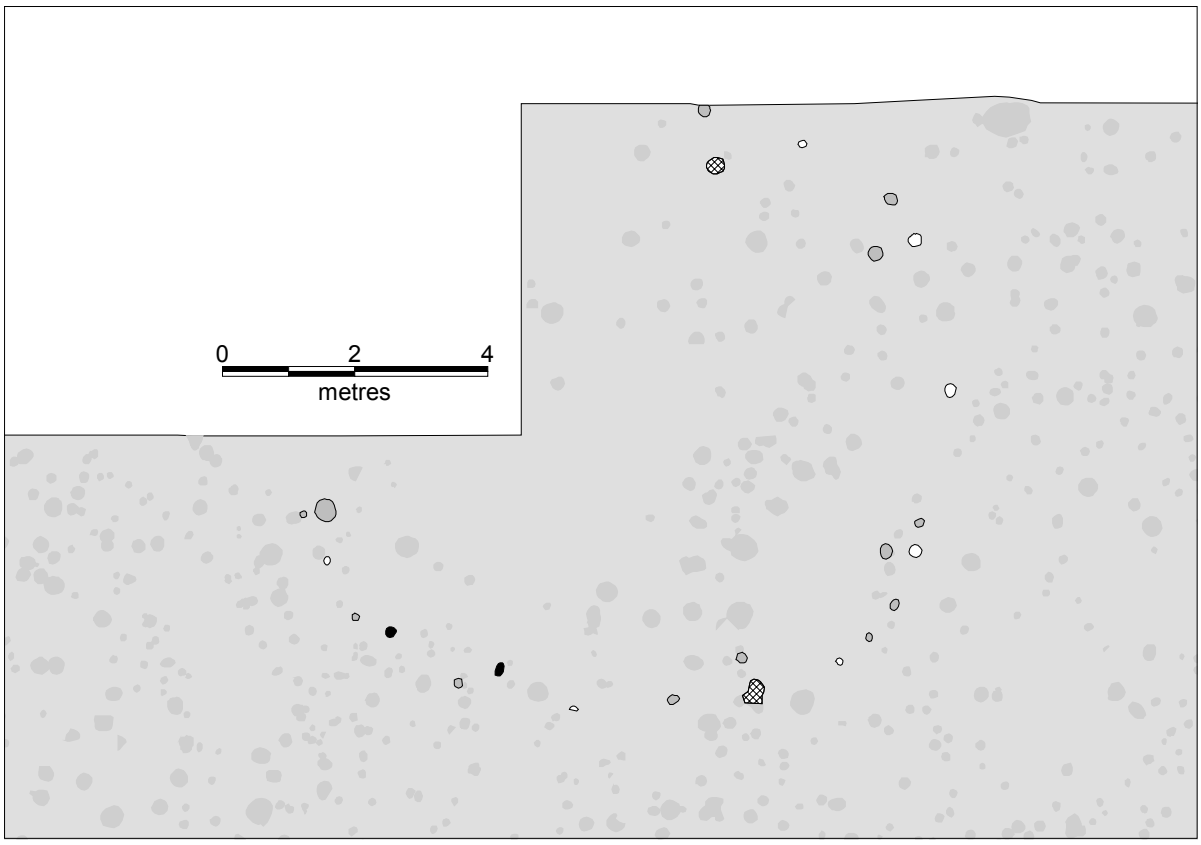


Figure 126. Structure 44.

Feature fills. Two features excavated from the internal configuration contained 1g bone, ≤1g of crab claws and charcoal, 1-39g of pottery, and 3-17g of marine shell. The perimeter features all contained <10g of organic and pottery material and <1kg of bedrock material.

Special finds. None.

Abandonment. Not burnt.

Dating. Unknown.

Associated features. A relatively high number of features of all size classes have been found especially in the northern area inside this structure, although they are almost certainly related to other structures falling outside the excavated area.

Overlaps. Structures 4, 5, 8, 13, 14, 15, 31, 39, 41, 47, 50, 48, and 51. Structure 43 is too close to be contemporaneous.

Shared features. Three features, including one from the internal construction, are shared by other features.

Structure 45 (Confidence Class: 3)

Spatial and physical characteristics. Structure 45 is the northern portion of what may have been a regular circular structure consisting of a post-built perimeter and a roof-bearing construction of eight posts. The majority of this structure falls outside the excavation boundaries, leaving only nine external, and two internal postholes exposed. Features range from 9 to 27cm in diameter and 12 to 66cm in depth. Four features were excavated.

This structure is on the edge of the excavation unit and if the reconstruction is accurate, only 10% of the whole is revealed. Nevertheless, the combination of a regular arc of smaller features, combined with two larger features, corresponds well with other, more complete circular structures seen in the unit. Both putative internal features are vertical, and one of the external postholes is slanting, admittedly unusually outwards from the structure. The internal large feature in the east (84-39-F347) is actually multiple features consisting of an oval pit with clear toolmarks on its inside walls, extending beyond the excavation boundaries. This pit incorporates two deeper postholes within it. This feature had a very rich fill (see below). As one of the only non-posthole features in the excavation the fill, especially the pottery, merits more attention.

Despite incompleteness, this reconstruction is plausible, although further excavation is necessary to determine the ultimate validity.

Feature fills. Fill information is available for one feature excavated from the perimeter which contained some gravel (39g) and 1g of marine shell. The multiple features of the internal posthole were excavated together in two fills as there was no distinction between them. This was a very rich feature in terms of pottery, 700g[139], and organic material (5g bone, 12g crab claws, 2g charcoal, 441g marine shell) as well as nearly 12kg of bedrock material.

Special finds. None.

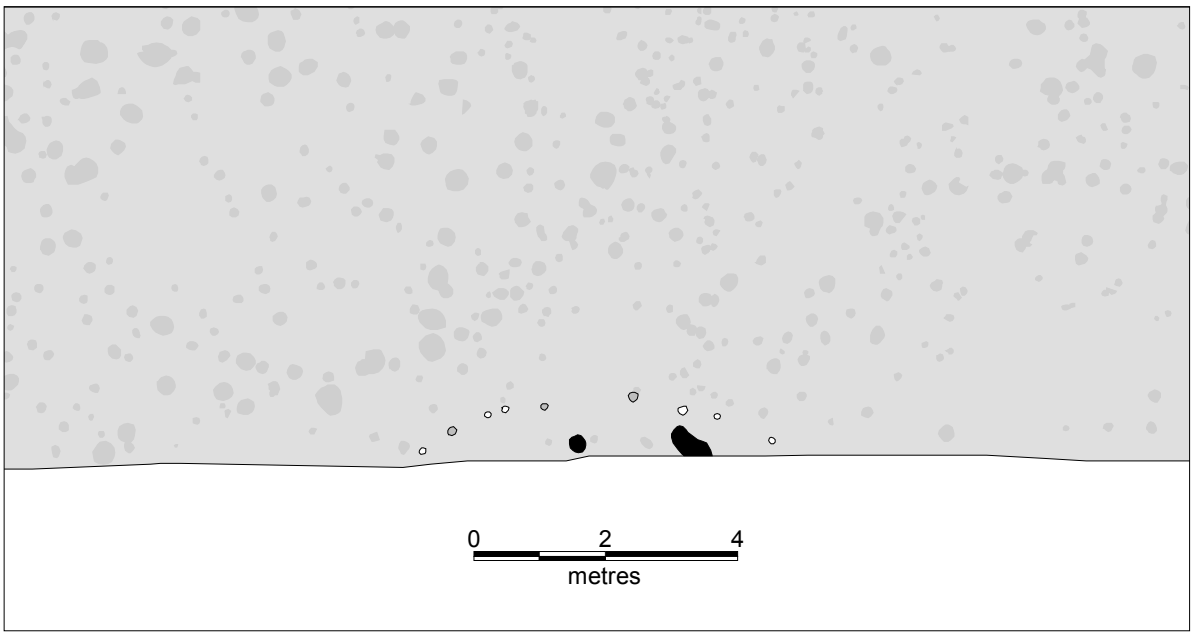
Abandonment. Unknown.

Dating. Chicoid.

Overlaps. Structures 5 and 26. Structure 27 is too close to be contemporaneous.

Shared features. None.

Figure 127. Structure 45.



139 Analysis of this pottery may give more of an indication of the type of deposit in this feature, i.e. whether this is a single-event cache or a very dense artefact trap from multiple phases.

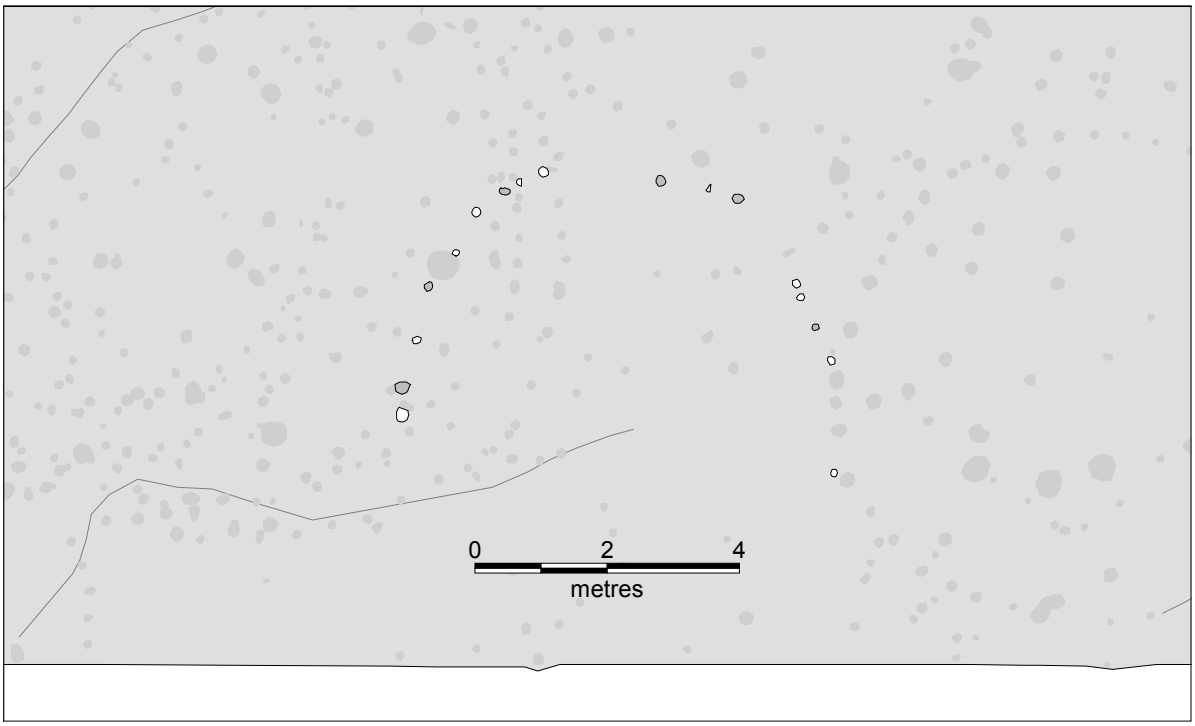


Figure 128. Structure 46.

Structure 46 (Confidence Class: 3)

Spatial and physical characteristics. This is a small structure consisting of a circular arrangement of 17 slender (5 to 20cm) and shallow (4 to 24cm) postholes. The circle formed is incomplete, with no southern portion. The diameter of the circle is 6.6m, and it has a floorplan of 22m². There is no indication of a central or internal structure. One feature was excavated from this arrangement.

This configuration of postholes bears similarities to Structures 8 and 12. The only excavated feature was vertical in the bedrock.

Feature fills. Feature 84-49-F211 was excavated as a small appendage to a large intersecting feature (F210), assigned to another structure. It contained 1g crab claws, 1g marine shell and 71g of gravel.

Abandonment. Unknown.

Dating. Unknown.

Associated features. Several small features occur within the perimeter of this structure, especially to the south, although their potential relationship to the structure is unclear.

Overlaps. Structures 4, 11, 12, 41, and 52. Structure 2 is too close to be contemporaneous.

Shared features. None.

Structures 47 and 48 (Confidence Class: 3)

Spatial and physical characteristics. Structures 47 and 48 represent a minimal and a maximal interpretation: the first is a curving post alignment and the second a circular structure with internal post configuration akin to the other circular structures in the unit.

Structure 47 consists of a curved alignment of 23 postholes, stretching for a length of 14.7m. Features range from 9 to 39cm in diameter and 6 to 38cm in depth. The features are arranged in descending depth from the beginning of the alignment in the west to the end in the east with a mean of 67cm between the features. Nine features were excavated.

Structure 48 is an elaboration of this alignment, interpreted it as an elliptical structure, 9 by 7.6m, with a roof-bearing construction, the northern part of which falls outside the excavation boundaries. The heavy-set postholes in the west of alignment 47 and the semicircular disposition of the rest of the postholes bear resemblance to the entrances and perimeter arrangements of the circular structures in the unit, which was the motivation for reconstructing a circular structure on this spot. Moreover, a configuration of six larger postholes inside this arrangement can be interpreted as an internal, roof-bearing configuration. The perimeter thus consists of 30 postholes, the interior of six deeper postholes, with a span between opposing posts of 6.51m and between adjacent pairs of 2.27m.

The insecurities in this plan are caused by the fact that: (1) half the internal features (n=3) are already assigned to different structures[140], (2) the large postholes of the putative entrance façade in the west are simply not mirrored by corresponding postholes to the north, and (3) there are gaps, following relatively evenly spaced features, along all of the northern portion. Given the orientation of the elliptical shape of the structure, one would also expect the inner configuration and the entrance to be slightly more oriented to the northwest. Interpretation is not aided by the fact that if this were a circular structure, the northern extremity and possibly some of the internal construction would be outside the excavation boundary.

The entrance configuration consists of two large postholes 71cm apart, the northernmost one being shared by another structure. The northernmost posthole is much deeper than its counterpart to the south (72cm:38cm), although both features were partially filled with stones and coral, indicating that their volumes had been adjusted. As mentioned, the rest of the entrance façade to the north is missing, but to the south three postholes of decreasing depth are larger than the rest of the postholes in the perimeter. Thus, where present, the pattern of features across the structure is similar to that of other circular structures – heavy at the front and light at the back. The six postholes interpreted as the roof-bearing construction range from 38 to 80cm deep.

All features from both reconstructions are vertically dug into the bedrock.

Feature fills. As mentioned, the fills of the two entrance postholes contained substantial amounts of coral and bedrock (weights not recorded). In addition negligible other pottery (1 and 19g) and organic remains (11-16g marine shell, 1g bone and charcoal, ≤1g crab claws) were encountered. The other excavated internal and external features similarly contain negligible organic remains (≤1g crab claws, bone and charcoal, 1-61g marine shell), but variable and moderate amounts of pottery (1-181g), including some decorated pieces. Also, most of

140 This does not mean that they may not be re-used, but this is not a practice often observed in the unit.

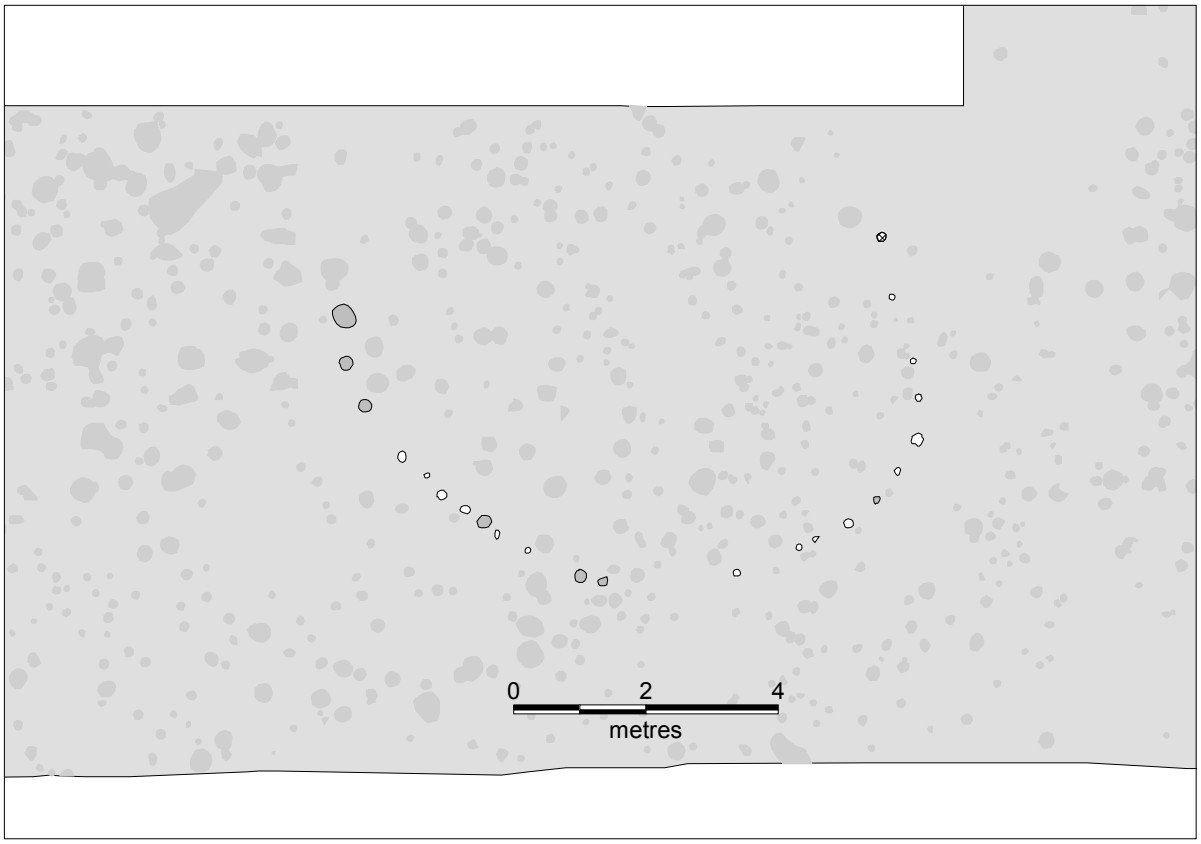


Figure 129. Structure 47.

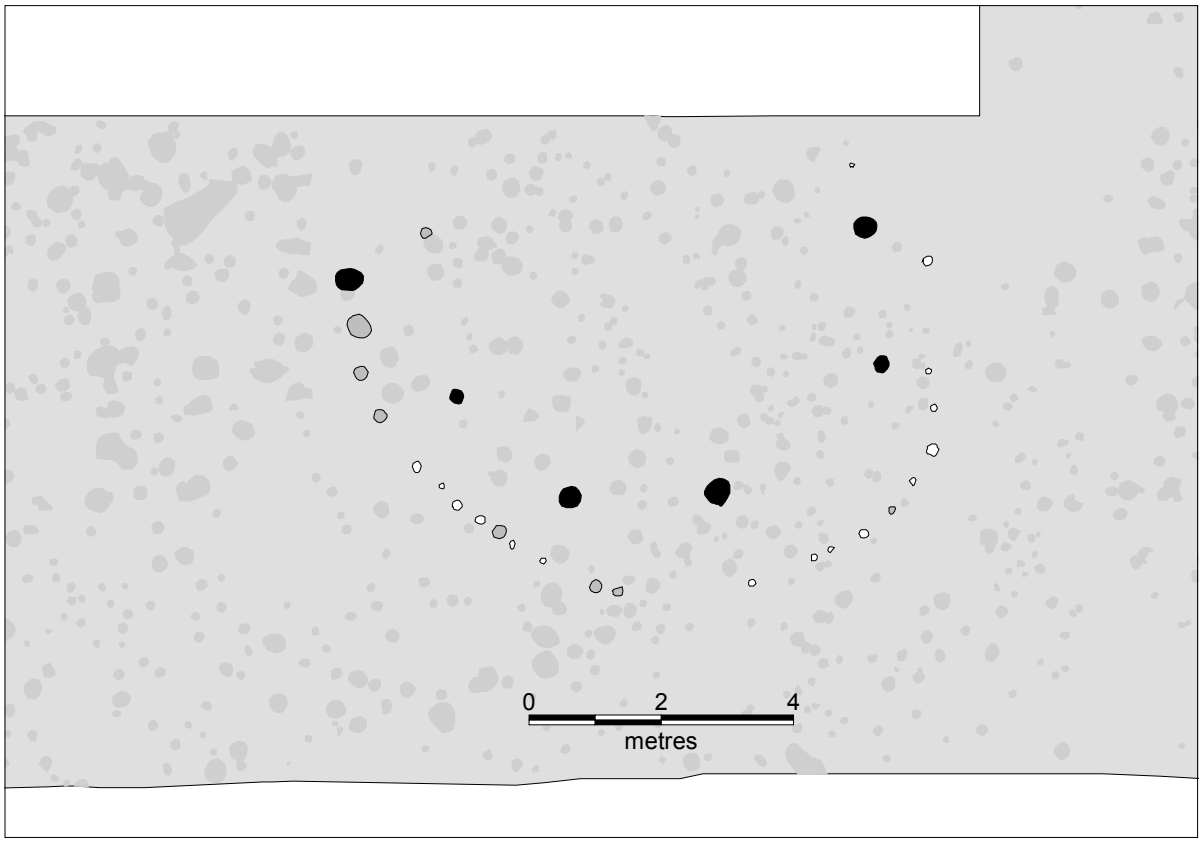


Figure 130. Structure 48.

the features contained less than half a kilogramme of bedrock material, with the exception of one of the internal features which contained 10kg, and the two entrance features which also contained considerable amounts.

Special finds. None.

Abandonment. Based on the variable quantities of remains in the fills, the posts were possibly removed and the postholes back-filled.

Dating. Unknown.

Associated features. The deposition of fragments of a possibly human tibia occur in a spatially, but not structurally associated posthole (84-29-F16) with Structure 48. This is the same bone deposit also associated with the inside of six other structures.

Otherwise, a high number of features of different size classes are related to especially the western half of this structure, although it is located on the edge of the excavation boundary within a generally dense feature cluster, hence its relationship to these is unclear.

Overlaps. Structure 47 overlaps with Structures 6, 15, 17, 22, 27, 31, 42, 43, 24, 48, and 51. Structure 48 overlaps with Structures 6, 15, 17, 22, 27, 28 31, 39, 42, 43, 44, 47, and 51.

Shared features. Five features, including three from the central construction, are shared with other structures.

Structure 49 (Confidence Class: 3)

Spatial and physical characteristics. Structure 49 consists of three parallel post alignments, entering the unit in the northwest and running in a southeasterly direction towards the edge of the cliff, stopping just short of small oval Structure 25. The post rows maintain a relatively constant distance of ca. 1.5m between them. Two of the alignments are ca. 11m long, and the third one extends for 13m. Features range from 8 to 36cm in diameter and 4 to 45cm in depth. The mean distance between the postholes is ca. 1m. Two features, from different rows, were excavated.

The features do not adhere to any obviously discernible pattern in terms of succession in depth or diameter, with wider and deeper features interspersed with smaller, shallower features. The two excavated postholes were both set into the bedrock at an angle: both are slanting oriented in a westerly direction. Although generally regularly spaced, some gaps appear in the alignments, for example between the last two features of the southernmost alignment. However, this gap also coincides with a natural depression in the bedrock (seen in the plan drawing as a solid line).

Especially in the northwest corner of the unit, where the features are most dense, there were multiple candidates for inclusion in the alignments. Indeed this is not one of the most plain and unambiguous structures in terms of the spatial and metric relationships between the features alone. In fact it was identified in combination with evidence from the artefact layer above it (see Chapter 6). The alignments seem to have acted as an artefact block, which not only confirms their contemporaneity with the archaeological deposits in layer 1, but supports the interpretation that these features form coherent structures which belong together. In other words, Structure 49 formed a linear barrier against which sweeping deposits accumulated over time.

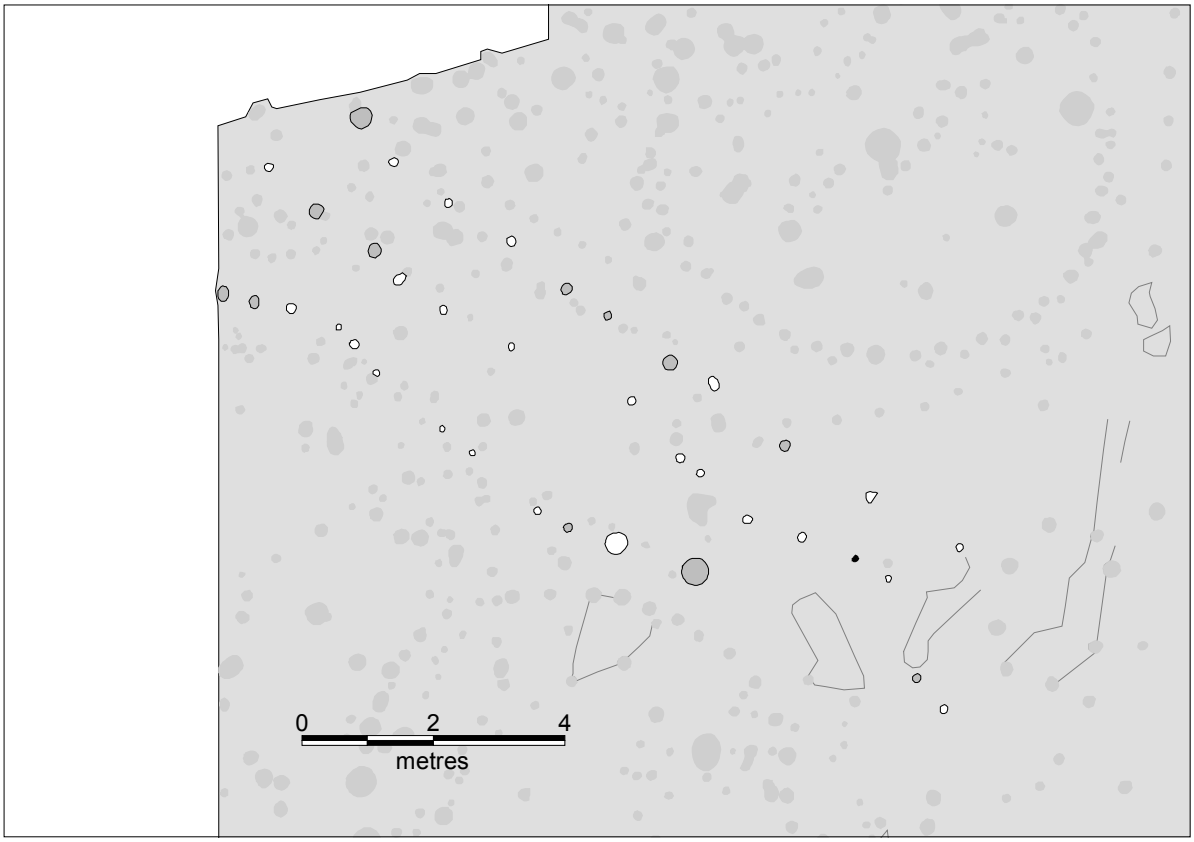


Figure 131. Structure 49.

In general, it is not clear what the relation is between these three similar alignments. The fact that they share the same orientation, run parallel at an equal distance from each other, are of similar lengths (albeit from what we can discern from the eastern ends), slant the same way, all indicates that they fulfilled the same function, either contemporaneously or as different phases of the same structure.

Feature fills. Of the two excavated features, fill information is only available from one (85-51-F40), the largest feature in the alignments situated in the eastern end of the southernmost row. The other excavated feature was noted to contain Chicoid pottery, and the larger excavated feature contained 15g of pottery as well as a relatively large 11g of bone, 36g marine shell, 3g crab claws, 1g charcoal and more than 11kg of bedrock material.

Special finds. Although not in the postholes themselves, the alignments are associated with no less than five items of *Strombus* sp. paraphernalia, including a shell bead, a key pendant (*idolillo tabular*), two pendants with incised frog leg motifs and a shell face, or *guaíza*, made of the spine of a *Strombus*. In addition, the largest trigonolith of the excavation was recovered from the bedrock depression in the southernmost alignment. Colonial material also accumulated against this southern border. As mentioned above, this distribution is probably due to the fact that the structure acted as an artefact barrier. This is discussed in Chapter 6.

Abandonment. Unknown.

Dating. Late/colonial.

Overlaps. Structures 30, 34, 40, and 52.

Shared features. None.

Structure 50 (Confidence Class: 3)

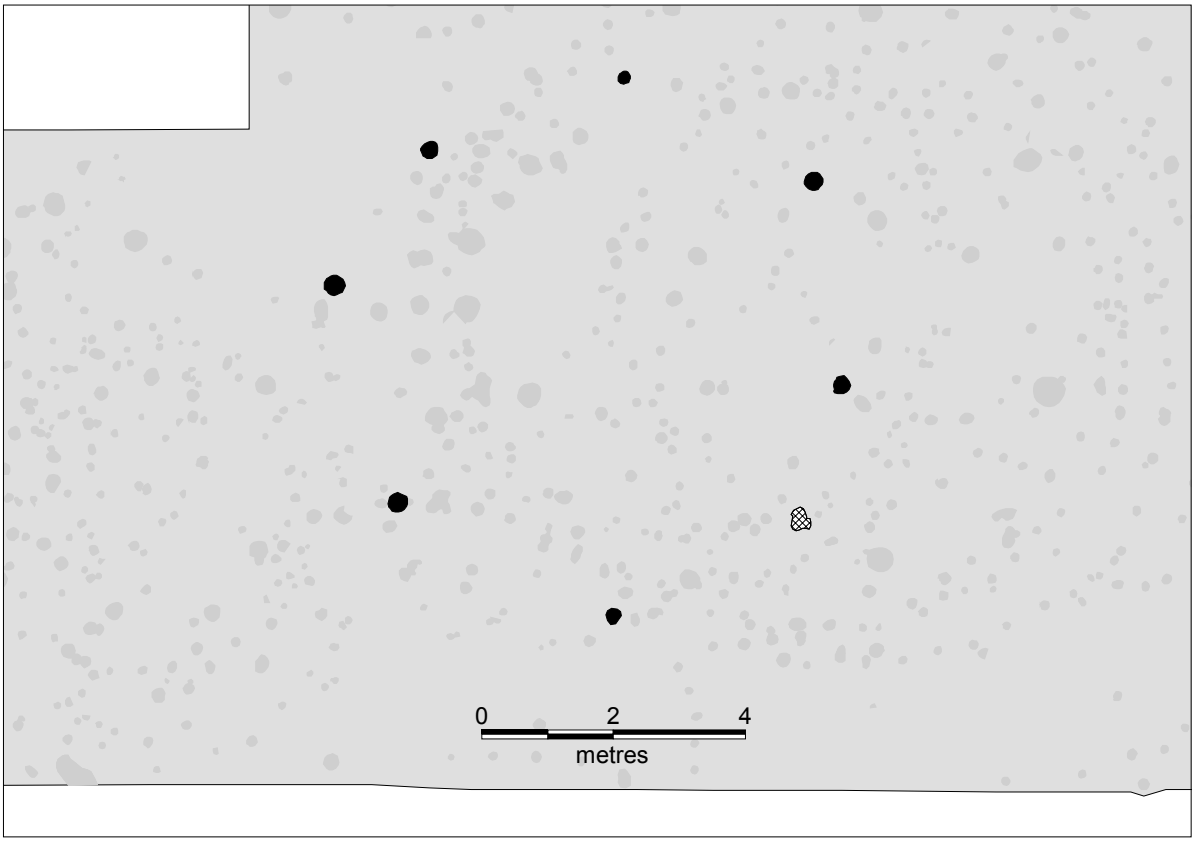
Spatial and physical characteristics. Structure 50, akin to Structures 10 and 28, is a configuration of eight deep-set and wide postholes in a regular configuration of opposed pairs. The structure is identical to the internal constructions of the other circular buildings, but lacks an outer perimeter wall. The diameter is ca. 8.15m with the mean span between opposing posts at 7.3 and 3.22m between adjacent pairs. Two of the eight features were excavated.

The eight large postholes range from 19 to 36cm in diameter and ≤68cm in depth. The irregularly shaped feature in the southeast does not have any depth information and was thought to be a natural depression in the bedrock, which may have supported a post. This interpretation is borne out by its incorporation as part of this structure. The two excavated features were set vertically into the bedrock.

An interpretation was made as to the orientation of the structure on the basis of correspondence between the depths of opposing pairs. The two most westerly postholes correspond very closely in depth with the easterly pair, and correspondingly the southerly pair with the northerly one (as opposed to a southwest-northeast pairing). These opposing pairs differed by a maximum of 5cm, very closely equivalent. This pairing is also spatially more regular than any other.

Feature fills. The two excavated features, the western adjacent pair, have comparable volumes (ca. 47 and 37L), but whereas the slightly larger feature to the north has a very rich fill in terms of ceramic and organic remains (13g bone, 87g

Figure 132. Structure 50.



pottery, 478g marine shell, 2g charcoal and a huge 73g crab claws), its counterpart to the south has meagre remains (2g bone, 5g pottery, 15g marine shell). Both features have comparable amounts of bedrock material (3-4kg).

Special finds. None.

Abandonment. Due to the variable remains in the fills, it is possible that the posts were removed and back-filled.

Dating. Unknown.

Associated features. Several mainly smaller features occur within this structure and also between the eight large postholes. Although on the whole, due to their irregularity, it is not thought they are part of the structure.

Overlaps. Structures 4, 5, 8, 11, 13, 14, 41, 44, and 45.

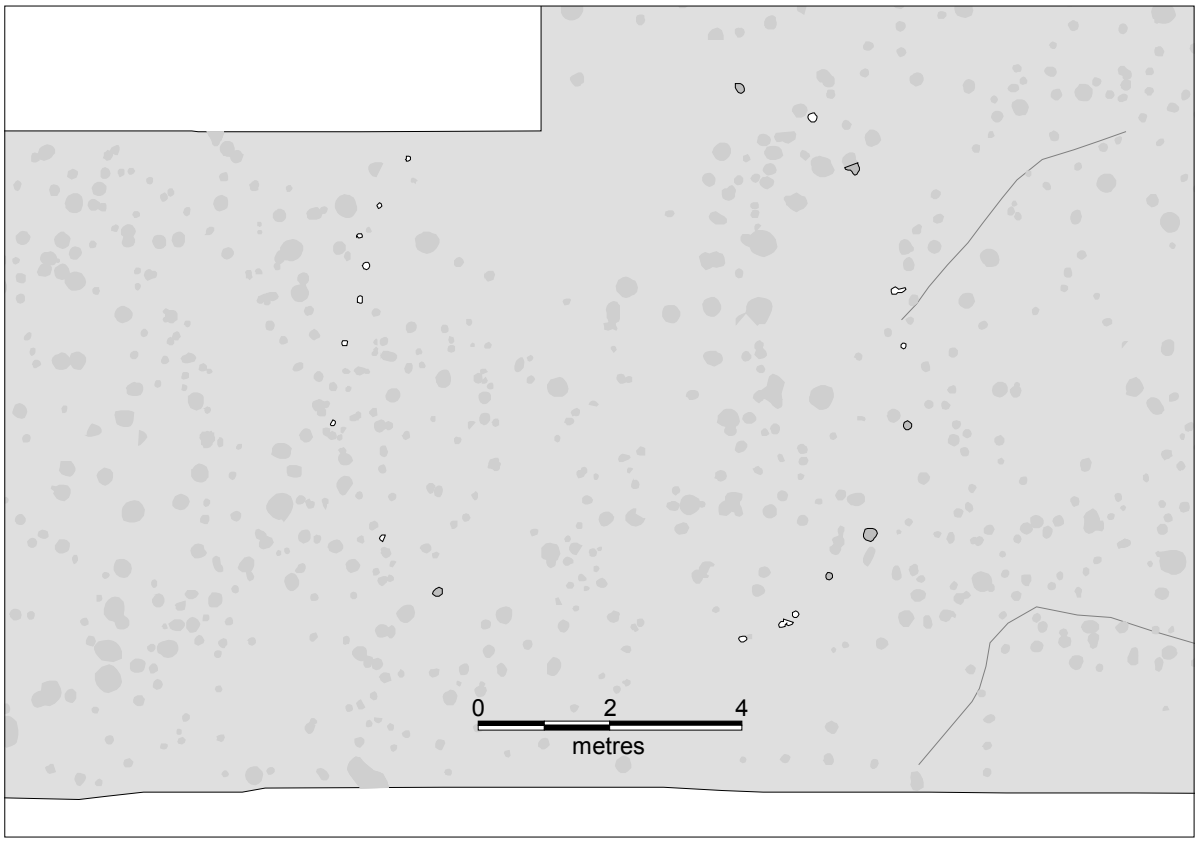
Shared features. Two features are shared with other structures.

Structure 51 (Confidence Class: 3)

Spatial and physical characteristics. This is a structure consisting of a circular arrangement of 20 slender (7 to 17cm) and shallow (6 to 28cm) postholes. The circle formed is incomplete, especially in the south and north. In the north it is partially cut by the excavation boundary. The diameter of the circle is 8.4m, with an interior space of 57m². There is no indication of a central or internal structure. Ten features were excavated from this arrangement.

This circular configuration bears similarities to Structures 8 and 12, which also consist of just a perimeter circle or curved sections of a perimeter such as in the case of Structure 12. The mean distance between the features is 99cm, excluding the gaps in the north and south. The features are metrically and spatially consistent with each other and cannot be assigned to any other structure.

Figure 133. Structure 51.



Two excavated features were set into the bedrock at a slant.

Feature fills. One of the small features excavated (84-39-F59) contained 126g of pottery, the rest contained ≤1g of pottery and similarly negligible amounts of other remains. Most also contained some gravel (≤0.5kg).

Special finds. None.

Abandonment. Due to the variable fills, posts were possibly removed and the postholes back-filled.

Dating. Unknown.

Associated features. The smaller features occurring within the perimeter of Structure 51 appear to be part of unrelated alignments rather than this structure.

Overlaps. None.

Shared features. None.

Structure 52 (Confidence Class: 3)

Spatial and physical characteristics. Structure 52 is a post row consisting of 24 posthole features running north-south and extending 45m along the whole of the eastern excavated part of the unit. This alignment is parallel to the coast and possibly continues beyond the unit boundaries in the south. In fact it closely mirrors Structure 16 to the east, whose curving form it parallels for most of its length, entering the unit in the south, and curving further outwards, east, towards the north of the unit, before stopping just shy of the cliff top. Potentially, had other features been assigned, the alignment could continue to mirror Structure 16 and curve westwards again to follow the line of the cliffs. Without more evidence, however, a simpler reconstruction is preferred. Four features were excavated from the post row.

Like Structure 16, all features fall within similar relatively shallow depth and diameter ranges: 5 to 23cm across and 6 to 41cm deep. Of the four features excavated, all were set vertically into the bedrock.

The mean spacing between the features is 2.16m, with spacing in the south closer than that in the north. In the south some features are doubled, which may represent re- or over-building.

There doesn't appear to be a strict pattern in the distribution of depths of the features along the alignment. Shallower and deeper postholes are interspersed with each other, if anything following a pattern of a succession of similarly deep pairs (i.e. 41 and 27cm, 9 and <10cm, 9 and 7cm, 34 and 22cm, 16 and 12cm, 27 and 25cm, 21 and 22cm, etc.). But overall the range of variation in the depths is relatively small.

Feature fills. The excavated features, as expected given their small volumes (ca. <10L), contained little remains (1-17g pottery, ≤2g bone, 1-7g marine shell, ≤1g crab claws, <0.5kg bedrock, and no charcoal).

Special finds. None.

Abandonment. Unknown.

Dating. Unknown, but see Chapter 6.

Associated features. None.

Figure 134. Structure 52.

Overlaps. Structures1, 4, 5, 7, 8, 9, 10, 11, 12, 16, 18, 20, 34, 39, 40, 41, 46, and 49.

Shared features. None.

5.2 Remaining features

Of the 2100 features in the main unit, 1609 have been assigned to structures. Roughly 200 features have been assigned more than once. These taken into account, this means that slightly over 70% of the features have been assigned to structures.

The majority of the unassigned features (Fig. 135) are located at the boundaries of the excavated area, and thus it is lack of overall vision which impedes interpretation in relation to other features. The remainder of the unassigned features are on the borders of the excavation unit where one can often discern that their most likely form would be a circular formation. Examples are the five small features almost halfway along the south border of the unit which likely

Figure 135. Plan view of the main unit with unassigned features highlighted (black), and assigned features faded (white). Over 70% of features are assigned to structures.

form the top of a perimeter of a circular structure; or the curve of postholes on the most western edge of the unit; or those on the northwestern edge below the scale-bar; and finally the potential circular formations which can be discerned in the far north of the unit. For the sake of presenting only credible interpretations, and based on the fact that there is clearly a concern with regularity in all the structures which are identified as reliable, these will not be described further. Similarly, other potential alignments can be identified, but this was not done at this stage for the same reason. Alternatively there are smaller, possibly paired or clustered features, located outside structures, whose precise configuration is not known, and these have been discussed as "associated features" under the structures with which they are spatially associated, rather than in their own right.

5.4 Structure typology

The structures in the El Cabo main unit fall into eight main types. Categorisation began as a process of cataloguing similarities and differences in functional and architectural characteristics and orientation during the descriptive phase of re-

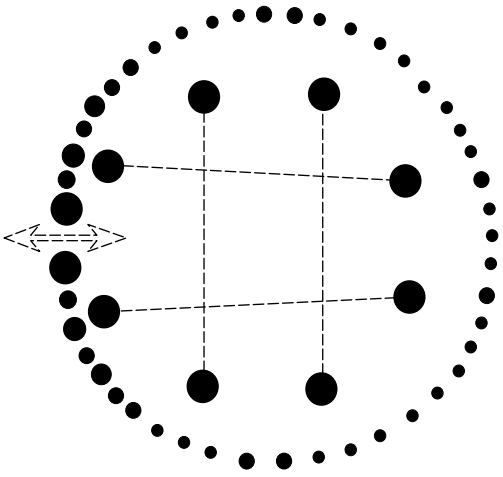
search. In later interpretive stages, types seemed to conform to differences in temporal and membership affiliations, and therefore the differences between certain (not all) types (notably between Types 1, 2 and 4) also correspond to indigenous types. The categories fall into four house types, two types of special-activity structure, a type which includes all post alignments, regardless of function, and a unique type of small structure clearly not belonging to any other type. Schematic representations based on distillations of the real plans are presented for illustration. Orientation (the top of the page is north) and scale are the same for all illustrations for ease of comparison.

5.4.1 Type 1

Type 1 structures (Fig. 136), of which there are 16, and as exemplified by Structure 1, are interpreted as houses.[141] These are very regular post-built structures with a perimeter circle of closely-set (mean = 64cm, from 12 of the most complete structures) postholes, and an internal post configuration consisting of eight heavy-set postholes forming opposing pairs. The opposing pairs align on the entrance, which in the majority of cases opens to the west. Internal postholes often align on heavier-set postholes in the perimeter circle. Entrances are relatively narrow, averaging 78cm wide, and ranging between 60 and 111cm.[142] This is the only evident access point in the structure. There are no internal divisions in the plan. Structures range from 6 to 10m in diameter.

The postholes of the perimeter circle, except for those at the entrance, are dug at an angle so that the posts would have been oriented towards the centre of the structure and the roof and walls are one. The mean angle for the slant of these postholes is 70º, making the roof pitch a steep 40º.[143] This angle being assumed for the other Type 1 structures makes it possible to calculate the roof height and gain an impression of the profile of this type. Structures would have been tall with a bell/beehive/ogee-formed exterior, possibly not unlike Piaroa traditional houses (P. Oliver 1997:1740-41) or the traditional Trio *mïnë* (Rivière 1995; Plate 6).

Figure 136. Schematic representation of Type 1 structures, indicating entrance (arrow) and pairs of opposing postholes (dotted lines).



The opposing pairs of the internal structure would have supported tie-beams and a ring-beam and rafters providing support to the roof. The mean distance between the roof-supports and the perimeter circle is 96cm. Mean posthole depth is 35cm; their mean width is 18cm.

Overall, Type 1 structures are characterised by larger postholes at the front, running ca. 40% of the perimeter from either side of the entrance, decreasing to smaller postholes at the back. The entrance pair of postholes is especially large, often of comparable size to the roof-supports inside, and generally flanked by postholes of alternating larger and smaller sizes, but within a range that is bigger than those of other perimeter features. This forms a symmetrical and monumentalized entrance façade.

The positive relationship between posthole depth and height of post indicates that Type 1 structures would have been low at the back and high at the front, and that the ver-

141 See definition of this term in Chapter 2.1.3.

142 This is the distance between postholes from centre to centre, so real entrances would have been narrower still.

143 Based on measurements from Structure 1, which is seen as a good guide for calculating the roof pitch seeing as multiple postholes from every main perimeter orientation were excavated.

tical entrance façade would have formed an entrance porch, jutting out of the roof profile. This would have formed an asymmetrical cross-section whereby the front of the house was much taller and loftier than the back of the house. Functionally, and because of the major orientation of Type 1 structures, the lower backs of the houses would have channelled sea winds up and over the roof, creating a sheltered area outside the front of the house.

Structures of Type 1 increase incrementally in floor area over time, with the largest in any one sequence of renewal (i.e. between Structures 20 and 34, 3 and 30, 15 and 4) being almost twice as big as the smallest (see Chapter 6 for sequences of renewal). Smaller Structures 15 and 43 (not included in the foregoing size comparisons) are categorised as Type 1 though they are much smaller (19-24m²) than the rest of the type, and their plan details not wholly clear (orientation etc.). Nevertheless, there are enough similarities to see these as architecturally more similar to Type 1 than to any other type, and also not to assign them as a separate type. Although, as will be discussed later on (Section 6.2.5 and 6.3), these smaller examples may have had a different function.

5.4.2 Type 2

Type 2 structures (Fig. 137), of which there are seven and as exemplified by Structure 2, are interpreted as houses. Again, these are very regular post-built structures with a perimeter circle, occasionally slightly elliptical, of closely-set postholes (mean = 57cm apart), and an internal post configuration consisting of eight heavy-set postholes forming opposing pairs. These opposing pairs align on the entrance, which in the majority of cases, opens to the west-northwest (i.e. an orientation different from that of Type 1). Internal postholes often also align on heavier-set postholes in the perimeter circle. Entrances are relatively narrow, averaging 68cm, and ranging between 56 and 77cm.[144] There are no internal divisions in the plan.

The postholes of the perimeter circle are vertically dug into the bedrock, implying a cone and cylinder construction. Of course, regardless of the vertical postholes, the wall uprights may still have been tied together at the top as for structures in which the roof stretches down to the ground, also forming the walls, but this is not as explicit in the underground architecture as for Type 1. Structures range from 6 to 11m in diameter.

The opposing pairs of the internal structure would have supported tie-beams and formed part of the roof-support structure. The mean distance between the roof-supports and the perimeter circle is 73cm, narrower than for Type 1.

Overall, Type 2 structures are characterised by large postholes at the front, running ca. 40% of the perimeter from either side of the entrance, decreasing to smaller postholes at the back, which in some structures disappear completely, leaving apparent gaps at the back of the structure, which are nevertheless not necessarily interpreted as additional access points. The entrance pair of postholes is especially large, often of comparable size to the roof-supports inside, and gen-

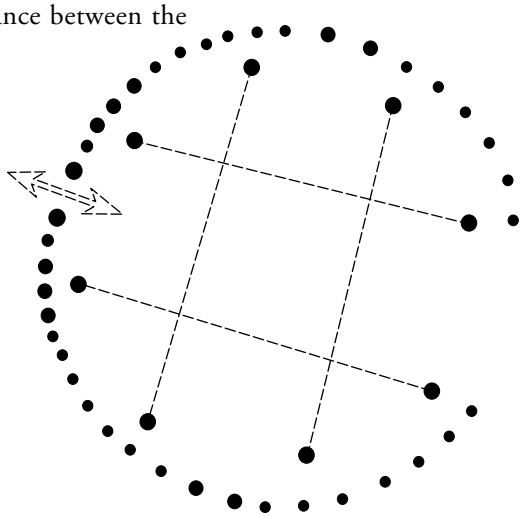


Figure 137. Schematic representation of Type 2 structures, indicating entrance (arrow) and pairs of opposing postholes (dotted lines).

144 The narrowest of these, the entrance of Structure 7, at 56cm wide, had uprights set in it in the field to see how easily members of the field team could pass through it. Not a conventionally wide doorway in a Western sense, it posed no problems to walk through it.

erally flanked by postholes of alternating size, as for Type 1, but larger than the other perimeter features. This forms a symmetrical and monumentalized entrance façade.

Overall, posthole dimensions of Type 2 structures are marginally smaller than those for Type 1 structures, despite a similar average floor area (45m²). Mean feature depth is 30cm (5cm shallower than for Type 1) and 16cm wide (2cm narrower than for Type1). The difference in posthole diameter is mostly accounted for by the fact that Type 1 structures have wider entrance postholes than Type 2 structures.

Similarly, as for Type 1, structures of Type 2 would have been low at the back and high at the front, and the entrance façade would have formed a porch-like structure, higher than the rest of the perimeter wall and jutting out of the roof. This would have formed an asymmetrical cross-section whereby the front of the house was much taller and loftier than the back of the house. Again, this would have created a sheltered area outside the front of the house, and channelled the sea winds over the top of the house.

5.4.3 Type 3

Type 3 structures (Fig. 138), of which there is only one example in the unit, are interpreted as houses. Instead of a separate perimeter and internal configuration, as for Types 1 and 2, the roof-supports are incorporated into the perimeter circle, akin to the reconstruction of the houses at Playa Blanca 5, El Bronce, and Río Cocal-1, Puerto Rico (Curet 1992a; Oliver 2003; Rivera and Rodríguez 1991) and Oviedo's description (1851: Ch.1;163-164). This would have created a large single-celled structure in which floor space was maximised by making redundant the separate inner ring seen in Types 1 and 2. At 10m in diameter, this structure is at the upper end of the scale for such unicameral constructions.[145]

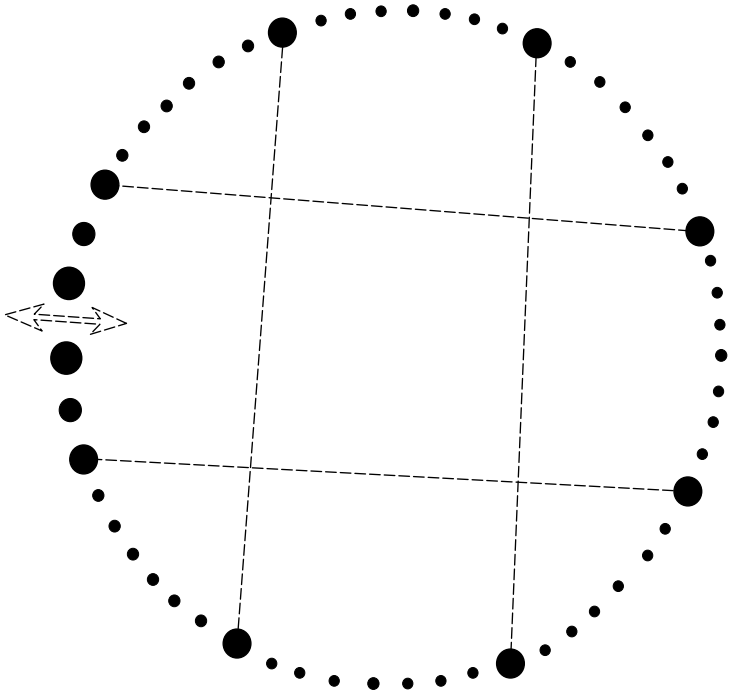


Figure 138. Schematic representation of Type 3 structures, indicating entrance (arrow) and pairs of opposing postholes (dotted lines).

The postholes of the perimeter circle are vertically dug into the bedrock, implying a cone-and-cylinder construction, the probability of which is stronger than implied for Type 2, because it is unlikely that the large perimeter posts would have been bent inwards and joined at the top. Instead they would have formed opposing pairs of vertical posts carrying tie beams, which in turn would have supported a conical roof.

Type 3 is thus seen to be an evolution of house Types 1 and 2 in which the inner post circle has disappeared. This type did not wholly replace the former, which kept being built up to colonial times, but it does show that there was a range of technical solutions open to the indigenous builders and that sometimes it was preferable to create divisions in internal space, and sometimes it is not. However, there is no

145 A diameter of 10 to 12m is the oft-cited limit for British and Irish prehistoric roundhouse architecture, after which an inner post ring is required to support the roof (Pope 2008).

evidence to suggest that this type of structure had a different function than the houses already described.

As for Types 1 and 2, a symmetrical and monumentalized entrance façade is formed by alternating smaller and larger postholes fanning out from two massive entrance postholes in the west. Although it should be noted that the post remains in these postholes did not fill the whole diameter of the postholes. The arrangement of depths and diameters of features throughout the structure is extremely regular and symmetrical.

Mean feature depth and width are 38cm and 23cm respectively, although this is based on the one example of this type in the unit.

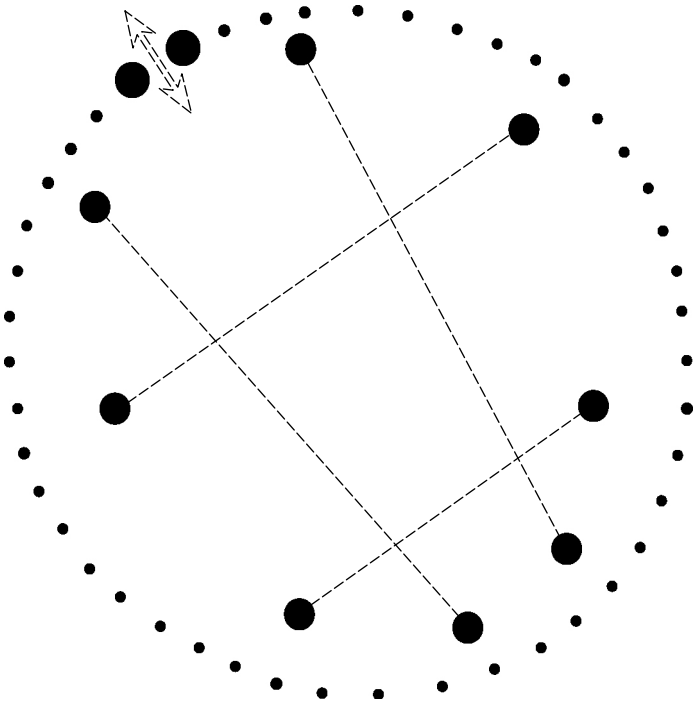


Figure 139. Schematic representation of Type 4 structures, indicating entrance (arrow) and pairs of opposing postholes (dotted lines).

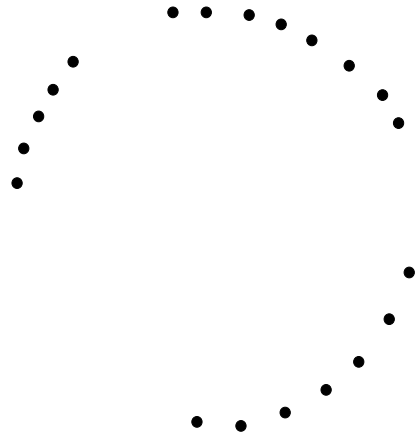
5.4.4 Type 4

Type 4 structures (Fig. 139), of which there are two examples in the unit, are interpreted as houses. These are circular post-built structures with a perimeter circle of vertically set postholes and an internal post configuration consisting of eight heavy-set postholes. The spacing of the internal structure, although very regular in the most reliable example of this type, appears to be more focussed on the front and back of the structure, rather than being regularly spaced around the circular perimeter as for Types 1 and 2. Type 4 structures have a northwest-oriented entrance. The difference in orientation, spacing of the internal construction and larger floor area are the main distinguishing features of this type, although the clear difference in orientation is the only sufficient criterion. Structures are ca. 10m in diameter.

Although one of the examples of this type is very regular overall, the plan falls outside the excavation boundaries in certain critical places, namely near the entrance. This means that it is difficult to determine whether this type also has a monumental entrance façade consisting of more than just the two entrance posts.

The mean entrance width of these structures is 88cm (90 and 85cm), with a mean distance between the perimeter and inner ring of 113cm. Posthole depths are on average 30cm deep, the same as for Type 2, and the mean diameter is 17cm.

Figure 140. Schematic representation of Type 5. Type 5 is interpreted as a sheltered special-activity hut, with closed walls.



5.4.5 Type 5

Type 5 structures (Fig. 140), of which five are identifiable in the unit, are identified as sheltered special-activity huts. They consist of circular or semi-circular arrangements of close-set (mean = 77cm, excluding the largest gaps in the perimeter) postholes with at least one or multiple gaps in the perimeter. Although resembling the perimeter circles of house structure Types 1 and 2, no internal configuration is identifiable. Postholes are generally of equal size and are on average smaller and shallower than for houses, and the structures have no consistent, identifiable orientation. Type 5 structures vary in size, but fall within the range of 6 to 8m in diameter. Excluding Structure 47,

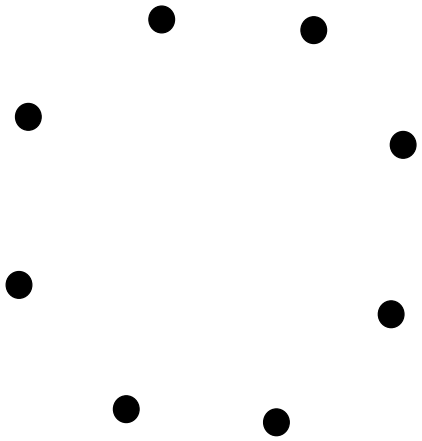


Figure 141. Schematic representation of Type 6. Type 6 is interpreted as a roofed special-activity hut, probably with open walls.

which may actually be the perimeter circle of a Type 1 structure, mean posthole diameters are very similar for all Type 5 structures at 13cm; they are on average 21cm in depth.

Presumably, posts were tied together at the top to form either a conical or domed (beehive) shell; a single-celled or semi-open structure, which would have afforded shade and protection from the wind and rain for the performance of certain tasks or activities, but not one which needed any major supports or uprights (for the roof, suspension, storage, hammocks, etc.). Neither could this structure bear any extreme live loads (i.e. intermittent forces such as wind; see P. Oliver 1997:2179). Columbus describes constructions of wood and palm fronds ("*atarazana*"; Navarrete 1922:83, 86; Prieto Vicioso 2008) used to shelter canoes. Although this is probably not their purpose here, nevertheless such buildings served as protection against the elements.

Type 5 structures are not interpreted as houses, but are rather ancillary to houses.

5.4.6 Type 6

Type 6 structures (Fig. 141), of which three are identifiable in the unit, are roofed special-activity huts, octagonal in plan. They may have been conically roofed with open walls, or alternatively the roof may have stretched all the way down to the ground. They consist of a regular arrangement of eight heavy-set postholes identical to the internal configurations of Types 1 and 2, which presumably bore a ring beam to support rafters for a roof. A perimeter structure, however, is absent. Structures range from 6 to 8m in diameter.

Although in two of the three Type 6 structures it is possible to assign a slender central post, there is no positive reason to do this based on their conspicuous absence from other types.

Type 6 structures vary in size, but fall within the range of adjacent and opposing spans of internal configurations for Types 1 and 2. The orientation of two of the three Type 6 structures is more akin to that for Type 1 structures, however, and the third larger example may have more of a Structure 2 orientation, although as these were possibly open on all sides, orientation may not have been of so much significance as for the houses.

These structures, if open-sided, would have made them well ventilated and shaded; ideal for carrying out tasks which demanded good light and bearing loads from the posts for such things as the suspension of hammocks and other items.[146] Type 6 structures are not interpreted as houses, but are rather ancillary to houses.

5.4.7 Type 7

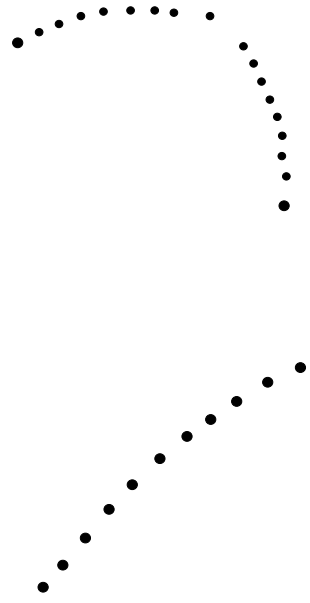


Figure 142. Schematic representations of Type 7 structures. The top example is a windbreak external to a house.

Type 7 structures (Fig. 142), of which there are twelve in the unit, are posthole alignments of various lengths and different functions. Some are interpreted as fences, windbreaks and structures which organize space. Shorter alignments, probably external to houses, represent domestic tools (drying racks, presses, etc.). Two examples of this type are probably sub-recent phenomena (37 and 39), and a further two structures are unidentifiable (35 and 36) due to extreme variability in adjacent depths. This broad type ranges from 1 to 53m in length.

146 Margot Días uses a similar canopied structure for resting in a hammock at the height of the heat of the day in El Cabo village.

5.4.8 Type 8

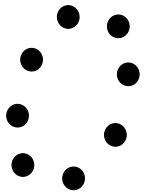


Figure 143. Representation of Type 8 structure.

The unique structure representing Type 8 (Fig. 143) consists of eight deep-set postholes forming a small oval. The postholes are set at an angle in the bedrock so that the posts would have splayed outwards. The location of this structure on the extreme edge of the cliff perhaps offers clues as to its interpretation which would either have been positioned to take advantage of the sea winds, or of the panoramic view of the coast and out to sea. One might envisage a structure used as look-out, lighthouse or communication tower (along the coast and to sea traffic), or for another purpose such as drying.[147] A structure with a communicative function is the preferred interpretation as its location seawards of a fence separating the houses from the edge of the cliff perhaps a torch or fire was placed on top of this structure. Although by no means conclusive, the fills of the features of this structure contained on average 2g of charcoal.

5.4.9 Unassigned structures

Five structures could not be assigned to a type. Although in these cases certain characteristics (i.e. orientation of the internal configuration, angle of perimeter postholes, completeness of the perimeter, and closeness of the internal and the perimeter postholes) may give an indication, none are sufficient to designate a type due to the fact that: (1) the majority of the plan or the most diagnostic parts (i.e. the entrance) fall outside the excavation boundaries, (2) an insufficient number of features were excavated, or (3) the reliability of the reconstruction is not high enough. This is the case for Structures 26, 31, 41, 44, 45. A further four structures are assigned to a type, but are not factored into the foregoing type descriptions (Structures 5, 21, 38, 40), again due to the fact that they are too incomplete.

5.5 Discussion

Chapter 5 presented the reconstruction methodology for interpreting the structures in the main unit of El Cabo. The spatial patterning of features in combination with visually represented depth and diameter information was found to be the best way of identifying structures. Confidence criteria which gave an indication of how convincing reconstructions were deemed to be were applied to every reconstruction for the sake of transparency. Structures were described in terms of the specifics of their archaeological plans, but also as far as possible in terms of their real built characteristics. Over 50 dwelling, special activity and organising (i.e. fences) structures were analysed and the peculiarities of their lifecycles and abandonment described. These structures could be broken down into eight types the essential and recurrent elements of which were distilled into graphic representations. Such types acted as templates for identifying less apparent structures in the unit, and may also prove useful for comparison with other sites in the future. Only a very few structures could not be assigned a type due to their partial state or unconvincing characteristics. The majority of structures were interpreted as houses, of which there are four types represented, all similar in their architectural qualities.

147 With respect to a communicative function, Columbus, when sailing along the north coast of Haiti and elsewhere in Hispaniola described the lookouts ("*atalayas*") to create fires and smoke signals which he took to for communication or warning (Columbus 1990:149, 157, 167).

Chapter 6

The house that Higuanamá inherited: Trajectories of social life in El Cabo

In this chapter, instead of being taken as separate entities or types, the structures will be considered together with evidence from the artefact layer in order to construct a diachronic picture of domestic practice in terms of the development of the house, *yucayeque* and the history of its inhabitants.

What emerges from discussions of the dating and chronology of structures in the main unit is a picture of remarkable continuity in which the deliberate renewal of house structures leads to the foundation and reproduction of institutions described as *House Trajectories*. It is hypothesised that the houses excavated here form the majority of one house group, and that houses within a house group develop parallel trajectories. On the site scale, outside the house group of the main unit, the late-phase *yucayeque* is made up of neighbouring but spatially separate house groups with parallel trajectories which endure for centuries. These domestic legacies, the material evidence of which are the House Trajectories, are inherited by successive generations of inhabitants.

The House Trajectory is an institution which is deliberately perpetuated by successive generations for long-duration and from which identity and cultural values are derived and lent through membership. This will be discussed in terms of renewal, rituals and aesthetics of the house, rhythms of daily and longer-term practice and patterns of conviviality which promote cultural values and foster the proper conditions for successful social life.

6.1 Dating and chronology of built structures

In this section the chronology and phasing of the structures in the main unit will be discussed. Exclusively Chicoid material culture associated with 14C dates which start in the 9th century, and end in the early 16th century signalled by the presence of European imports, as well as absolute dates from two structures, provide starting points for working out a chronology of events in the main unit. A more detailed trajectory will be sketched below, but the broad picture, based on the reconstructed habitation sequence, dated structures and the artefact distribution (Section 6.5) indicates a linear arrangement of structures in the main unit, in alignment with the coast, that moved further inland from the cliff edge over time, with a continuity of building activities in the extreme north of the unit up to colonial times.

At first glance, clustered concentrations of superimposed structures seem to indicate iterative building practices through time on the same spot (Fig. 144). This is particularly apparent for the two northernmost clusters, but to reveal the dynamics of this palimpsest other variables have to be taken into account such as orientation, difference in architectural styles and difference in function.

Was only one (house) structure in existence at any one time, or were multiple (house) structures in close, contemporaneous habitation with each other? This is a significant question for interpretations of the composition of domestic groups

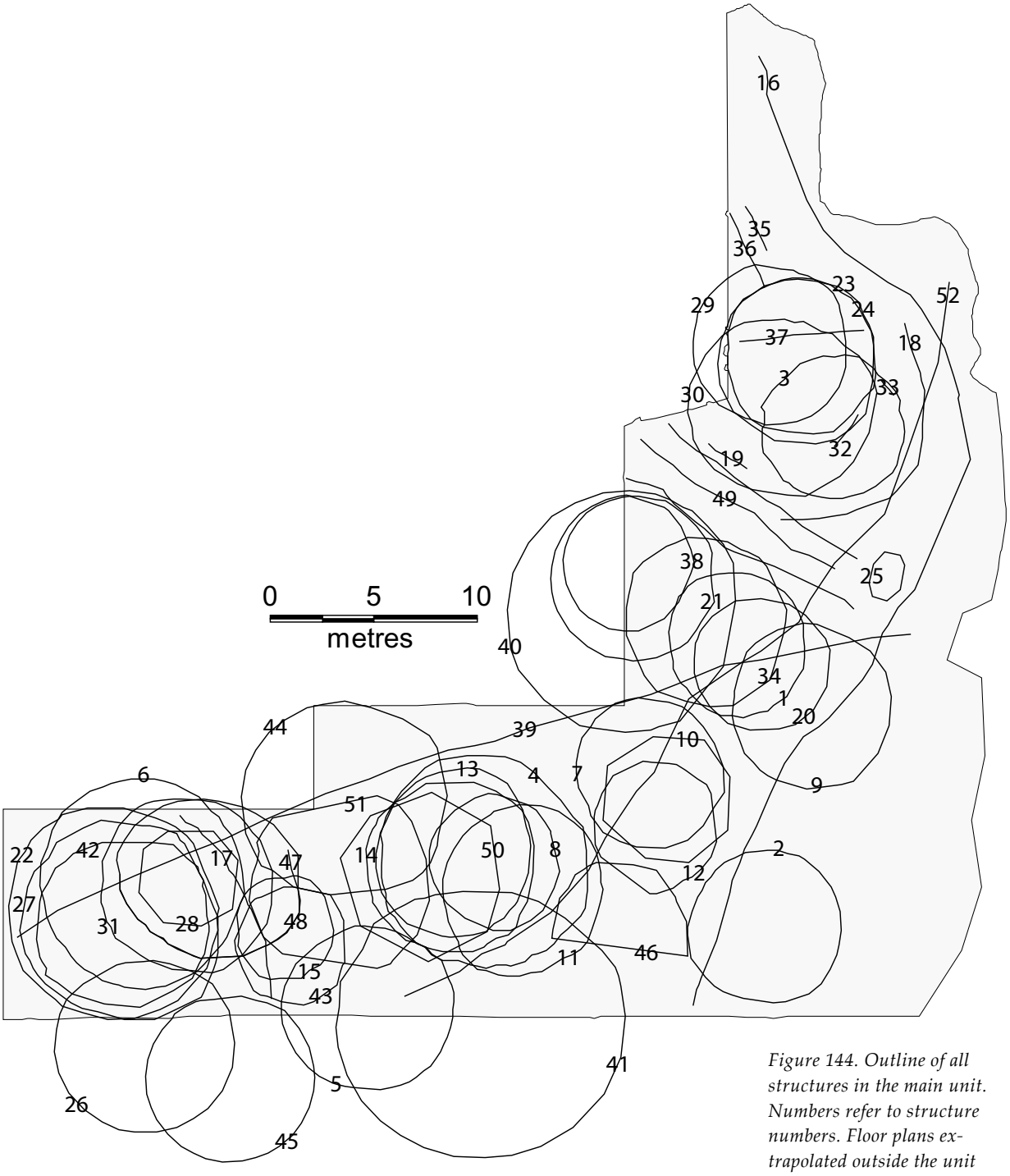


Figure 144. Outline of all structures in the main unit. Numbers refer to structure numbers. Floor plans extrapolated outside the unit boundaries.

and community social life. In trying to resolve these questions some suppositions are made regarding the reconstruction of the chronology of the structures. Firstly, it is assumed that different orientations at close proximity are an indication of non-contemporaneity.[148] Secondly, structures which differ in size, style

148 If these structures were further apart, or at different distances from the coast, or in different positions in relation to a focus of orientation (e.g. on different sides of a plaza), then structures with a different orientation might well be contemporaneous with each other. Different orientations of adjacent structures, however, may be taken as a strong marker of non-contemporaneity, as they reflect a change in the dominant orientation of settlement in response to a change of focus. In the case of the structures discussed above (namely Types 1, 2 and 4), other significant differences in terms of architectural style also support this interpretation. Differences in architectural style alone do not necessarily reflect chronological differences, and they should not be taken as a marker of chronological significance. Moreover, many structures of different functions and morphology can exist simultaneously.

and function may well be contemporaneous with each other. Thirdly, it can be postulated that contemporaneous structures probably did not open directly onto the back of other structures. Lastly, the artefact distribution is seen as representative of the activities in the last phase of habitation.

The presence of two long post alignments (Structures 16 and 52) running through the unit along the cliff edge from north to south is very informative in terms of the chronological sequencing and contemporaneity of the structures. These alignments, probably wind breaks sheltering the structures from the buffeting of the incessant sea wind or fences to stop children toppling into the sea,[149] bracket not individual structures, but multiple structures the length of the unit, and for an undefined distance to the south. This conclusively indicates that there was a row, at least 50m long, of contemporaneous structures along the cliff top. This picture of multiple contemporaneous structures is further confirmed and relationships *between* the structures nuanced by the presence of a short alignment, thrice repeated, running northwest-southeast between the northernmost cluster and the one directly below it (Structure 49). The fact that this alignment was thrice and the north-south alignment twice re-built and repositioned indicates the relationship between the clusters was renewed when the structures were re-built.

Although interrelation of structures may be concretely proposed in some cases, in other cases potential relationships between structures are more debatable and assigned on the basis of the expectation that settlements incorporate diverse structures simultaneously. It is important to acknowledge that while the excavated area is relatively large (1030m^2), it is undoubtedly small in terms of immediate living space (e.g. the real distance between a work hut and the house or a drying rack), and therefore many structures related to those inside the excavation boundary, probably fall outside the excavated area. In this sense, the only real boundaries we can be sure of are the cliff edge in the east and the top of the unit in the north. Nevertheless, and due to the lack of excavated house compunds in the Caribbean, it is often tempting to relate non-intersecting (and therefore possibly contemporaneous) structures to each other more than may actually have been the case. However, at this level of detail, the proposed relationships between structures are simply indications of what may have been possible. Therefore, the repetition of a special-activity structure in slightly different locations is an expected mirroring of the same iteration in the house structures. Whether a particular house structure belongs to a particular activity structure (and not one just outside the unit, or 20m further south) is a moot, ethnographic point.

Phases

Five phases are identified in the structures of the main unit. These phases are of unequal lengths and do not necessarily represent continuous habitation. However, they do define linked sequences of building and habitation. Phases can contain overlapping sequences of structures which may further be divided into sub-phases. The transitions between the phases are marked by changes in orientation (culturally significant) or location (chronologically significant). Therefore the transitions between the phases do not always represent culturally significant breaks, but may represent a series of activities which can be placed within a larger sequence. Indeed, often it is clear that there is continuity between phases.

149 Rather than defensive stockades which would probably consist of deeper, or at least more closely-set postholes.

A sequence of phases from *a* to *e* is proposed in which phases *b*, *c* and *d* are in a relatively secure chronological sequence. Phases *a* and especially *e*, however, are least secure in terms of placement in this sequence. Their positioning at the beginning and end of the sequence of phases will be discussed below.

As mentioned above, settlement may not have been continuous. One could envisage periodic residential mobility in which settlement in the main unit was punctuated with episodes of absence. Households may have moved between different house locations (within or outside the site), to return again to the former location after a specified time. Such patterns of residential mobility would permit Phases *a* and *e* to fit into the intermittent absences occurring by punctuated settlement in Phases *b*, *c* and *d*, rather than at the beginning and end of the whole sequence. Moreover, some of the more partial or insecure structures not included in the ensuing discussion of the phases may also have been inhabited in these intermittent absences.

There are several arguments which speak against this model of punctuated settlement however. Firstly, rebuilding almost always refers to a previous structure so that a house in a cluster is built on top of or next to its predecessor. Absence for one generation or less in which former house remains were still visible and the location remembered might be a possibility. However, the very close adherence to location and style of subsequent structures favours continuity rather than (even temporary) abandonment.

Moreover, houses in Phases *a* and *e* are of a different orientation and type to those in Phases *b*, *c* or *d*. This physical realignment implies a social or cultural context for change, leading to the settlement as a whole undergoing some process of realignment. This is not likely to have happened each time a new house was built. It does not seem likely for example that a Type 2 house was succeeded by a Type 1 house, and thereafter a Type 2 again in intercalated succession. Without absolute dating, these contingent scenarios are hard to test. For the sake of presenting the simplest defensible scenario, and because the evidence favours it, it is assumed that the different phases were continuous, with no significant breaks.

Six house structures (31, 40, 41, 44, 45, and 47/48) were not incorporated into the reconstruction of the sequence seeing as these were either partial or insecure, and also three short alignments which could not be confidently phased (Structures19, 32, 33). Choices are explained as transparently as possible.

6.1.1 Phase a

Five structures represent building and habitation activities in Phase *a* (Fig. 145). These are Structures 2, 7, 9, 11, and 13. Structure 5 may also belong to this phase and the arguments for and against are described below.

All structures assigned to Phase *a*, except in the case of one structure with unclear orientation, are oriented west-northwest, have vertical walls and resemble each other to a great degree in terms of architectural style (i.e. they all belong to Type 2). None of the structures are deemed to be contemporaneous with each other, but follow each other in sequence. The supposition that only one structure was in existence at any one time is based on the reasoning that houses probably did not open onto the backs of other structures, nor were they built too close to other structures.

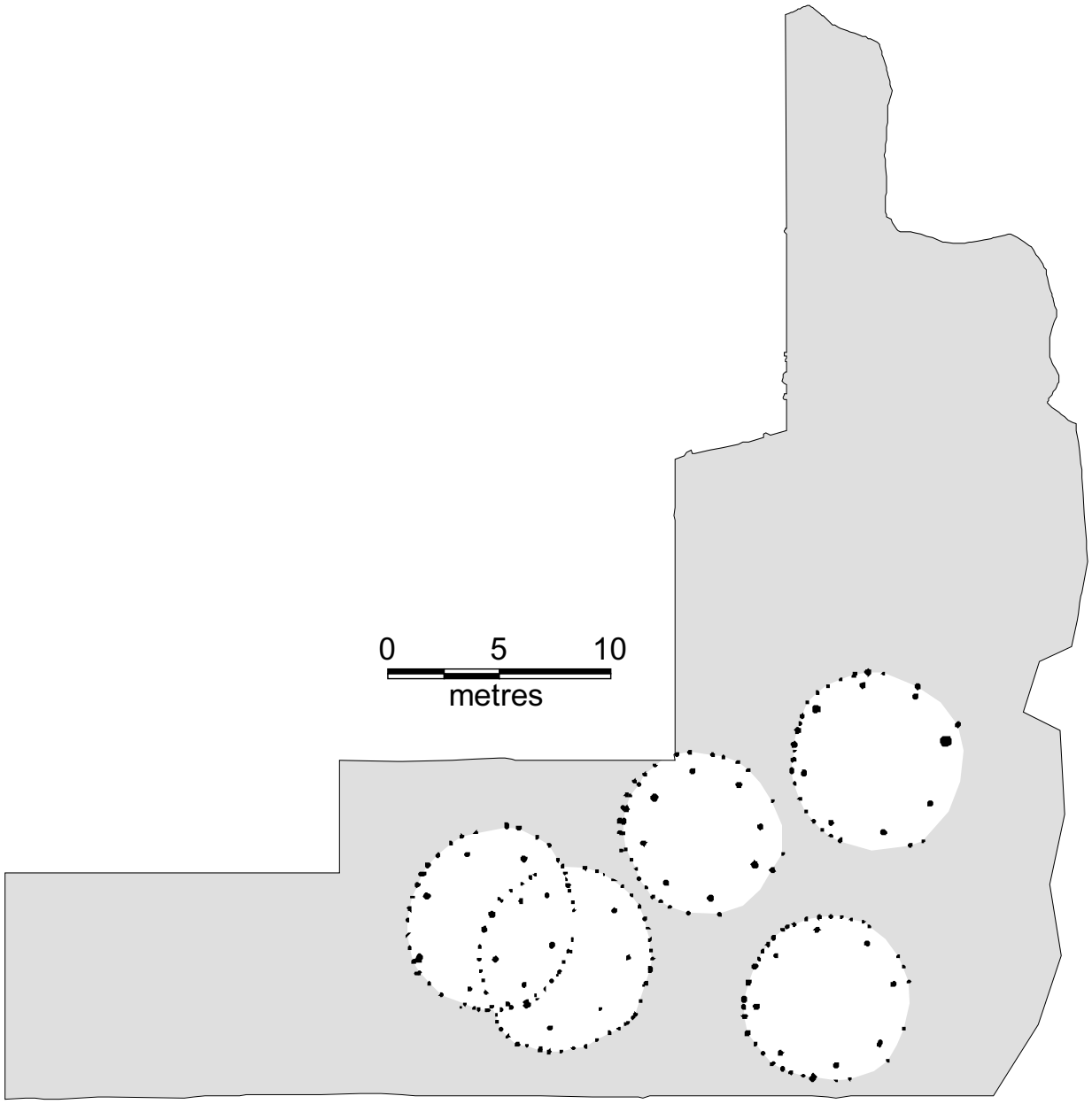


Figure 145. Phase a *structures.*

Moreover, from the point of view that a new house might not be built with its entrance oriented on the back of an abandoned structure (where rubbish accumulates), it is suggested that the start of the sequence is on the cliff edge and moves westwards (inland) over time (a trend also witnessed in subsequent phases).

The positioning of this Phase *a* at the start of the whole sequence is debatable. Arguments in favour of this are that unlike the other structures, none of the Type 2 structures seem to bear any relation to the north-south fence row(s), but appear to follow an unrelated yet coherent trajectory of their own. Seeing as building trajectories in subsequent phases are related to these fences and continue up to colonial times, and the settlement was more than likely abandoned in the decade after contact, it seems reasonable to place Phase *a* at the start of the habitation sequence in the unit.

It is tempting to also assign Structure 5 to this phase (Fig. 146). The half which is exposed suggests this may be a Type 2 structure, and its location fits the pattern of displacement shown in the rebuilding of other structures in this phase. Evidence from artefact distribution, however, indicates that the location

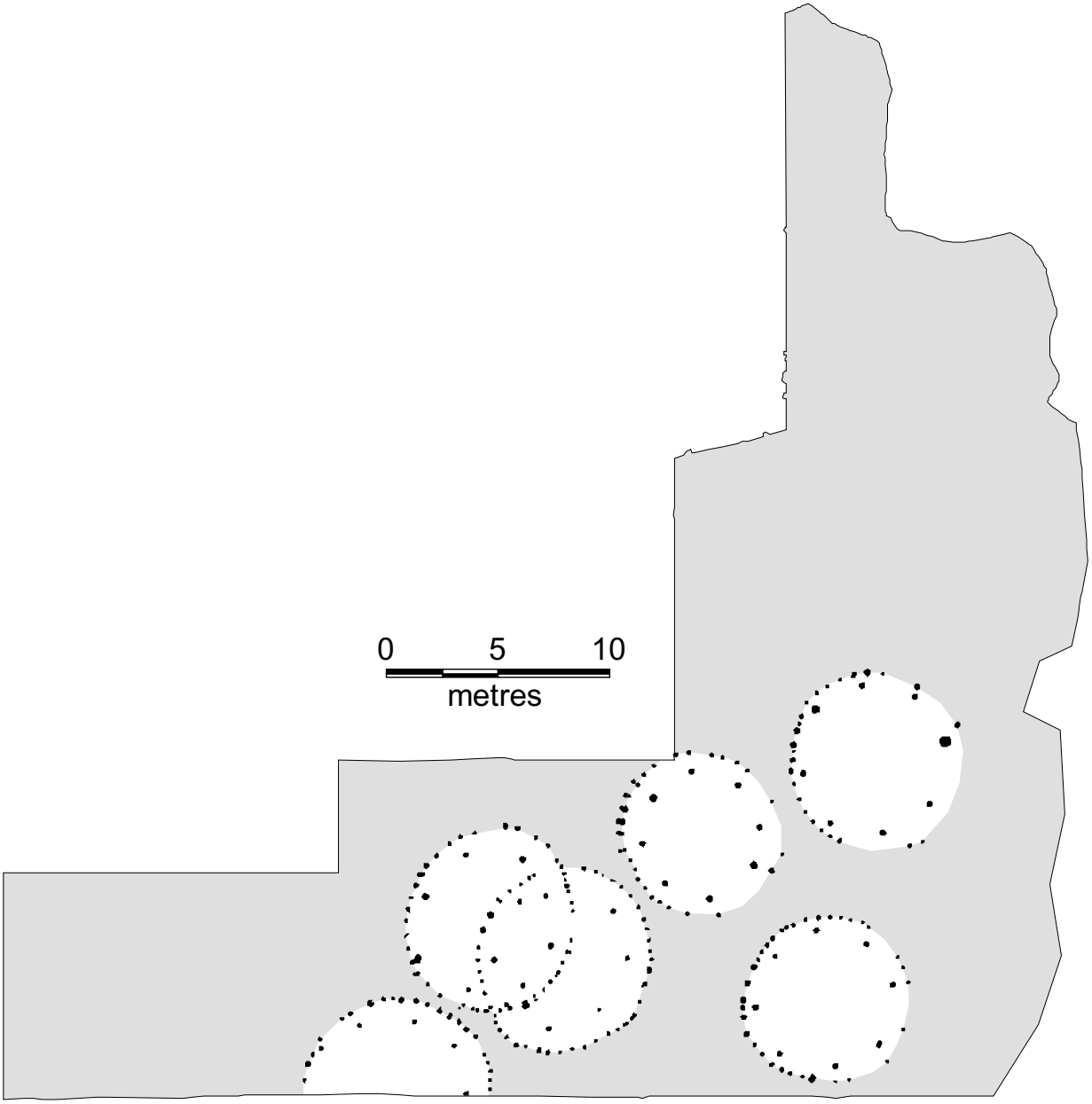


Figure 146. Phase a *structures with the addition of Structure 5.*

of Structure 5 is one of the areas of latest habitation in the unit, as it is the cleanest. This is at odds with the arguments presented above for the placement of Phase *a* at the start of the habitation sequence. Only excavation of more of Structure 5 or recovery of dateable material from this structure would resolve this question, and therefore at this stage an interpretation is preferred which does not incorporate Structure 5 and which places Phase *a* at the start of the sequence.

In a second variation of Phase *a*, four additional structures are added (Fig. 147; Structures 8, 12, 46, and 51). These are more flimsy sheltered special-activity huts (Type 5), consisting of outer perimeter walls, but no internal structure. As stated in the structure typology, these structures are not deemed to be houses, but ancillary structures. There is no evident one-to-one relationship between the five main structures and the four work huts in the unit, although each house probably made use of such (a) hut(s). The reason to relate them to this phase is that spatially they concentrate in the same area as the Phase *a* houses.

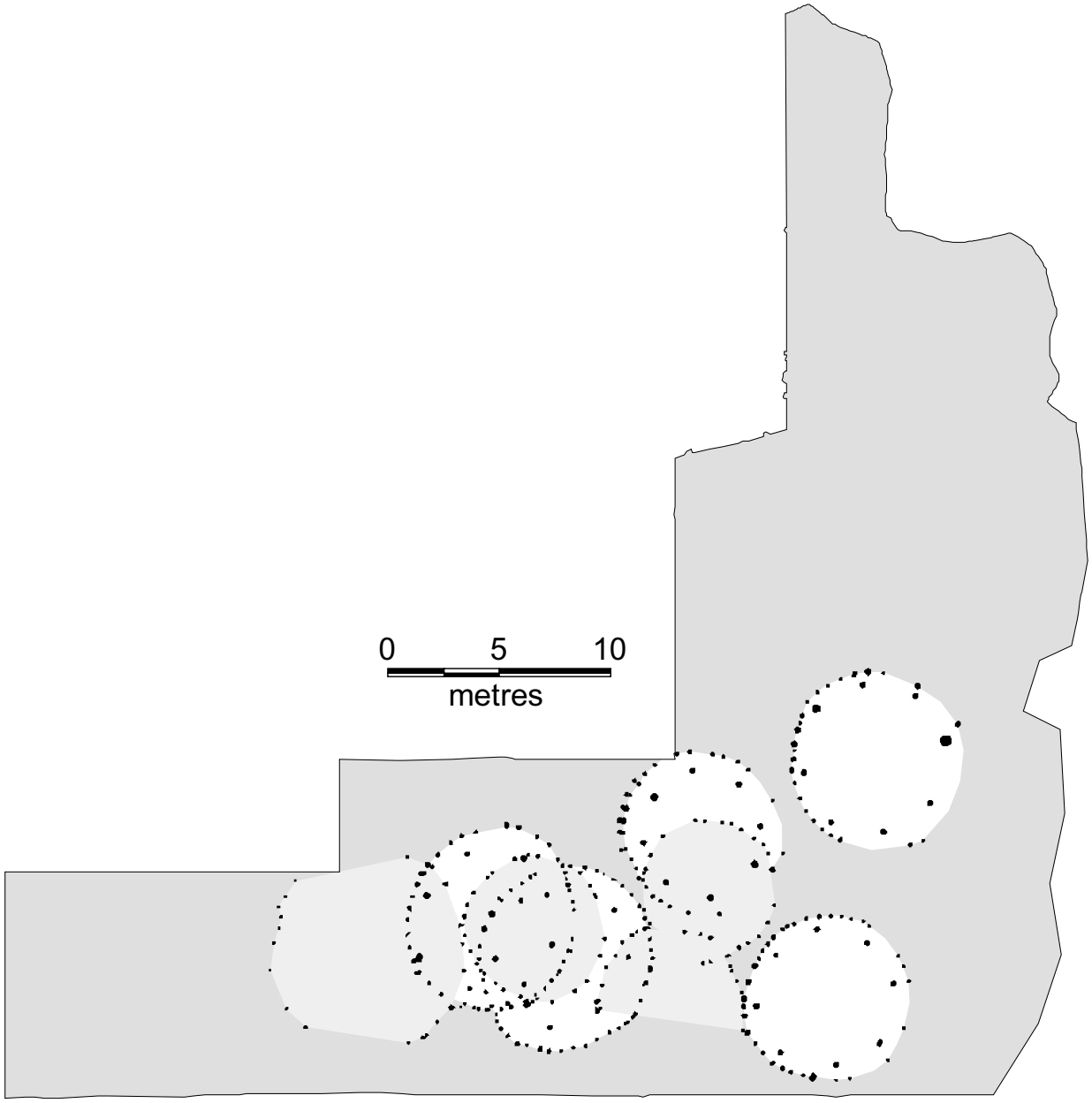


Figure 147. Phase a *structures with the addition of sheltered special-activity huts.*

This phase is tentatively dated to the 9th and / or 10th century AD. This is based on indirect evidence from dated marine shell (GrN-29932, AD 748-983, 95% probability) and the presence of exclusively Chicoid material culture in the unit. Both pieces of evidence, although not directly related to any of the structures of this phase, help define the start of habitation in this area.

6.1.2 Phase b

Phase *b* (Fig. 148) is represented by two structures: a Type 1 house (Structure 3) and an associated wind-break structure (Structure 18).

The wind-break closely (< 1 to < 2.5m away) hugs the contours of the house, which was extensively re-built, using the same entrance and the internal and half the perimeter postholes. The windbreak structure for an individual house is later replaced by a more extensive structure shielding multiple houses in the next phase (see below, Phase *c*).

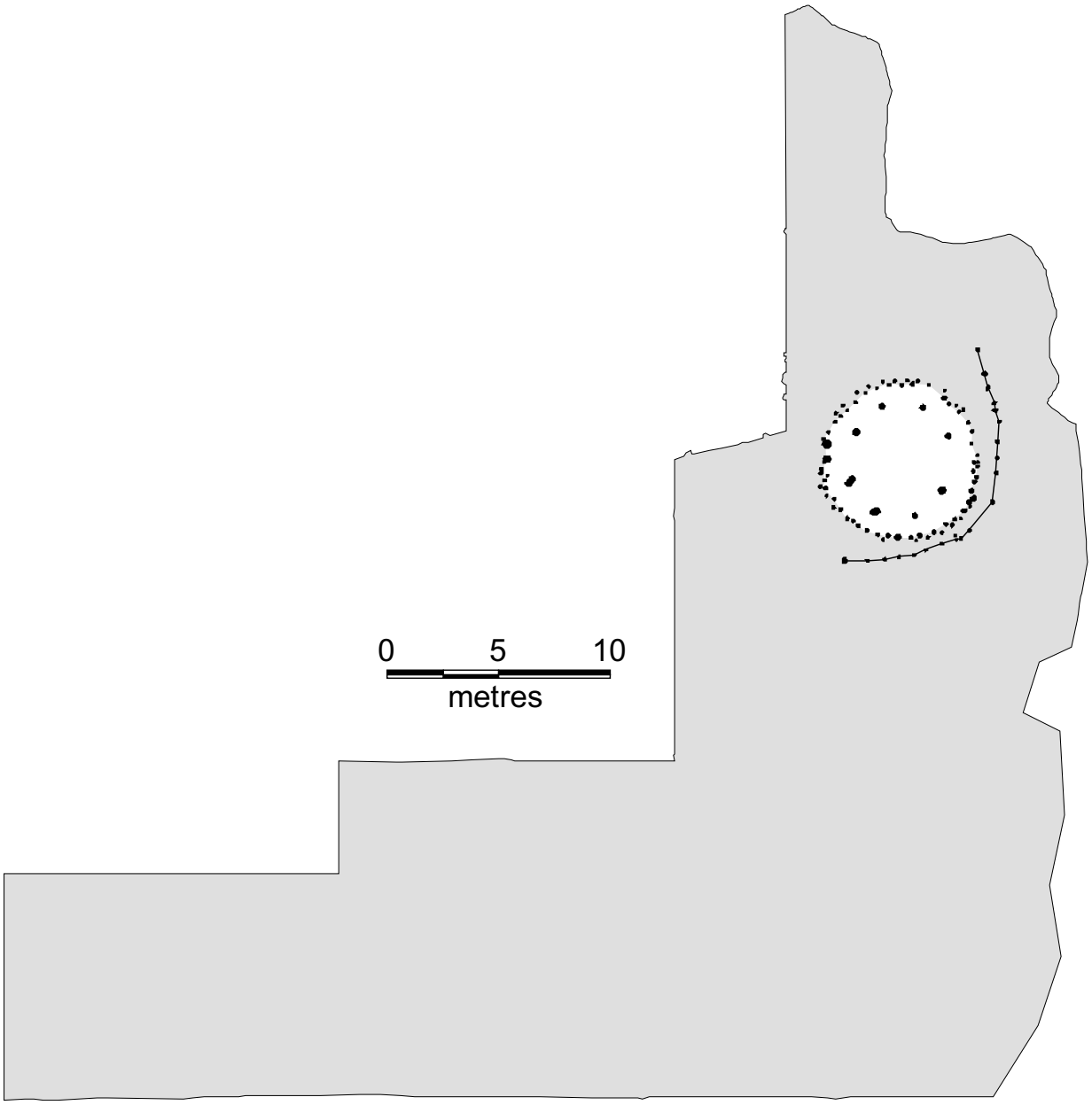


Figure 148. Phase b *structures.*

6.1.3 Phase c

Phase *c* (Fig. 149) sees an expansion along the edge of the cliff, in which seventeen additional structures[150] were built behind the longest fence in the unit, Structure 16, built either to shelter the expanding village from the sea winds, or to prevent people toppling off the top of the cliff. Although it is not possible to narrate the precise sequence of events, at least three distinct sub-phases can be distinguished in Phase *c* which are nevertheless seen as related events in one phase because the structures are renewals of each other and belong to the same types.

A possible sequence is described as follows: Whilst Structure 3 was still inhabited (maybe in its 2nd phase of re-building), Structure 20 was erected over 5m away to the south. Subsequently, both Structures 3 and 20 were twice renewed with some lateral movement inland, continuing the legacy of the Type 1 structures on these two spots (Structures 23, 24, 1, and 34). The fact that these two

150 Structures 1, 3, 4, 10, 12, 14, 15, 16, 20, 23, 24, 26, 28, 34, 42, 46, and 49. It may also be the case that the enigmatic alignments 35 and 36 belong to Phase *c* also, due to their seeming relationship with Structures 23 and 24.

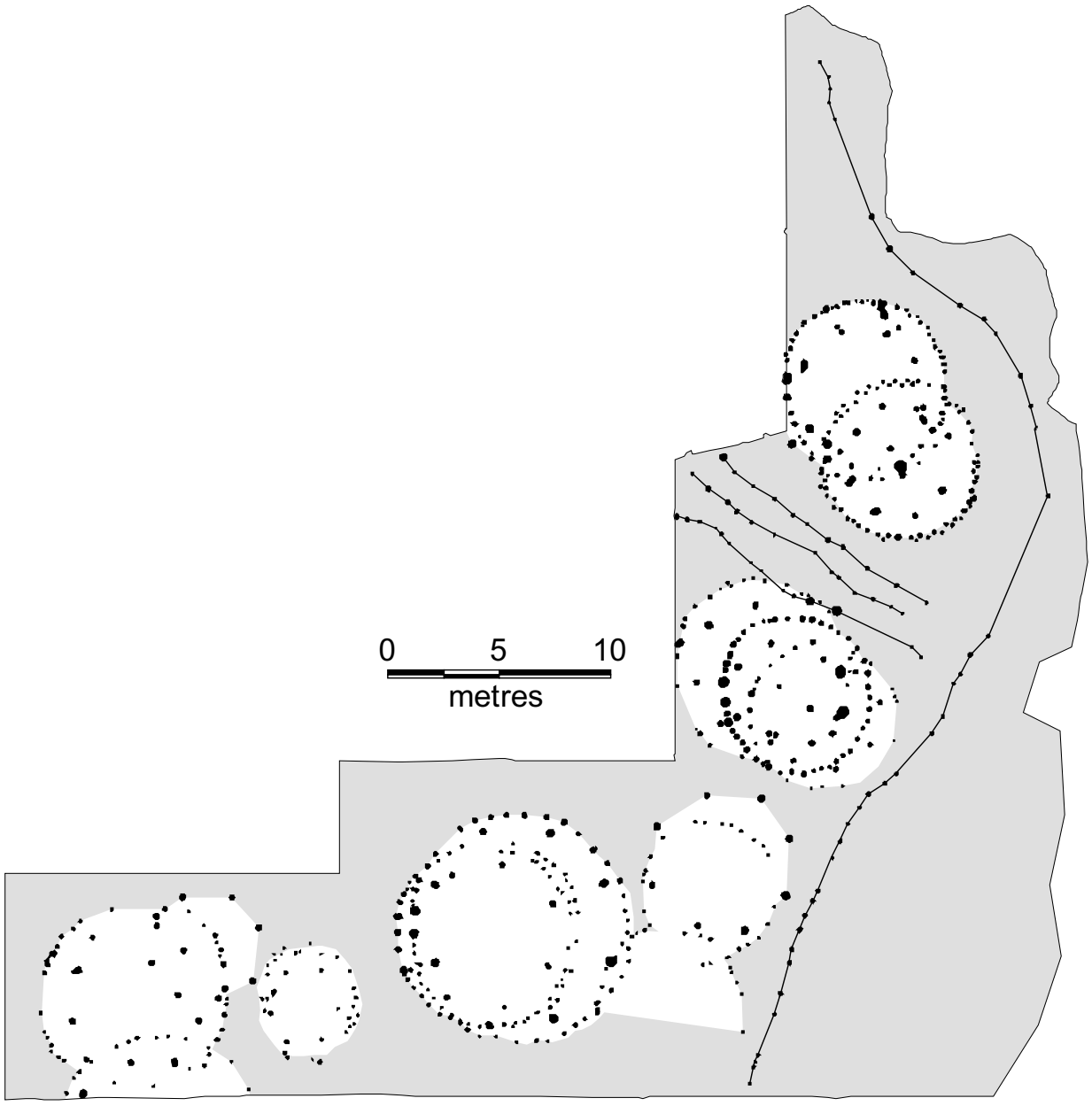


Figure 149. Phase c *structures.*

sequences were contemporaneous is indicated not only by the windbreak/fence (Structure 16) which brackets both sets of structures, but by the erection of three successive post alignments of unknown function or significance which nevertheless signalled a relationship between them.

Six additional Type 1 house structures also existed during the aforementioned sequences, as well as four ancillary structures. It is proposed that Structures 14 (in the middle of the unit) and 42 (in the west), of which the latter unusually opens to the east to face it, may have been contemporaneous with each other and also with the early sequence structures to the north (i.e. Structures 3 and 20). The octagonal canopied Structure 10 may also have belonged to this stage. If the Type 5 sheltered special-activity huts also belong to this phase (and not Phase *a* as suggested above), then Structure 12 may also have been in use before or after Structure 10 in this phase.[151]

151 Although not replacing each other seeing as these are clearly different sorts of structure (see structure typology).

Thereafter, Structure 14 was renewed as the larger Structure 4, and canopied Structure 10 was replaced by Structure 28 to the west. The east-facing Structure 42 was abandoned and other house structures, for example Structure 26, replaced it. To the north, the renewal sequences continued with Structures 24 (replacing Structure 3) and 1 (replacing Structure 20). This was all happening sometime in the 11th and 12th centuries AD based on the dating of Structure 1 between AD 1020 and 1180 (95% probability).

The last stage in this phase is the habitation of Structures 23 and 34, along with at least two stages of rebuilding of smaller Type 1 Structure 15, possibly functioning as a house, or perhaps connected to one or multiple of the other, larger Type 1 houses for housing the ancestors and community valuables (Structure 15 is the location of two pieces of stone collar, see 6.2.5). Sheltered ancillary Structure 46 may also belong to this phase (if, as mentioned above for Structures 12, it doesn't belong to earlier Phase *a*).

6.1.4 Phase d

In the same way that sequences of renewal began to emerge in Phase *c*, continuing the Type 1 structure from Phase *b*, so Phase *d* sees continuation of these same sequences in the later-14th, 15th and early-16th century settlement (Fig. 150). Eleven structures[152] are assigned to this phase, which can be further divided into two sub-phases.

The long fence Structure 52 is erected as a replacement of the earlier coastal windbreak (Structure 16), but displaced a maximum ca.14m inland. This provides protection for the structures built behind it, namely the renewals of the two northern sequences (29 and 30 to the north and 21 and 38 to the south), still separated from each other by a fence.

Now, however, a smaller Structure, 25, appears on the sea side of the fence. The reason to suggest it belongs here instead of in Phase *c* is that it was probably positioned to take advantage of the lookout or other properties of the cliff edge location. In Phase *c* it would have been behind the fence, rather than in front. Of course, this structure may have belonged to earlier or later Phases *a*, *b* or *e*, but seeing as Phases *c* and *d* represent most expanded phases of development in the unit, and given its potentially strategic location, it seems reasonable to assign it to this phase.

Further south in the unit, canopied structure 50 and the large Type 3 house (Structure 6) appear. Structure 6 is dated to the late 14th century, so we should envisage the activities described in this phase taking place in and around the decades of the 14th and early 15th centuries.

In a later stage of this phase, a small Type 1 structure, Structure 43 appears as a renewal of structure 15. And again, if the sheltered ancillary structures of Type 5 belong to this phase rather than to Phase *a*, this would be snug against the fence (in fact, the existence of multiple possible postholes of the fence here suggest it may even have been displaced to accommodate Structure 8).

The bottle glass in one of the posthole fills of Structure 30, the last in the northernmost sequence of house renewals, indicates that this phase takes us into the colonial period and possibly the first decade of the 16th century.

152 Structures 6, 8, 21, 25, 29, 30, 38, 43, 49, 50, and 52.

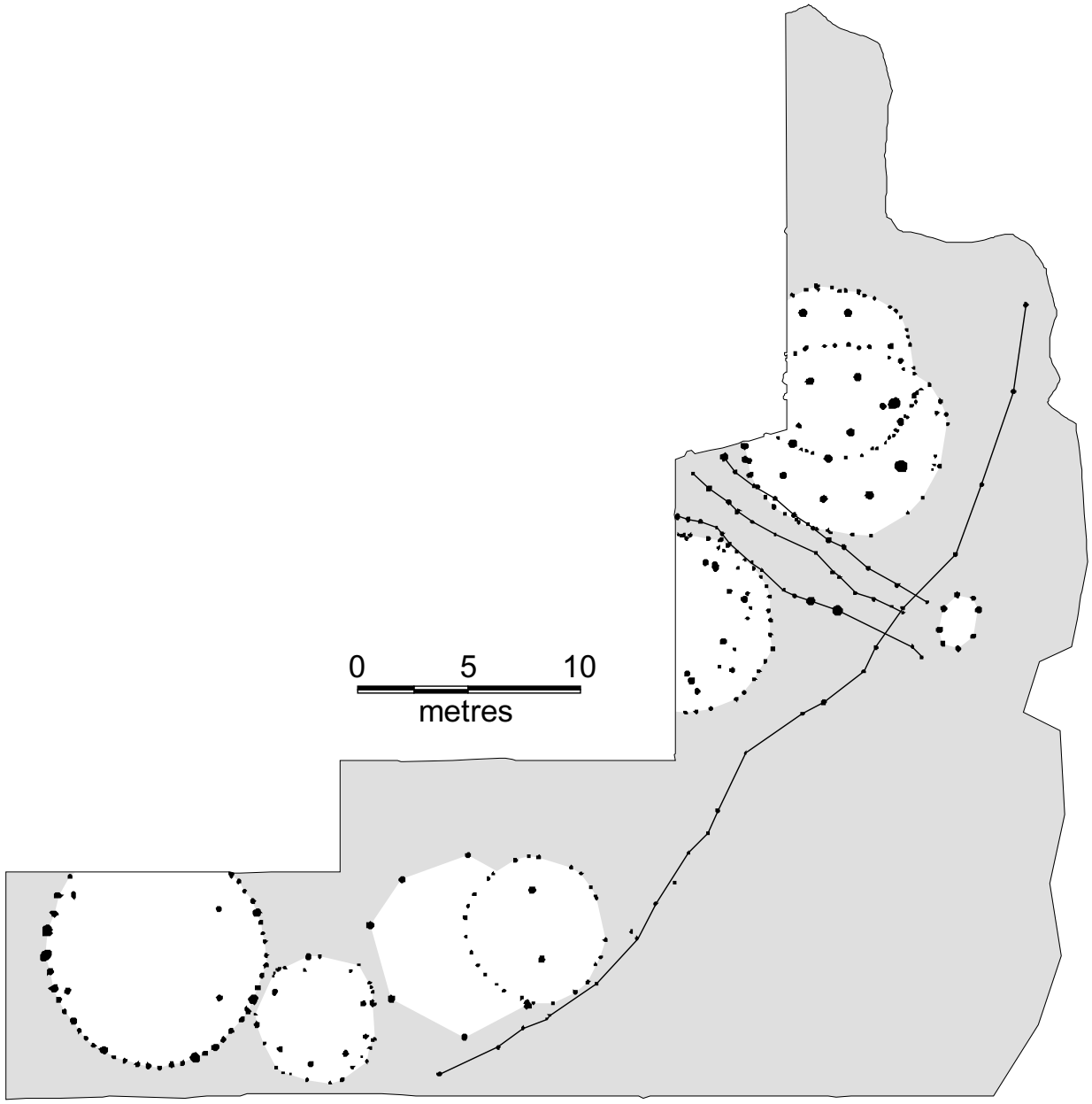


Figure 150. Phase d *structures.*

6.1.5 Phase e

Three structures, Structures 17, 22, and 27, are assigned to Phase *e* (Fig. 151). These are a house structure of Type 4, and a renewal of the same (Structures 22 and 27) and an inclining windbreak associated with these structures (Structure 17). Due to the change in orientation to a northwesterly entrance, they merit placing in a different phase. The very thin artefact density in this area of the unit, thought to be related to these structures due to the fact that the sweeping distribution respects their boundaries, places this phase at the latter end of the sequence. However, seeing as the colonial material associated with the Phase *d* structures is thought to mark the latest phase, and also the end of habitation in El Cabo, this is problematic. It may well be that the structures in Phase *e* actually relate to the first phase of habitation in the unit and are oriented northwest because this is the direction of the earlier, Ostionoid habitation (Fig. 80). Moreover, as was remarked earlier, the west of the unit had a minority of earlier, pre-Chicoid ceramics. The relative chronology of phase *e* is therefore the least secure of all five phases. However, the difficulties associated with this phase ultimately have minimal impact on the overall interpretation as we shall see below.

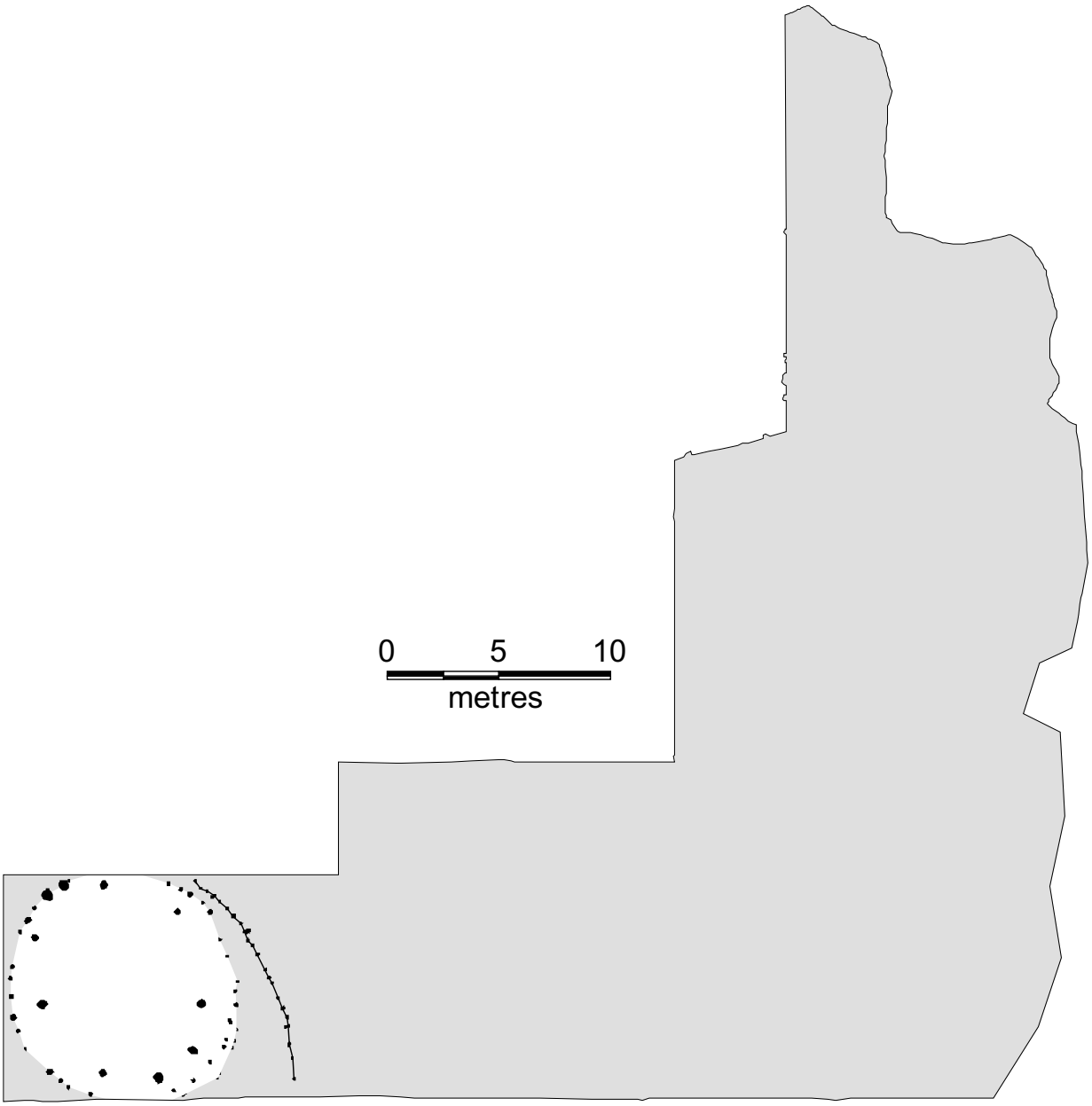


Figure 151. Phase e *structures.*

6.1.6 Discussion of phases

The structures in the main unit appear to represent continuity in habitation from the 9th/10th to the early-16th century. What started as a succession of single houses, possibly, but not necessarily in isolation from others, developed into a group of multiple contemporaneous houses arranged in a linear pattern, parallel to the cliff edge.

As can be seen from the above descriptions of the various phases, despite synchronic uncertainties, a clear picture emerges of diachronic continuity, whereby structures are replaced by other structures of the same type. This starts in Phase *a*, whereby five (and possibly six) house structures of the same type succeed each other in adjacent or overlapping plots. The next three Phases (*b*, *c*, and *d*) see more iteration of building practices whereby the same type of house is renewed in the same location again and again over a longer period of time. Directionality of house moves and reiteration of post alignments indicate renewal occured in tandem with neighbouring houses. In the clearest case, structures in two clusters in the north of the unit occur ten times so that basically the same house is rebuilt or minimally displaced five times each on either side of a series of post

alignments. This happens in other locations in the unit such as with the small Structures 15 and 43 rebuilt over Phases *c* and *d*, or the renewal of structure 14 with Structure 4, and the renewal of Structure 22 with 27 (or *vice versa*) in Phase *e*. Such rebuilding not only occurs for house structures: special-activity structures also undergo the same replacement, as do fences.

6.2 Longevity of the estate: House Trajectories in a diachronic perspective

In this section, the durable institutions referred to as House Trajectories will be described. Examining the structures as House Trajectories frees us from problems of relative chronology (i.e. which structure came first, second and so on), and instead highlights one of the most significant aspects of the data patterning: The way the house structures reproduce themselves again in identifiable clusters. Multiple house structures are rebuilt again and again which over time develop as institutions of considerable material and thus social longevity. The diachronic continuity, seen in the development of related sequences of houses reproduced by successive households especially in Phases *a* to *d,* leads to the renewal of what is in effect the *same house*. What emerges is a long-lived entity which is more durable than its inhabitants; in effect, it is the material manifestation of the perpetuation of an estate. The architecture of the estate, including the house, related structures and relationship with other houses is periodically reproduced as a conscious action of renewal by its inhabitants. "Renewal" is used here to describe the periodic and planned foundation of a new structure as a new incarnation of the house. Renewal is distinct from rebuilding or replacement as it emphasises an agent-led decision based on cultural and social norms, rather than an action born of functional necessity (maintenance). Given that house sequences move in tandem in several cases, the renewal of houses appears to mirror each other. It is suggested that renewal was a coordinated process, in which not just one house, but also its neighbours were relocated and reincarnated in planned sequences with each other.

The entities which emerge and are perpetuated through the centuries can be usefully referred to as *House Trajectories*. In El Cabo we clearly see the development of several House Trajectories, some more durable than others and some with clear relationships between them (Fig. 152). Table 4 indicates which house structures (not including ancillary buildings) belong to the six House Trajectories identified, and also gives a generalised indication of the phases in which the individual structures occur.

House Trajectories will be described from north to south, rather than in chronological order as was the case in the last section on phasing. More detailed characteristics, including the nature of the relationships between the House Trajectories and their similarity to other houses across the site will be discussed in later sections. Moreover, the House Trajectories discussed in this section are

Table 4. Structures per House Trajectory (HT) and an indication of the phases to which they belong. Note the table divisions are not strict indications of contemporaneousness. For example, Structure 3, which was rebuilt, may have existed contemporaneously with Structure 20 in the next phase.

Phase	*a*					*b*	*c*			*d*		*e*	
HT 1						3	23	24		29	30		
HT 2							20	1	34	21	38		
HT 3	2	7	9	11	13								
HT 4							14			4			
HT 5							15			43			
HT 6												22	27

those which show evidence of their deliberate renewing. This includes most (84%) but not all house structures. An obvious omission is Structure 6, which overlaps with House Trajectory 6, but is of another type and phase.

The structures excavated in the main unit will be placed in the context of the whole late-phase site later in this chapter (Section 6.6), however, for now it suffices to state that the structures in the main unit represent the majority of one habitational cluster, referred to as a "house group". Although there are clearly structures which fall outside the boundary of the excavated area, the surrounding area has a lower artefact and feature density. Evidence presented later on suggests that house groups functioned as households.

6.2.1 House Trajectory 1

House Trajectory 1 consists of five superimposed Type 1 structures in the north of the unit which range from 37 to 60m² (Fig. 152). None of the structures is directly dated, but the largest structure of the cluster (Structure 30) bore two pieces of glass in one of its internal postholes, and therefore can be assumed to have been abandoned sometime in the first decades of European contact. We could place this after AD 1504 (just after the wars of Higüey), or perhaps a few years later. The size of the structures increases over time so that the smallest, Structure 3, was the first in the sequence and the largest, Structure 30, the last. The similarities with the other Type 1 structures from House Trajectory 2 to the south, one of which is dated to the early-12th century, and the fact that these House Trajectories seem to have developed in parallel fashion due to the thrice repeated post alignment between them indicates that this House Trajectory may have endured for up to 500 years (see description of House Trajectory 2, below, for the origins of these houses). Several other items of European import were encountered in the location of this House Trajectory, although in general, hardly any other material was recovered from this area due to surface erosion.

6.2.2 House Trajectory 2

House Trajectory 2 consists of five superimposed Type 1 structures which range from 31 to 50m² (Fig. 152). Unlike for House Trajectory 1 there is no linear increase in size through time. Here, the latest house, Structure 38, is also the smallest in the sequence. Structure 1 dated between AD 1020 and 1180 (95% probability), is one of the early houses in the sequence, but given its location possibly not the first. Hence, the possibility that House Trajectory 2 had its origins in the early 11th century. House Trajectory 2 is spatially associated with the majority of the colonial material (see later Section 6.5.7.4) which collects around the back of the latest structure in the sequence (Structure 38) and was prevented from spreading to the north by the alignment between House Trajectories 1 and 2. House Trajectory 2 is also spatially associated with some of the most elaborate examples of Chicoid material culture recovered in El Cabo, including the largest trigonolith and the *guaíza*, found close to each other in a small natural depression in the bedrock just in front of the fence and outside the perimeters of the house structures (Figs. 162 and 165).

There is an assumed close and contemporary relationship between House Trajectories 1 and 2, which may have been renewed in synchronous cycles with each other. The nature of the alignments between them, although expressing this relationship, is ambiguous.

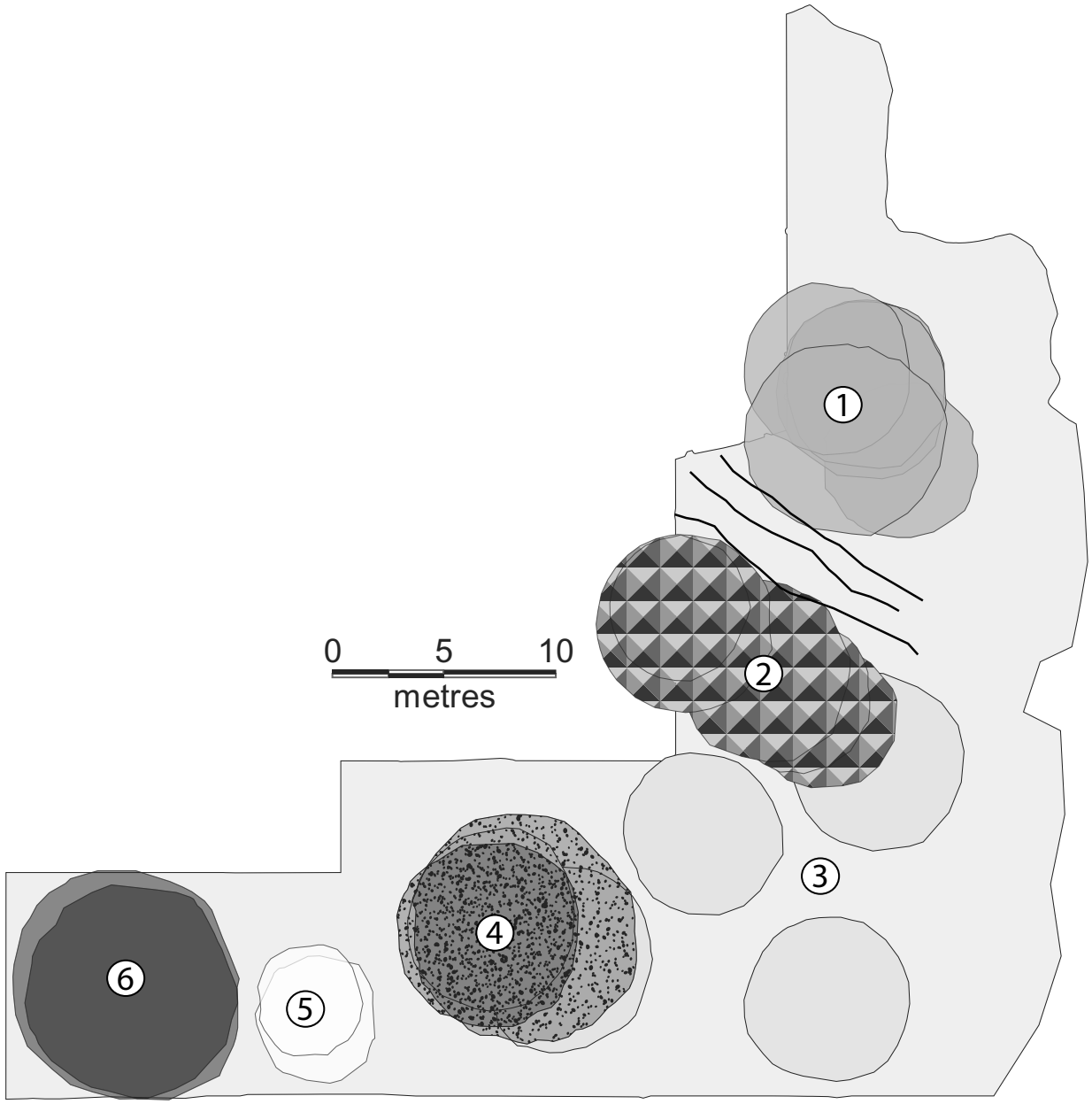


Figure 152. House structures shaded according to the six House Trajectories.

6.2.3 House Trajectory 3

House Trajectory 3 consists of five generally non-overlapping Type 2 houses in the southeast of the unit (Fig. 152). Structures are closer in size, between 43 and 50m², than the previous House Trajectories. There was a preference in House Trajectory 3 to move to a new spot, 1 to 4m away, when the house was renewed, unlike for the previous trajectories in which there was a preference to build on more or less the same spot each time so that foundations show considerable overlap.

6.2.4 House Trajectory 4

House Trajectory 4 consists of two overlapping Type 1 Structures, 54 and 81m² in floor area (Fig. 152). The larger Structure 4 is a renewal of the smaller Structure 14. House Trajectory 4 was probably contemporaneous with one or more of the manifestations of House Trajectories 1 and 2.

6.2.5 House Trajectory 5

House Trajectory 5 consists of at least two and possibly more renewals of Type 1 structures (Fig. 152). Whether the structures of House Trajectory 5 were actually dwelling structures is questionable due to their particularly small size in comparison to other Type 1 house structures, [153] and their lack of striking entrance features so common to the other houses. House Trajectory 5 structures have deep-set or hidden (i.e. difficult to identify from the plans) entrances. Structures making up House Trajectory 5 are 19 and 24m², whereas other Type 1 structures encompass between 30 and 60m² in floor area. The small difference in floor size between the renewals of this structure indicate that it was not simply a young house (for a small household), but purposefully remained small throughout its history. In summary, these are long-lived, small structures with possibly obscured entrance ways. Moreover, their unique association with certain community valuables also sets them apart. It is proposed these structures had a distinct function as *cemí* houses (Section 6.3).

6.2.6 House Trajectory 6

House Trajectory 6 consists of two renewals of Type 4 houses (Fig. 152). It is possible that more examples of this type occur in the area, but as these are large houses (72-82m²) in a narrow area of the unit very dense with posthole features, only two are secure. House Trajectory 6 is one of the least well understood in terms of chronology and the context of the houses with respect to the others in the unit (Section 6.1.5).

6.3 The development of estates and their interaction

It was proposed above that House Trajectory 1 may have been in existence for 500 years. The same is also proposed for House Trajectory 2. House Trajectories 4 and 5 also endured throughout multiple phases, and House Trajectories 3 and 6 are of unknown duration, but rebuilding suggests multiple generations. This implies that unlike the maximum fifteen years life expectancy of vernacular architecture in Amazonia (Hugh-Jones 1979; P. Oliver 1997:1621; Schinkel 1992), each house in El Cabo embodied considerable continuity, and theoretically may have endured for several decades to anything up to a century. This is based on a defensible estimate that if each house in a trajectory were inhabited for an equal amount of time, and the longest House Trajectories (1 and 2) each consist of five houses and spanned a period of 500 years (based on C14 dates from one of the earliest structures and the presence of European material in a posthole of one of the latest), then this would imply that each structure could have been in use for about 100 years. Of course this is a crude calculation to underscore the longevity of the structures, and may not reflect the real temporalities of foundation or abandonment. Nevertheless, it highlights that the lifespan of a house is not dependent on the wood-life of a post. It is dependent on cultural choices. It is quite possible that new timbers replaced old posts in the same holes in the solid bedrock. Replacement of structural elements to prolong the life of the house has been documented for Los Buchillones (Pendergast et al. 2002). These time spans indicate that when it comes to Caribbean houses ethnographic projections from Amazonia may not always be appropriate. This is

153 Small size in itself is not problematic; it simply has implications for the number of inhabitants. The small structures (ca. 5m diameter) from MC-6, for example, are perfectly acceptable as dwellings.

not just due to the drier, coastal conditions of many Caribbean settings which increase lifetimes of structures but also because of cultural differences which led to the development of large and continuous settlements in the Caribbean. El Cabo and Los Buchillones do not provide the only example of long-lived pre-Columbian houses. Structures from the Tutu and Golden Rock sites are estimated to have lasted 10-50 years (Righter 2002a:336; Schinkel 1992). Yet evidence from the El Cabo House Trajectories is perhaps the most compelling evidence to date that pre-Columbian Caribbean architecture and social institutions were more durable than on the mainland.

In the trajectories above, we can see the deliberate perpetuation of multiple estates. Evidence such as the alignments between houses, architectural similarities and contemporaneity suggests certainly two, if not four of these estates co-existed (House Trajectories 1, 2, 4 and 5). We see for example the development of parallel estates over time; starting with Structure 3 (Phase *b*) which later on is joined by the neighbouring Structure 23, several metres to the south. Subsequent renewals of both these houses on their different but neighbouring spots move in parallel fashion, so that their subsequent reincarnations mirror each other. These houses, throughout their considerable history are divided by three separate rebuildings of the same post alignment (Structure 49). This barrier is very interesting. The desire for privacy or the partitioning of space in Amazonia is rarely expressed in physical boundaries,[154] so its interpretation as evidence for an antagonistic relationship between the two neighbours is unlikely. The alignments are 11 to 13m long and not particularly regular. They may represent domestic tools. But whatever their function they indicate these houses were intimately linked throughout their 500 year co-histories.

House Trajectory 5 has a unique association with *cemí* artefacts; two stone collar parts have been found along their inside walls (Fig. 165). Moreover, these are smaller structures with possibly obscured entrances. Pané mentions that *cemí* idols resided in the same houses as people, but that others were accommodated in houses erected especially for them. That House Trajectory 5 was the residence of *cemí*s, or the repository of regalia should be considered. If this was so, then the question remains how was this *cemí* house related to other House Trajectories in the house group or to the whole *yucayeque*? Was there an affiliation between a particular House Trajectory and this *cemí* house? Or was this a communal storeroom for the house group's sacra? Although speculative, it is proposed that House Trajectory 5 may have been affiliated to one or more of the existing House Trajectories 1, 2 or 4 which at some point in their sequences accrued and maintained a *cemí* house. Evidence from the survey (presented in Section 6.6) further strengthens this proposal as it suggests that the houses in the main unit form most of one discrete house group rather than just one part of a large nucleated habitation area. The fact that the community was divided into spatially separated house groups implies close relationships between houses in a group and a likelihood that regalia was accessed by or functioned within the whole house group.

In the next section the dynamics of renewal will be discussed in terms of the lifecycle of the House Trajectories.

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154 This being generally expressed conceptually or through avoidance and body language. In the case of contact-period Hispaniola, Las Casas remarks with incredulity that when the Spaniards arrived at a village, the inhabitants put a few thin sticks in front of their house doors – as if this was a significant barrier (Las Casas 1875: Bk 2. Ch. 99:31)! Clearly what was being expressed was a refusal of hospitality, not the construction of a barricade.

6.3.1 Trajectories of renewal: The life cycle of the House Trajectory

The lifecycle of the House Trajectory is described in terms of the foundation and abandonment of individual structures within the bigger cyclus. Individual structures are stages within a longer narrative, and as such whenever "new" houses are built it is always in reference to forebears, and when "old" houses are abandoned, they are reincarnated in subsequent structures. Conscious and deliberate choices were made periodically to renew the house. This has implications for the indigenous conceptualisation of domestic temporality, cosmology, for the creation of place and for the transmission of social and cultural values. Trajectories of renewal can be described in terms of a *chaîne opératoire* to elucidate the various stages of construction/renewal, living, abandonment, closing, and again, renewal.

6.3.1.1 Construction/Renewal

As seen in the last section, houses of the same type were built over each other again and again. House design remained the same, and house sizes did not change significantly between structure renewals (significance here is calculated in terms of inhabitant numbers, see Section 6.8). Hence the builders could have used the same postholes. Instead the inhabitants favoured starting from scratch, relocating, by as little as 50cm to a few metres. So refusal to re-use has to be explained by other than functional means. As mentioned, this practice is referred to as *renewal*. Renewal is different from rebuilding or repair, as it results in making a new foundation out of cultural (not functional) necessity. Renewal was not an act of maintenance; it was an act of reincarnation, and can be seen as the materialization of estate propagation. This is now described in more detail:

Of the 52 structures, over 40% (n=21) do not share features with any other structure. This leaves 31 structures which *do* re-use features. The re-use of features seems to have been incidental, rather than a persistent strategy. In most cases, structures share very few of their features with other structures (usually in the range of 1 to 5 features).[155]

One might wonder why re-use did not occur more often. In particular in the case of the large features in the bedrock, it would have saved considerable effort to reuse postholes. Instead the inhabitants favoured starting from scratch to a carefully chosen plan regardless of existing postholes, rather than departing from this to exploit former features. This is evidenced by the occurrence of many double or triple intersecting features (rather than re-use of an adjacent feature), which in the majority of cases relate to separate building events, rather than as composite structural elements of the same building (for support posts etc.). See Figure 153 for an example of this.

An obligation to periodically renew the structure does not mean that timbers were not replaced. It is quite possible that new posts were put into the same holes within the lifetime of one particular house structure. The permanence of postholes in the bedrock mean that posts could be replaced multiple times into old sockets. This means that although at certain junctures in the historical course of the House Trajectory the structure was renewed, there may have been multiple episodes of replacement in which new posts were put into the same postholes. At

155 In terms of reconstruction methodology, it is often evident which features can be assigned more than once as these are postholes with non-circular, often oval plans, which are larger than expected for the position they occupy within a particular structure. In other words, what appear as large perimeters features in one structure, can serve as entrance or internal features of another structure (this for example is the case with the large perimeter features in Structure 29).

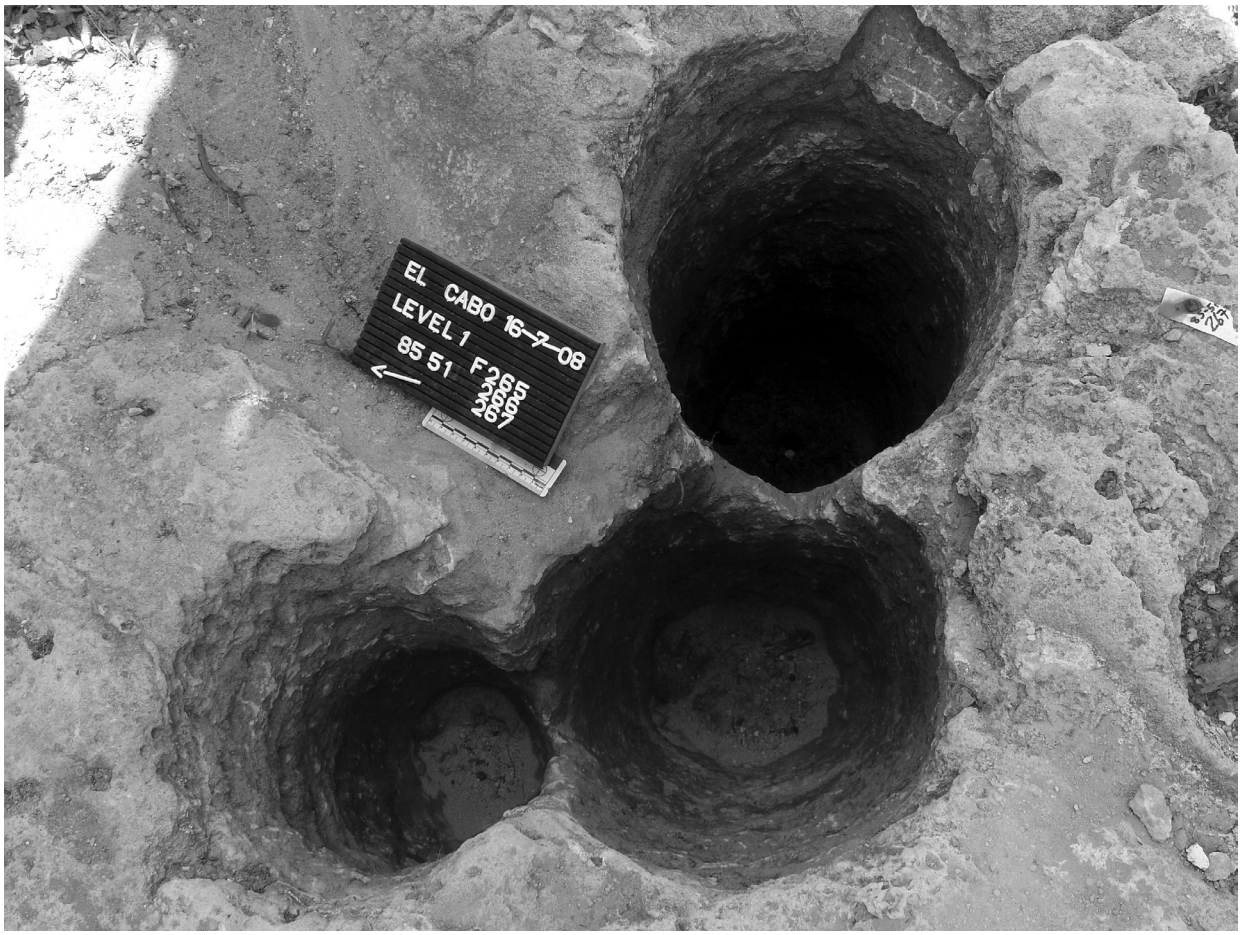


Figure 153. The two largest postholes on the right hand side supported roof-supports for two non-contemporaneous structures in a House Trajectory (Structures 3 and 29). Their proximity and the fact they intersect at the top indicate builders were aware of the presence of an existing, equally large (30cm diameter) and functional posthole in the area, but chose to make another instead of reusing the existing one.

the site of Caguana, Puerto Rico, the detailed descriptions of burnt posts in two house areas in the early investigations by Mason reveal some postholes with the remains of three and four burnt posts in them (1941:247). Mason supposes that the features represent successive houses, occupying the same place (*ibid*. 237, 244). Bright hypothesizes that this may have been the case at Anse à la Gourde, Guadeloupe, where certain postholes in the bedrock may have been used again and again (Bright 2003:54).

Archaeological evidence which indirectly supports replacement of timbers at El Cabo is that the most common abandonment practice was removal of posts, so clearly the placement of a post its socket was not seen as a *fait accompli*, but potentially as one stage in a process of multiple replacement. Moreover, it was noted that whereas many postholes bore visible toolmarks, for others this was not the case. It may be that where toolmarks were not visible, long-term use and multiple replacements of posts may have worn these away. However, this remains uncertain and experimental assays would shed light on this practice. Periodic replacement may go some way to explaining how it is possible that individual house structures lasted up to 100 years.

Conversely, there may also have been numerous occasions when old posts were put into new postholes, i.e. when significant posts, such as those from the entrance or internal structure of the house were curated across several houses, becoming "heirloom-ed" in the process and embodying the continuity and longevity of the House Trajectory. These posts were emblematic of the House Trajectory in that they marked the ongoing relationship between the former house structure and the renewed, reincarnated house, the next one in the sequence. Such curation of wooden house elements is suggested at Los Buchillones

where a suite of dates in one particular, well-dated house structure spans 360 years which the authors interpret as evidence for conservation and re-use of earlier timber (Pendergast et al. 2002:70).

Moreover, there is evidence that making postholes was a significant activity in and of itself. This is suggested by the extreme regularity and care with which postholes have been manufactured, and also the careful symmetry of the different sizes of the various elements of the plan (an outstanding example is Structure 6). Generally speaking, vernacular house foundations, even when highly standardised, display irregularities. Disregarding post-depositional processes which can effect archaeological preservation, variation is often due to such factors as the different capabilities or body dimensions (used for measuring out parts) of the builders or different dimensions of construction materials. Imperfections not tolerated in steel and concrete buildings can be accommodated by the flexibility and yielding qualities of organic building materials. Why therefore are the foundations of the structures in El Cabo executed with such scrupulous exactitude? Again, this is not simply a functional concern, but points to the importance of the processes of manufacture and renewal. Construction itself was a significant activity.

The rules and norms governing house renewal are not known. However, the archaeology of the structures gives insight into many of the details of the process. The overlapping floor plans indicate that old houses were abandoned before new houses were begun, instead of being inhabited until the new structure was ready as if often the case in the tropical lowlands. Moreover, the synchronous renewal of multiple houses suggests that the happening was a coordinated, multi-house phenomenon. This suggests that the temporalities of renewal do not follow human biographical timescales such as generations, as has been suggested for house lifecycles in other areas of the world (Gerritsen 2001). House renewal was probably not related to the death or birth of household members. Comparable coordinated practices of house abandonment and reconstruction at Cahokia are interpreted as meaningful familial and communal activities (Pauketat and Alt 2005). It has been suggested that cyclical, coordinated renewal may have been related to cycles of ritual events and determined by these timescales (Peter G. Roe pers. comm. 2009). However, this remains a matter for future research.

6.3.1.2 Abandonment

Various abandonment practices are documented for the structures in the unit. Three structures were burnt down (Structures 1, 4, 6). Other structures (n=14) had their posts removed and the postholes back-filled. For a further 18 structures it was only possible to say that they had probably *not* been burnt on abandonment. The posts of these structures may have been left to rot *in situ*, removed and the postholes left open, or removed and the postholes back-filled. The remaining 17 structures have unknown abandonment sequences due to the fact that not enough features have been excavated, or not enough large features are excavated to draw conclusions.

So for 17 structures there is positive evidence of a particular abandonment practice, involving either burning or removal and back-filling of postholes. For the 18 cases of uncertainty, the option that the posts were left to rot *in situ* is not seen as likely given the palimpsest of building activities which meant that no

plot would have been left empty for long, the space being used for another structure. This suggests the proper way to leave a structure involved dismantlement by removal of house posts, and exceptionally destruction by burning.[156]

Evidence for the removal of house posts makes the practice of recycling, as referred to above, more likely.

6.3.1.3 Closing rituals

There is evidence for acts of structured deposition occurring in postholes of structures from all phases. Ten structures have items of bodily adornment or ceramic *adornos* in their features. Reasons to believe that these items were part of deliberate and structured practices are that: (1) their distribution is confined to the postholes of house structures (in nine out of ten cases), (2) that they occur in specific locations within the house: either entrance or internal postholes, or in perimeter postholes aligned on the internal postholes, usually in the north or south wall, and (3) they consist of specific types of artefacts, namely beads and pendants.[157]

Structure 1 for example has stone and shell beads in the front and back postholes of the internal configuration, as well as a stone bead in an entrance posthole, and a ceramic *adorno* in a posthole in the middle of the northern perimeter (Fig. 154).[158]

Other structures have one or two such finds related to them.[159] The only non-house structure to yield comparable finds is Structure 10, a canopied activity hut, one posthole of which contained a dog's tooth, perforated for suspension through the root.

Three Chicoid *adornos* and two pieces of European bottle glass are also considered probable deliberate depositions due to the fact that they conform to the depositional locations of the beads, whereas other artefact types (such as tools and decorated ceramics or griddle pieces), do not.

The question which arises is at what stage in the lifecycle of the house did deposition occur: at foundation or abandonment? Were these depositions intended to "dress" (i.e. give culture to) the house at the start of its life as part of the necessary cohort of rituals accompanying construction? Or were these abandonment deposits, left in exchange for the posts removed for the construction of a new house and to mark closure of the old house?

In the case of five of the ten structures with evidence for posthole deposition, it is thought that the posts were removed and the postholes back-filled on abandonment. The beads, *adornos* and bottle glass from these structures would then be best interpreted as abandonment deposits. This is especially clear with regard to Structure 29 in which a perforated and decorated dog's tooth was found halfway down the posthole shaft, on top of a large fragment of ceramic vessel. The post would have to have been removed before this item was placed inside. Two other structures with teeth in the postholes were also probably abandonment de-

156 In the case of burning, this is seen as part of a planned abandonment practice, rather than an act of misadventure. Other possible scenarios might be burning as the result of a raid (Arie Boomert pers. comm.).

157 Rather than the trigonoliths, shell inlays, plaques and stone collar fragments which make up the majority of the paraphernalia found in layer 1.

158 A description of the other finds and their locations can be found in the description of individual structures, see Chapter 5.2.

159 In some cases this may be a reflection of the number of postholes excavated per structure. Structure 1 was intensively investigated, hence the relatively high number of such finds. Structure 2 was almost completely excavated, and revealed one bead and a dog's tooth in a posthole fill. Overall, the sample discussed here is believed to be representative.

posits, otherwise these items would have been fragmented by the movement and pressure of the upright in the socket. This also goes for the shell beads. On the whole therefore, the preferred interpretation is that of abandonment deposits.

This then begs the question: what was the significance of deliberate deposition on abandonment? The character of the depositions will be discussed at greater length in the section on house aesthetics (see 6.4.5), but for now it is important to address their significance in terms of the lifecycle of the house and House Trajectory. Literature on abandonment deposits generally sees these as acts of closure or termination (see contributions in Boteler Mock 1998). But closure should not be considered in terms of its finality, but rather as a stage in a lifecycle which also incorporates rebirth. There is a conceptual link between the death of one structure, and future regeneration. This future regeneration is the renewal of the House Trajectory in subsequent house structures (Garber et al. 1998 in Mesoamerica, and see Brück 2005 for an example of this in the British Bronze Age). The house is animate and vested with personhood in the sense that it also goes through cycles of life, death and rebirth. Such cyclical and structuring principles of lifecycle stages connected to domestic and monumental architecture are an accepted feature of the Mesoamerican worldview where layered caches in buildings are interpreted as dedicatory or termination rituals often associated with reestablishment or founding (Boteler Mock 1998; Garber et al. 1998). Replacement trajectories of Classic Maya buildings, in which the house and human ancestors are in a metaphoric relationship, are interpreted as animating events in which new buildings became ensouled, like a newly baptized infant (Schele and Freidel 1990:428, cit. Boteler Mock 1998:11). In this sequence each new building becomes the replacement or substitute for the ancestor, and the monuments accrue power in the process (*ibid.*).

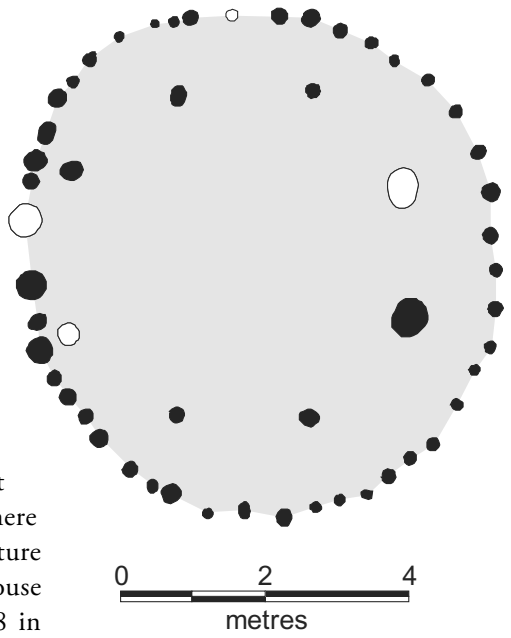


Figure 154. Plan of Structure 1 with the postholes in white indicating the location of closing deposits.

The abandonment deposits in El Cabo postholes literally and symbolically close foundations which were in use for multiple re-buildings of the same house in the same postholes. It is fitting that the most prominent and important postholes, those which supported the largest and possibly curated posts ("ritual attractors"), are those which are commemorated and marked with depositions by inhabitants. As we have seen, it was not just the posts which were important, but also the postholes themselves.

6.3.1.4 Innovation (lack of?) and continuity

In mainland South America, according to the standard model, the physical house structure rarely last longer than 15 years. This is due to multiple reasons including pests, death and fission. The relocation and rebuilding of a house provides an opportunity to adjust social relations (Hugh-Jones 1979; P. Oliver 1997:1621; Schinkel 1992:188-189). Among egalitarian societies of Amazonia, cyclical community fission as a way of doing this is common.

To the contrary, in El Cabo there is remarkable continuity in which the House Trajectory remained the same, or practically the same for centuries. There is change in house size within certain trajectories, but no one house in any trajectory is even twice as big as any other. House Trajectories 3, 5 and 6 show remarkable uniformity in house size, and even for those trajectories in which more variation is apparent (i.e. House Trajectories 1, 2 and 4) this can hardly be said to be significant in terms of inhabitant numbers (see Section 6.8). If there was

any attempt to innovate, or readjust social relations, this is not expressed in the materiality of the House Trajectory, which appears to be a highly conservative institution. In the cycle of renewal described above, there is a conscious attempt not to produce any rupture between past and present. The house should continue as it had always done since time immemorial. The spatio-temporal arena of the quotidian was sustained by reproducing the house as it had always been. A similar concern with replication has a cosmological explanation among the Yekuana of Venezuela whose houses are an exact copy of the first roundhouse built by the culture hero Ättäwanadi (Wilbert 1981:45-47).

However, on the synchronic level of the house group in different phases there is considerable development: houses increase in number over time, beginning in Phase *a* with possibly one house structure and developing with the appearance of multiple bigger and smaller structures in subsequent phases. This is especially the case in Phase *c*, from the 11th or 12th centuries, during which there is an explosion of new structures. In Phases *c* and *d* the smaller *cemí* house, fence structures and small communication platform make their appearance indicating greater functional diversity and development within the house group. And already from Phases *b* and *c*, when Type 1 structures first appear, house size becomes more variable from 33 to 81m², so that the largest house in this phase has twice as many inhabitants as the smallest house (although not within the same trajectory). This variation continues in Phase *d* with a house size range between 31 and 77m², implying again that the largest house has potentially twice as many inhabitants as the smallest house (see discussion of house demographics in Section 6.8). Therefore although House Trajectories are stable institutions through time, the house group as a whole develops and changes through each phase, especially from ca. AD 1000.

6.3.2 Summary of renewal

In summary (Fig. 155), a house structure was occupied until cultural norms incumbent on the inhabitants made it necessary to renew the house. Evidence suggests that this was a cyclical event undertaken jointly by multiple houses simultaneously. This could either have been on the level of the house group, or potentially the whole *yucayeque*. One particular observation from Columbus' diary of the first voyage supports this phenomenon. On December 16th the admiral visits a settlement on the coast of Hispaniola and remarks that the village appeared newly established because all the houses seemed new ("*que parecía ser de nuevo hecha, porque todas las cacas eran nuevas*." Cit., Prieto Vicioso 2008:118; Navarrete 1922:104). Here it may not have been the case that the village itself was new, but *renewed*.

In any case, when the time was right, the house plot was levelled and cleaned and the posts of the former house were dismantled. Significant posts of the former structure, those considered "ritual attractors" (Fox 1993), most likely from the entrance and internal supports, were kept. Items of personal significance to the inhabitants were then deposited into the postholes and filled up with clean material. An entirely new foundation, with slight lateral displacement, was dug in the bedrock for the new house. The curated posts from the old house were placed in the new rows of postholes as symbols of continuity and successful reproduction of the House Trajectory. The whole process of renewal was clearly a significant corporate activity. The house was not merely a dwelling structure, it embodied the concerns and values associated with cultural transmission and social reproduction of the whole community. This is something which is also reflected in the aesthetics of the house, discussed below.

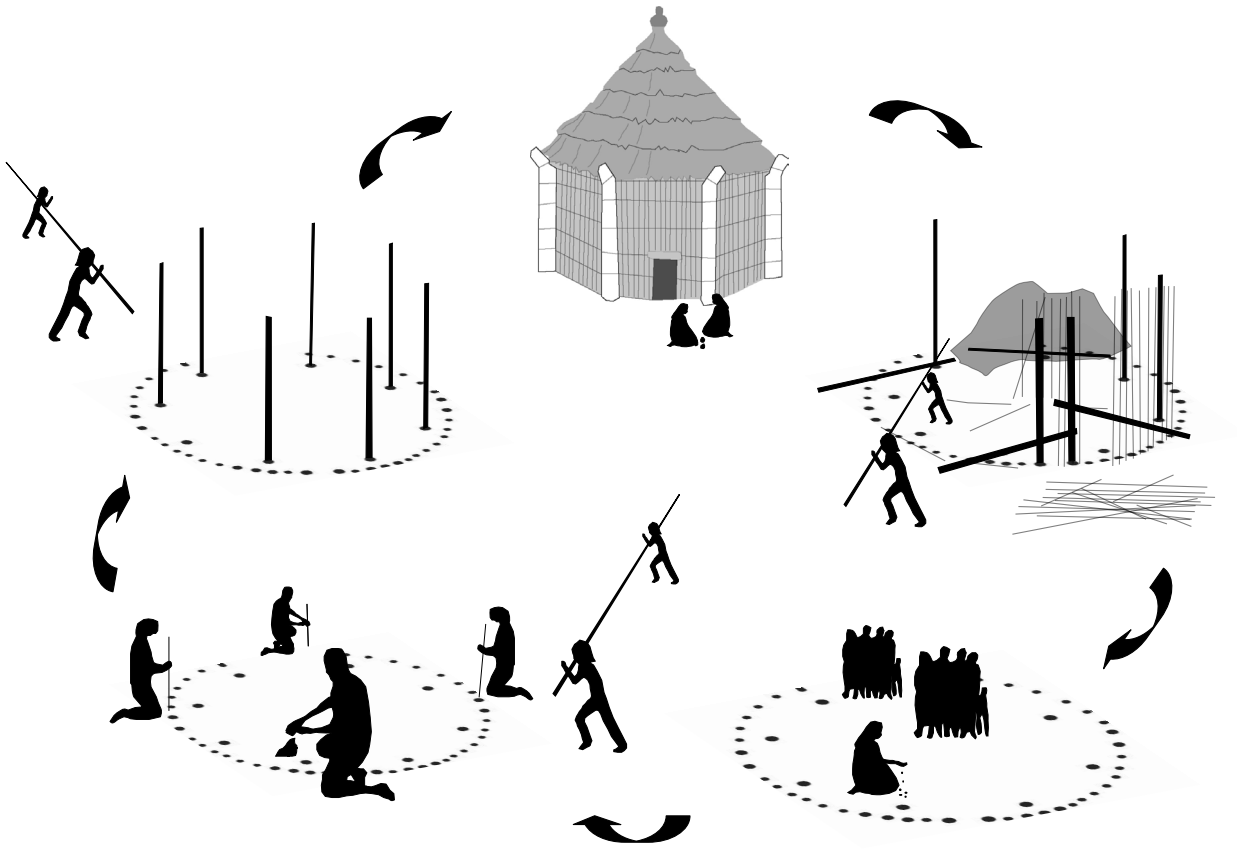


Figure 155. Summary of House Trajectory. From bottom left the main stages in the cycle of house renewal are schematically represented: digging foundations; construction; habitation; abandonment and curation of posts; closing; and back to the first position, starting anew.

6.4 House aesthetics and "the beauty of the everyday"

Native peoples of Amazonia place a lot of stress on "the beauty of the everyday" (Overing and Passes 2000:12), the ornamentation and elaboration of everyday items of material culture and the most common household objects such as containers, cooking utensils and tools such as axes (an outstanding example of this is Yecuana basket weaving, Guss 1989). This extends to every aspect of life such as body ornamentation and posture, speech, harmony and order in the domestic space and skill in craft production. Of course the way this is manifested differs enormously. Nevertheless, the creation of an auspicious, tranquil and harmonious environment in which to happily conduct daily life, leading to the growth and prosperity of the community in which work is pleasing and children are correctly raised, is linked to the language of aesthetics and the practice of beautifying behaviours (Overing and Passes 2000). Morality and aesthetics are profoundly linked so that good and beautiful are indivisible concepts and necessary to social life (Overing and Passes 2000 and in the same volume Belaunde 2000; Kidd 2000). "…it is only by acknowledging aesthetics in the broader sense of its meaning, where beauty in daily practice is understood as an expression of moral and political value, that anthropologists can begin to perceive the characteristics and affective conditions of everyday social life in Amazonia…" (Overing and Passes 2000:18).

As far as house aesthetics are concerned, value is placed on the size, cleanliness and order of the house. These are signs of community strength and cohesion, and of a leader's prestige (see also Helms 1979 with respect to precolonial Panamanian *bohíos*). Architectural detail and decoration is not so important. Surface decoration for example is rare in Amazonian houses and house exteriors are often unkempt (Hugh-Jones 1979:248; P. Oliver 1997:1621). The layout

and organisation of space, and the way individuals negotiate space is important however, with the layout of the house and/or settlement an idealized representation of the human and natural world and embodiments of the proper order of relations. Fronts of houses are particularly important and points of entry and exit are kept clean, and posts, paths and doorways receive ritual treatment (*ibid.*).

That this was true of societies in Hispaniola is documented in the material culture and historic sources. Often cited examples are aspects of life related to elite practices such as the control and storage of elaborately crafted wooden artefacts by the *cacica* Anacaona, or the composition and knowledge of *areitos* by *caciques*. That this sense of the aesthetic filtered though all aspects of life is apparent in the historically and archaeologically documented clean, ordered and well-appointed houses with their patterned walls of woven, coloured *bejucos* (vines), cotton drapes, items suspended from the beams, the elaborateness of household ceramic vessels and the material culture of the house in general (Section 2.4.2). It is against this cultural background that the clear preoccupation with house aesthetics and beautifying the house in El Cabo should be understood. This can be seen in house depositions, spatial regularity and architectural embellishment.

6.4.1 Entrances

The front is the most dominant feature of the house in El Cabo. In general entrance facades of house structures were monumentalized and marked by heavier-set and wider uprights, which in some house structures are as massive as the roof-supports inside. Entrance postholes are invariably flanked by more substantial features (in terms of depth and diameter) than the majority of the other postholes in the external ring, and these larger posts run for ca. 30% of the perimeter. This forms an outer wall which is asymmetrically balanced towards the west, and makes the front, or the face of the building the most imposing aspect of the structure. All activities such as the arrival and departure of household members and guests took place through this entrance, as it probably formed the only access point in the houses. Moreover, the monumentality of entrances provided shelter from the sea wind creating a still area outside the front of the house where people probably congregated and worked. It is not known whether the entrance façades of the houses were additionally decorated. However, if any part of the house were decorated, this would be the most likely spot. In the rare cases of house decoration in South America, it is usually the front which received such treatment.[160] Underscoring the importance of the entrance features are the abandonment depositions which occur in these postholes, possibly indicating their character as "ritual attractors" and those parts which may have been recycled across multiple structures.

The embellishment of entrance facades does not mean that doorways themselves were big. On the contrary, these are relatively narrow openings (on occasion narrower than the average spacing between external posts) which would not have allowed more than one person to pass through at any time. As well as being narrow, the colonial documents also indicate that doorways were low. Both Hernando Colón and Martir de Angleria state that doorways were hardly big enough to let the inhabitants in and that one was obliged to duck (Hernando Colón and Martir de Angleria cit. Prieto Vicioso 2008:129). Door width in

160 This is the case with the front ends of Barasana (Colombia) and Tukano (Vaupés) *malocas* (Botelho Malhano 1997; Duly 1979; Hugh-Jones 1979; Hugh-Jones 1995). Occasionally interior walls are decorated (Wilbert 1981: Fig.22).

El Cabo is on average 72cm, and slightly wider for larger house structures. An estimate of doorway heights based on colonial documents is 1.25m tall (Prieto Vicioso 2008:145). The small doorways within the large faces would have further enhanced the imposing façade.

6.4.2 Orientation

There is a consistent orientation in the circular structures. Entrances face away from the sea, but within this broad functional rule there are three major orientations. Houses in the same phase share the same orientation. So all houses in Phase *a* are oriented west-northwest, whereas those in Phases *b*, *c* and *d* are oriented due west, and those in Phase *e* northwest.

6.4.3 Regularity

There is a great concern for regularity in the house structures. This is one of the major factors which helps identification. This is manifested in a general concept of construction from big to small, from front to back materialized in a monumentalized entrance which diminishes to an increasingly lighter construction towards the back. In some house structures this over-arching concept incorporates another pattern of regular alternation between larger and smaller posts along the whole perimeter. These smaller patterns coalesce within the larger form.

Internal configurations of the circular structures consist of eight deep and broad postholes. In general, these are the largest features in a structure. The eight posts form pairs: two at the back (east), front (west), north and south. Each pair connects to its opposite pair, most likely by means of tie-beams joining the pairs of uprights: the northern with the southern pair and the front with the back pair. The design is basically the same in Structure 6 in which the perimeter incorporates the roof-supports.

This design results in a front-back dichotomy within an axial layout. This front-back dichotomy can be seen in many Amazonian and Orinocan societies, for instance in Yecuana and Tukano houses (Hugh-Jones 1979; Hugh-Jones 1995; Rivière 1995), where the communal and ceremonial part of the house is at the front, and the rear of the house is the place of the hearth, intimate socializing and food production. This is often combined with a second organizing principle of space, that of a concentric order (Hugh-Jones 1979; Schinkel 1992). This concentric order, although experienced at construction in the circular floor plans of the El Cabo houses, is absent in the experience of them as living spaces as is discussed below.

6.4.4 Circular arguments and asymmetry

The structures in El Cabo, although very regular and circular in plan, are asymmetrical in section. In contrast to what is believed about the symmetrical, concentric properties of roundhouses worldwide, structures in the main unit probably had sloping roofs: high at the front and low at the back.

The structures in El Cabo have no central pole(s) providing a support function. This does not necessarily mean a centre point was not marked. For example Wayana community houses have slender central poles, sometimes two poles, one attached to the top of the other, with no load-bearing function, to attach the ceremonial and decorative roof disc (pers. comm. Renzo Duin). In such a way, the house is centred by way of an *axis mundi* through its physical centre. The presence and symbolism of the *axis mundi* is important in the standard model of tropical South American architecture (Boomert 2000; Roe 1982; Schinkel 1992;

Wilbert 1981). This has been proposed for Saladoid houses in the Caribbean, and assumed for Late Ceramic Age houses in the Greater Antilles (Jansen and Dorst 2007; Siegel 1992; Stevens-Arroyo 2006:130). Although as we have seen, central posts are a rare feature of the few published house plans (Section 1.4.1.2). The possibility of central features was nevertheless investigated in El Cabo. Of the 37 circular structures in the unit with their middle points inside the excavation boundary, 16 have features within 50cm of the centre point of the floor plan.[161] These features were, with one exception, less than 25cm deep. However, seeing as in the majority of cases these features arguably appear to be part of other, separate alignments (as yet unreconstructed), rather than belonging to the surrounding circular structure, these structures are not assigned central features. Indeed, in the most reliable reconstructions in areas of the unit with lowest feature density (i.e. Structures 1 and 2) central features are conspicuous in their absence. Therefore, the structures in El Cabo have no archaeologically visible acknowledgement of a centre point commensurate with the physical centre of the floor plan.

As is concluded above, this supports the notion that a front/back dichotomy within an axial layout, rather than a centre/periphery ordering of space characterized the house structures. This differs from what Rivière (1995:194) terms a Pan-Amazonic pattern of "concentric dualism whereby the centre is opposed to the periphery, front to the back and the inside to the outside." In turn these spatial relationships are related to non-spatial structuralist distinctions which he lists as men : women, public : private, sacred : secular and essence : process (*ibid*.; Hugh-Jones 1979; Roe 1982:136-139). Although the conceptualization of spatial divisions may be very different to the way they are physically defined, and the distinctions themselves contextually and temporally sensitive, or limited to the ideal domain, rather than proposed as rigid rules (Hugh-Jones 1979; Hugh-Jones 1995; Overing and Passes eds. 2000; Tanner 1991), these physical concentric principles of Amerindian architecture are absent in the house structures in El Cabo. They were however present in the floor plans at the time of construction. Thus, whether a house was conceived as circular, or lacking circularity would have been dependent on the stage of renewal. Construction/renewal and abandonment emphasise circularity, living in the physical space of the house would have emphasised the front: back divisions.

6.4.5 Depositions: Dressing the house in closing rituals

As mentioned earlier, postholes of house structures were the focus of deposition of items of bodily adornment, *adornos* and occasionally other items. This has implications for the aesthetic conceptualization of the house.

Oudhuis (2008) on the iconography of the ceramic *adornos* from El Cabo, has suggested that these ceramic vessel appendages - each one a unique re-combination of a repertoire of iconographic elements referencing human, animal and geometric "characters", may have been deliberately detached from the vessel (as has been suggested for La Caleta by Herrera Fritot 1946). In this respect, ceramic vessels and their unique identifiers, the *adornos*, can be seen as unique artefacts iconic of household identities (see Lopiparo 2007 for a similar discussion on ceramics and houses in Terminal Classic Honduras). Ceramic vessels, used in the storage, preparation and serving of food and drink are intimately bound up with the identity of the house and the domestic cycle of its inhabitants. Moreover, each household probably either produced its own pottery, or

161 Structures 4, 5, 8, 10, 12, 14, 15, 20, 28, 29, 30, 31, 38, 43, 48, and 51.

received vessels from other households in reciprocal flows which sustained social relationships (through exchange within or outside the village). Production, use and discard of such household confection is integral to household reproduction. It is therefore highly appropriate that such items were considered fitting for deposition, as they would not only inscribe the house with the identity of its inhabitants, but refer to the quotidian activities of communal food preparation and sharing which occurred in and around the structure.

Beads and pendants were also selected to be deposited into key postholes within the house. According to the chronicles *cibas*, or stone bead necklaces, were important personal possessions of the indigenous inhabitants of Hispaniola at contact (Pané 1999). This is underscored by the burial record of Hispaniola in which these items are sometimes present in otherwise modest assemblages, or form part of caches. Beads and pendants, as items of bodily adornment, are markers of the cultured and identitied body. The deposition of such items into significant locations in the house indicates two important relationships: that like the body, the house should be culturally and personally inscribed (see Mills 2008 on the ritual dressing of the house in the American southwest), and that the identities of the household were tied up with that of the house. This suggests a society in which inhabitants and house, and body and house are related and reference each other. Although the symbolic equation of the house with the body does not necessarily mean that components of the house were referred to by anatomical names, it does make it probable. Peoples of the upper Xingu for example reference house space anatomically, thus the house has earrings (wooden pegs) which pierce the ears (timbers) (Botelho Malhano 1997:1629). Similar to ceramic *adornos* then, certain bodily adornments can be seen as unique artifacts iconic of household identities.

6.4.6 Discussion

In summary, the archaeological evidence suggests that a cultural aesthetic of domestic beauty existed in El Cabo which focussed on the structure of the house. This was identified by focussing attention on various aspects of the lifecycle of the house such as the coordinated, joint effort and exacting execution of house foundations, the monumentality of the house façade, dressing of the abandoned house like the dressing of the human social body and the responsibility to replicate or renew the successful house for perpetuity. In other words, the house is a joint enterprise which emerges from the collective community values of order, beauty and continuity. Although a specific model of house life developed in El Cabo which was absolutely Antillean, this picture can be enriched by ethnographic comparisons which highlight certain shared dispositions which nevertheless have a specifically local and historical manifestation. That this relationship is axiomatic, i.e. that there is an equivalence between indigenous domestic aesthetics and morality (prescribed social norms), can also be glimpsed from the historic documents.

The ideals of harmony, peace and happiness are precisely the virtues attested to the indigenous people of Hispaniola by Las Casas in the *Apologética Historia Summaria* (Churampi Ramírez 2008). In this text, Las Casas sets out to prove the being human of the indigenous population, arguing that they possessed the qualities to pursue a rational political and social life in accordance with an Aristotelian template. One of the most important elements of this model was the ability to live in a state of *civil happiness*, which implies the capacity to govern oneself and others, to live in peace and virtue and to multiply. This is echoed in Overing's statement about Amazonian sociality that it "is more about the issues

of fecundity than those of status, role and property", i.e. a happy village is one where good/beautiful people can be created and many babies are born (Overing and Passes 2000:17).

So, although as Churampi Ramírez points out, one can deconstruct the lascasian vision of the perfect republic of Hispaniola as an application of Aristotelian ideals, nevertheless indigenous society clearly inspired Las Casas to see the classical and ideal Christian virtues in Hispaniola, lacking in late medieval Europe.

6.5 Daily life and the temporalities of the domestic realm in El Cabo

The aesthetics of the house express domestic ideals. The activities of everyday life however express a domestic reality. The artefact distributions from the main unit represent a spatio-temporal layer which is the result of cumulative processes and one-off acts. These archaeological deposits were deemed to have good archaeological integrity and are interpreted as representing sweeping and living remains and deliberate depositions. As mentioned in Section 4.2.4 the find layer is a shallow humic layer, usually 10-20cm thick, with no discernible stratigraphic distinction. The accumulations are all one archaeological event (which does not necessarily imply short-term deposition).

6.5.1 Ceramic distribution

There are very clear distinctions in the ceramic weight distributions across the unit. The distributions are interpreted as being archaeologically significant (i.e. representative of past human activities) except in the north and along the edge of the cliff where material was not recovered from every square due to the scarcity of remains in this, the most exposed and weathered part of the promontory.

In general there are less than 750g of ceramics per square in the western half of the unit, and more than 750g and generally more than 2kg of ceramics per square in the eastern and northeastern parts of the unit.

The transition between the low and high density areas are gradual, so that a halo of higher density deposits fan out from a circular clean area on the border between sectors 39 and 49 (Fig. 156). This is especially visible in the east and northeast where more surface area has been excavated. Sectors 40 and 50, and 49 and 59 are the areas of densest deposits where ceramic weights are generally between 750g to over 5kg. This can be seen in the three or four adjacent and contiguous darkest areas in the map. This rapidly dwindles to nothing on the edge of the cliff and in the north where the erosion is most extensive. Within the dense area, another, more irregularly shaped, "cleaner" area can be defined in Sector 50, and again to the north in Sector 51.

The question is not only what activities are reflected in these discard patterns, but also to which period does the material and its accumulation contours pertain, in how much detail can the patterns be interpreted, and what is the direction of the movement? A reasonable assumption would be to suggest that the distribution contours relate to maintenance activities in the latest phase of habitation, with the cleanest areas correlating with the insides of structures and the dirtiest areas representing the refuse zones from these structures.

The composition of the material itself may be temporally mixed. Material related to earlier phases may have moved around in the same area, with later material, for a long period of time. Therefore the differentiated accumulations of ceramic discard – evidence of daily household activities and consumption of

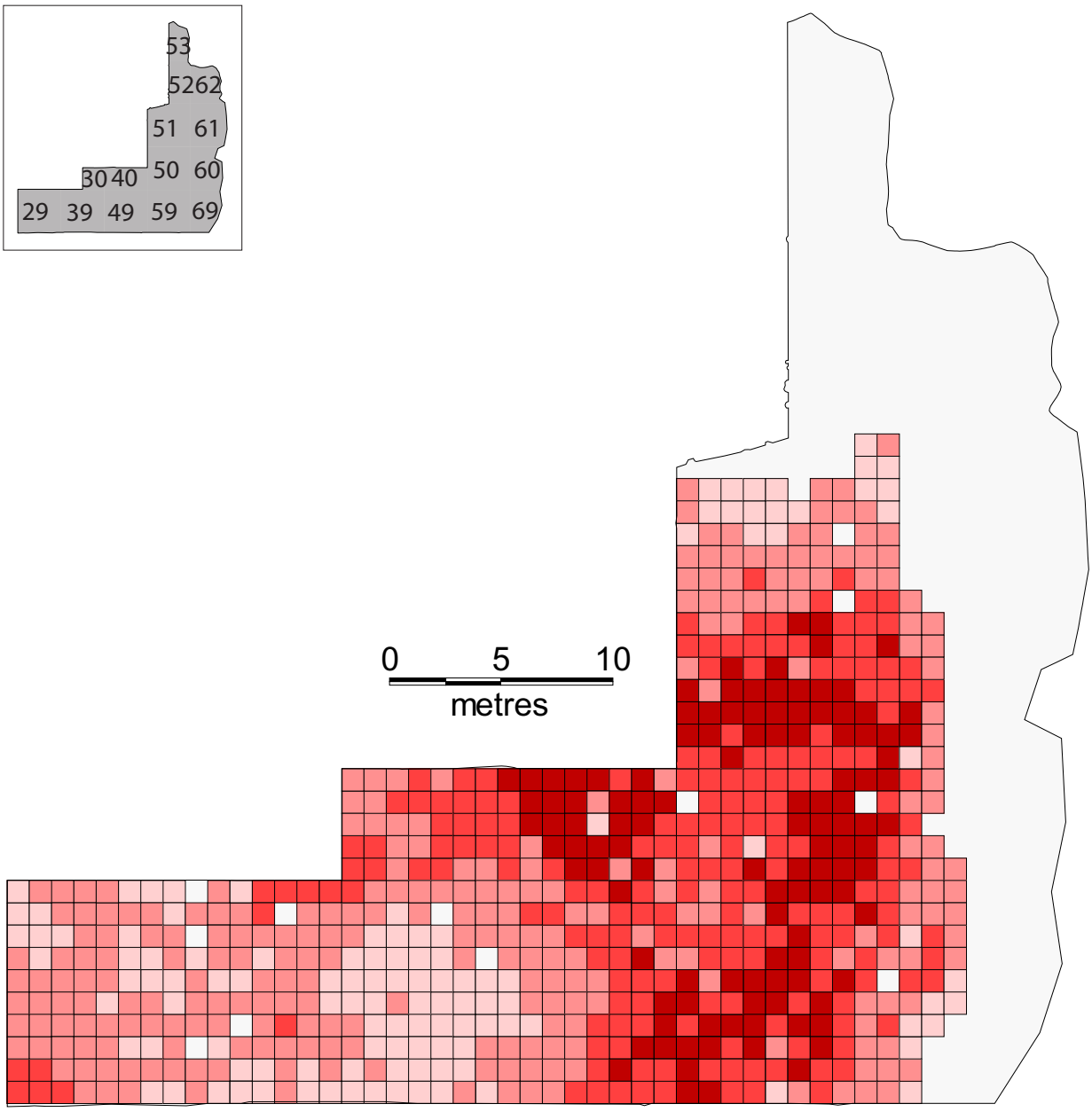


Figure 156. Ceramic weights in four classes from lighter to darker (1-150g, 151-750g, 751-2000g, 2001-6000g). White indicates no available data. Inset indicates sector numbers referred to in text.

household goods – can be used to assist in a relative chronology at the latest end of the scale, but caution should be exercised in terms of relating all material to this phase.

At this stage one can propose that structures in the cleanest area are related to the latest phases of habitation. However, unexcavated structures outside the excavation boundary may also be the source of some of the deposits, especially in Sectors 40 and 50 which are areas of dense deposits on excavation boundaries. In general, one can see that the distributions represent the activities of inhabitants who swept their rubbish to the back of the structures so that it accumulated on the edge of the cliff.

Evidence which corroborates the hypothesis that the distribution contours are representative of the latest phase of habitation is seen in the distribution of average sherd weight across the unit (Fig. 157).[162]

162 Ceramic weight per square is divided by the number of fragments recovered, giving the average weight per sherd.

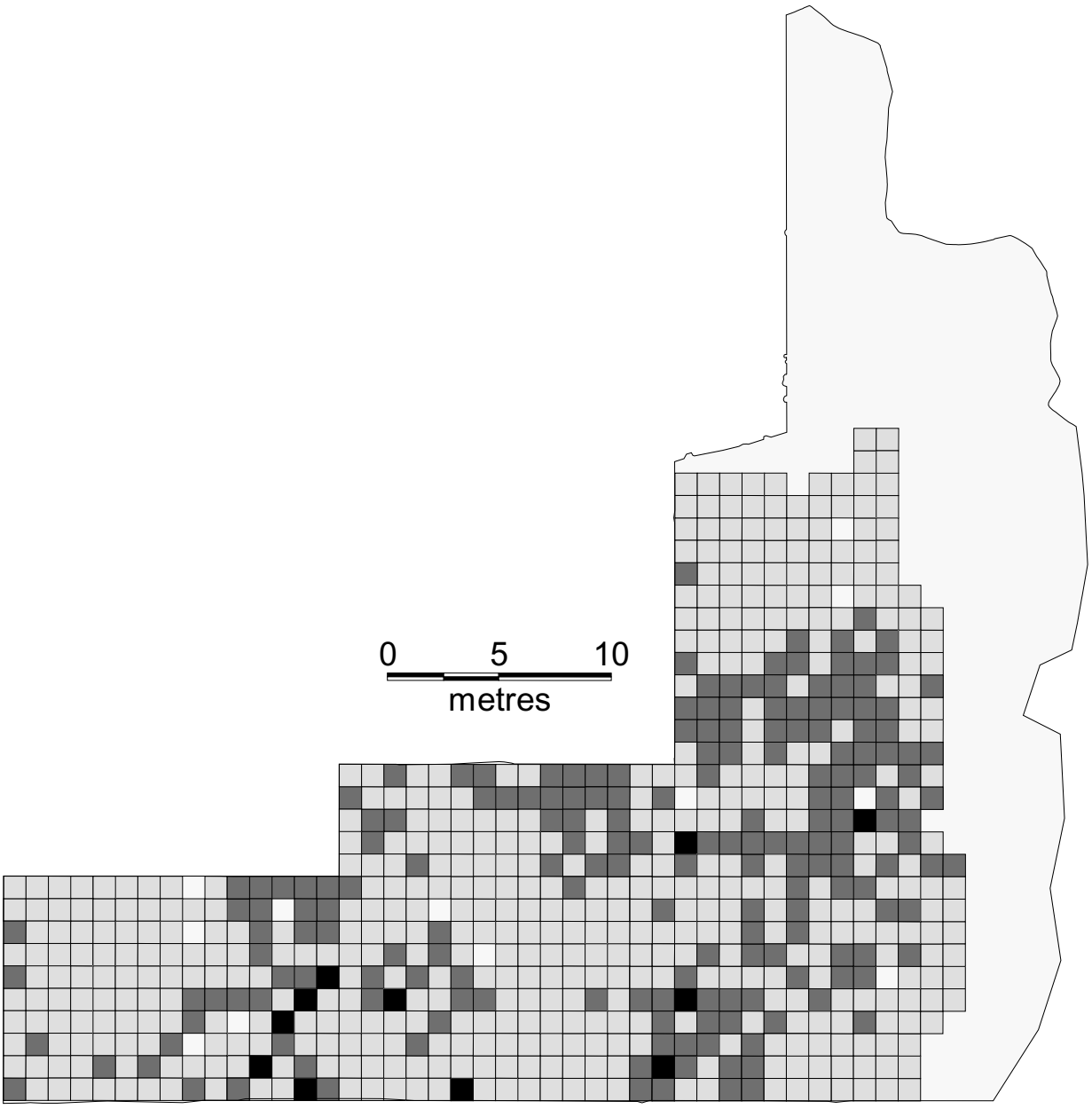


Figure 157. Average sherd weight in three classes from lighter to darker (1-5g, 6-10g and 11-44g).

Across the majority of the unit (65%) the sherds are small and trampled (≤5g). Slightly larger sherds (6-10g) are located in the same three or four main adjacent concentrations seen in the ceramic weight distribution map. So, larger sherds occur in the areas of highest ceramic density. These are areas of lowest trampling. The fact that the average sherd size is larger in the areas of most ceramic accumulation suggests that these deposits are the result of the latest phase maintenance activities, i.e. they contain relatively large pieces of pottery which have not been exposed to crushing and further breakage by subsequent habitation.

In addition, another interesting observation can be made concerning the largest sherds (>11g), which make up a very small minority (2%). Although some of the largest sherds unsurprisingly occur in the areas of highest ceramic density discussed above, the majority are located in areas of middle to low density ceramic distribution, in the southern half of Sector 39 (see darkest squares in Fig. 156). This suggests that spatially concentrated discard also occurred in otherwise clean (i.e. activity or living) areas. This perhaps indicates that deposits in the

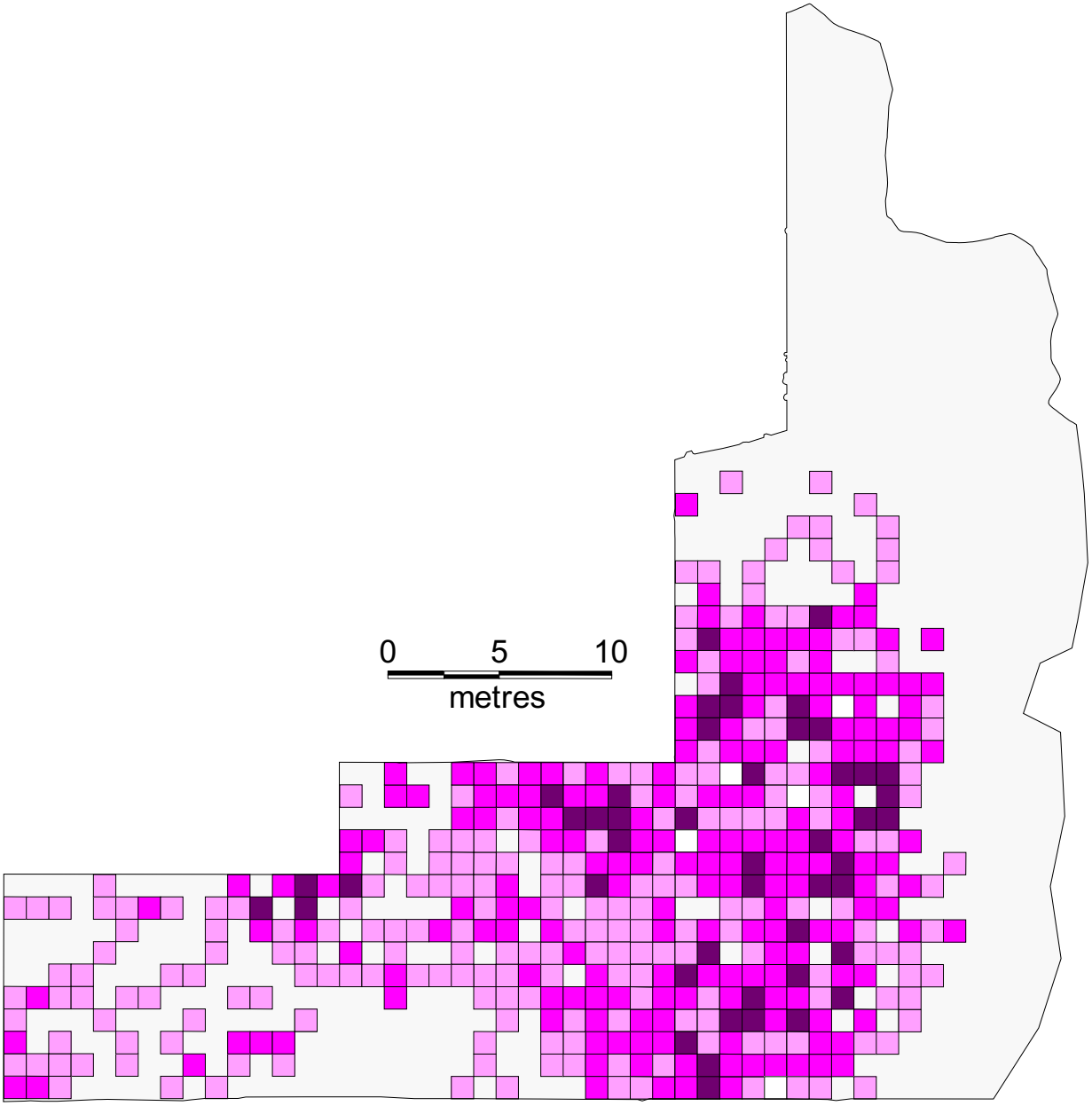


Figure 158. Griddle weights in three classes from lighter to darker (1-50g, 51-200g, 201-600g).

unit are so detailed as to be able to distinguish between expedient toss zones and systematic sweeping accumulations. Moreover, the size and shape of the deposits indicate the size and shape of activity areas or structures (Wandsnider 1996).

6.5.2 Griddle distribution

The distribution of griddle fragments mirrors more or less precisely that of the general ceramic distribution (Fig. 158). Griddles have an almost complete coverage of the unit, with the exception of an area of ca. 8×5m from where no griddle fragments were recovered. In general, this is the area of least finds in the unit.

It should be noted that there are no large discrepancies in the size (average sherd weight) of griddle fragments across the unit. The areas of densest accumulations tend to be the areas where the largest sherds are located, but in general, distribution contours indicate that the density clustering is not a result of discrete discard locations of whole or largely whole griddles, but that griddle fragments are mixed through and have accumulated with the rest of the debris.

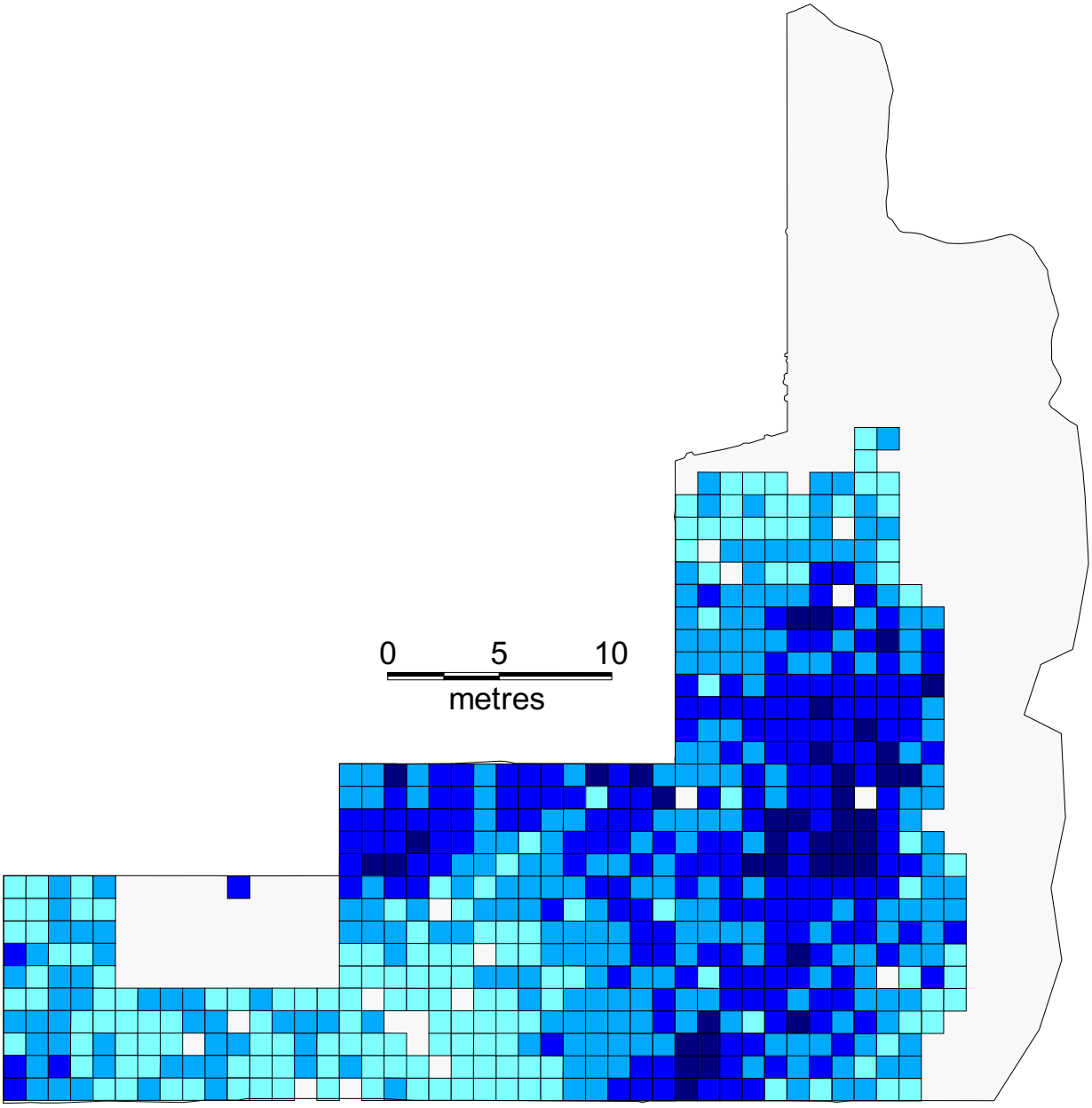


Figure 159. Marine shell weights in four classes from lighter to darker (1-50g, 51-250g, 251-750g, 751-2030g). Note: data on marine shell densities are missing from the area excavated in 2005.

6.5.3 Marine shell distribution[163]

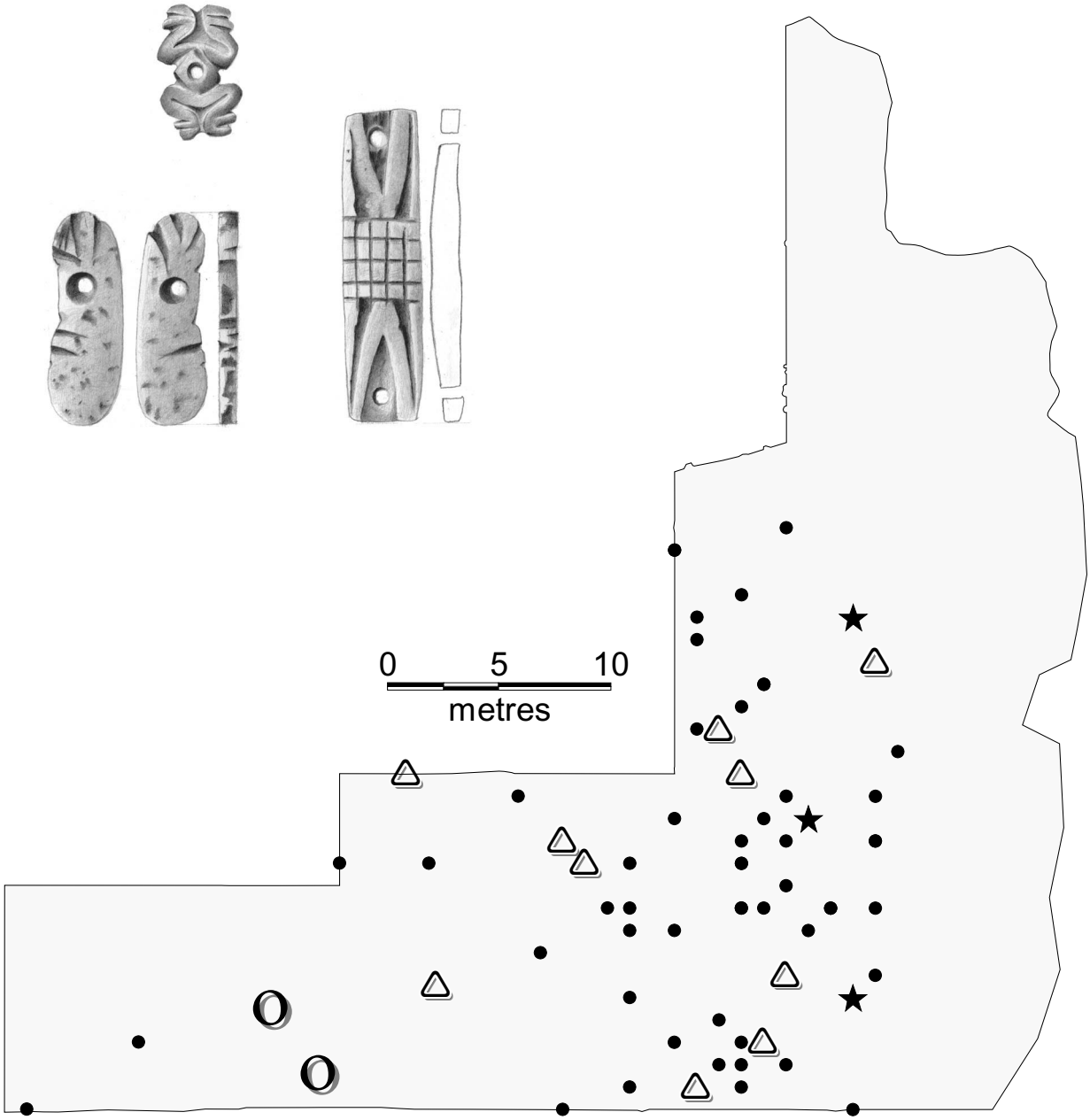
The distribution of marine shell, the majority of which are small marine molluscs (*Nerita* spp., chiton, limpet, with some larger shells of *Cittarium pica* and *Strombus* spp.) is interpreted as largely the result of discard of food residue (Fig. 159). In addition to their meat content, larger molluscs, such as *Strombus* spp. and *Cittarium pica* were used for shell raw material. This may also be the case with the very few bivalve remains recovered, the majority *Codakia orbicularis*, which were probably collected for tool use rather than food. Use-wear traces, visible as a polish on five of the 17 bivalves examined showed that they were probably used for scraping siliceous plants such as calabash, reeds and liana (de Ruiter 2009). Further analysis is needed before subsistence/tool distinctions can be made in the data here, however.

163 Data from marine shell are missing from 2005, represented by the white rectangle in 84-29/39.

Again, the marine shell coverage forms a continuous carpet, with areas of density and scarcity which match that of the ceramic distribution. The majority of the unit (63%) has less than 250g of shell per square, whereas areas in the northeast and southeast have clusters of over 750g. A more dense area of deposits, not so pronounced in the ceramics, occurs in the northwest, in Sector 30.

Figure 160. A selection of shell paraphernalia from the main unit. Actual size. Illustrator Erik van Driel.

Figure 161. Distribution of paraphernalia, including trigonoliths (triangles); beads and other items of bodily adornment (small circles); fragments of stone collars (large ovals); social valuables such as the guaíza *and inlays for* cemí *statues (stars).*



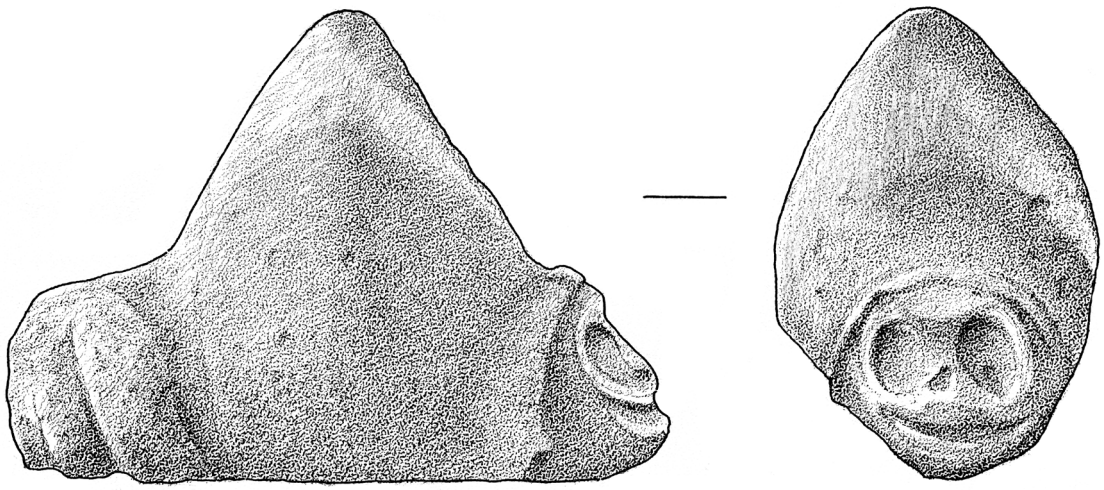


Figure 162. Trigonolith of local sandstone with incised face and frog legs. Scale 75%. Illustrator Erik van Driel.

6.5.4 Bodily adornments, community regalia and cemí *items*

Figure 161 shows a distribution map indicating the location of items recorded as "paraphernalia" in the field. These include items of bodily adornment such as beads and ear plugs of shell, stone or bone, and other small objects, mainly of shell, with holes for suspension such as pendants, tabular and keyhole-shaped plaques, an *anillo* and tincklers (Fig. 160).

Among the items of paraphernalia are also more potent portable artefacts such as trigonoliths, stone collar fragments, durable parts of *cemí* statuary and a *guaíza*.

The trigonoliths, some fragmented, range from micro-trigonoliths with bases of a few centimetres, to larger examples (up to 12cm base length). These have been made from local (sandstone and coral) and exotic (quartz and other harder non-local rock types) materials, some undecorated, others with incisions round the base points (Fig. 172) and the largest one incised with frog legs and a face (Fig. 162).

Two fragments of stone collar (Fig. 163) made from non-local green-grey igneous rock, deriving from the same artefact and fitting together, were recovered within 4m of each other from within the boundaries of the structures of House Trajectory 5. Two other pieces (25m to the south and 8m to the north) were recovered in other units or on the surface. Cursory visual inspection suggests that they too are from the same material, if not the same artefact as the first two pieces.[164] If added to the portion (not from the same artefact) recovered in earlier investigations (Ortega 1978a) some 50m to the north on the coast, this makes a total of five stone collar fragments from the site.

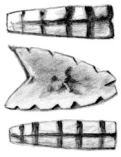


Figure 164. Shell teeth inlay. Actual size. Illustrator Erik van Driel.

Shell inlays depicting the bared-teeth motif (horizontally incised line with vertical cross-hatching) are interpreted as parts of *cemí* icons, once having been part of larger, composite, artefacts including wooden stools, carved wood and cotton figurines, trigonoliths and *cohoba* stands. Indeed, one of these inlays (Fig. 164) from the south of the unit was a small wedge-shaped inlay suggesting insertion into the beak of an ornithomorphic piece such as (but much smaller than) the bird-headed Figure from Jamaica (which is curated in the British Museum, Anon. 1803; Joyce 1907).

164 This has not been corroborated.

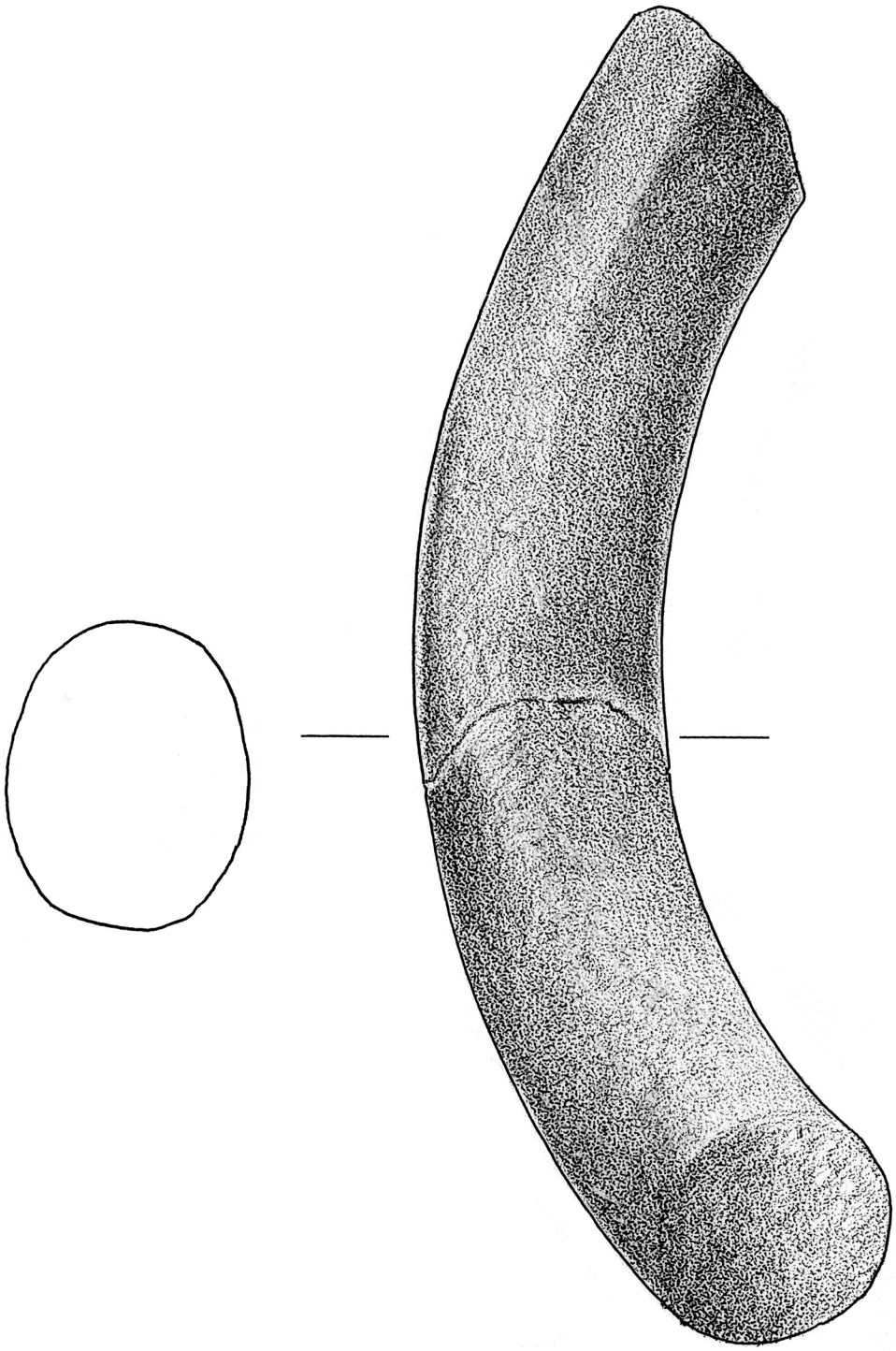


Figure 163. Two pieces of stone collar which fit together. Recovered from inside Structure 15. Actual size. Illustrator Erik van Driel.

Finally, a *Strombus* sp. *guaíza*, with fully fleshed cheeks and nose, bared-teeth and wide round eyes was recovered (Fig. 165).[165] This had a smoothed but irregular underside and no holes for suspension, suggesting that it may have been mounted in something or simply carried. The *guaíza* was recovered two metres away from the largest trigonolith, both associated with natural depressions in the

165 The stylistic similarities between the El Cabo *guaíza* and two *adorno* head lugs on a vessel of manatee bone in the *Museo del Hombre Dominicano* are striking (Bercht et al., eds. 1997: Pl.112).

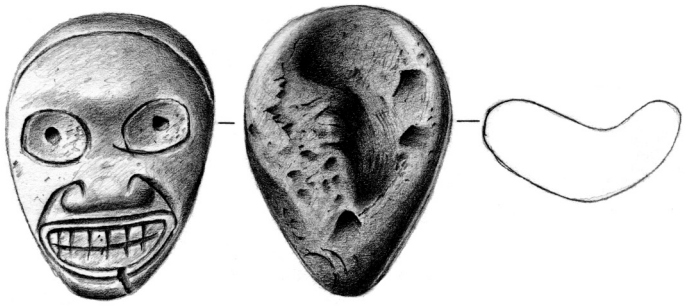


Figure 165. Shell guaíza. *Actual size. Illustrator Erik van Driel.*

bedrock. A further *guaíza* was collected 100m to the south during the surface survey. This one was of cruder execution and was made of a brown quartz-like material. Mol (2007:130-131) observes that all finds of *guaízas* with contextual information in the Greater Antilles come from habitation areas.

The items described above are mostly concentrated in areas with the highest densities of finds. The smaller items in particular, such as the beads and bodily adornments, were swept and accumulated in the same way as the ceramic and shell residue, and adhere to the contours of these accretions. This is also the case with the small inlays and micro-trigonoliths.

Some of the larger items however, reveal a discrepant distribution. They were not recovered in the areas of densest deposits, but from the cleanest areas. This is the case with the two fragments of stone collar (350 and 275g) and a trigonolith (144g, base of 8.2cm, Fig. 162 and 163). The *guaíza* and the largest trigonolith (346g, Figs.162 and 165) were associated with natural hollows in the bedrock which may have acted as artefact traps, or may have been used to deliberately deposit the items. This will be discussed further in relation to the house structures.

6.5.5 Tools

The category "tools" in this dissertation is very broad, and includes formal tools, tool fragments, some with signs of recycling, informal artefacts interpreted as possible tools or modified forms which may be by-products or debris of manufacture or crafting. A broad definition is preferred and a detailed study would shed more light on specific functions and activities.

The majority of artefacts discussed are made of stone and coral, including whole or fragments of green stone ground tools (mainly petaloid axes and adzes), coral and stone crushing or grinding implements, and a small number of bone and shell implements such as bivalves with visibly modified edges, and various points and modified shell and stone material (*Strombus* spp. discs, shell tincklers, half fabricated or unidentifiable conch fragments, flaked stone, etc.).

Tool distribution follows that of the ceramic and shell deposits, interpreted as sweeping refuse from maintenance of the structures in the habitation area. These are usually small objects which would have been discarded and swept with the rest of the pottery and food remains.

Another possibility is that the patterns represent the location of *in situ* crafting and production activities given that some tools and modified materials occur in areas of low artefact density or on the edges of the artefact spreads. In particular, the tools recovered from the "cleanest" area in the unit include a number

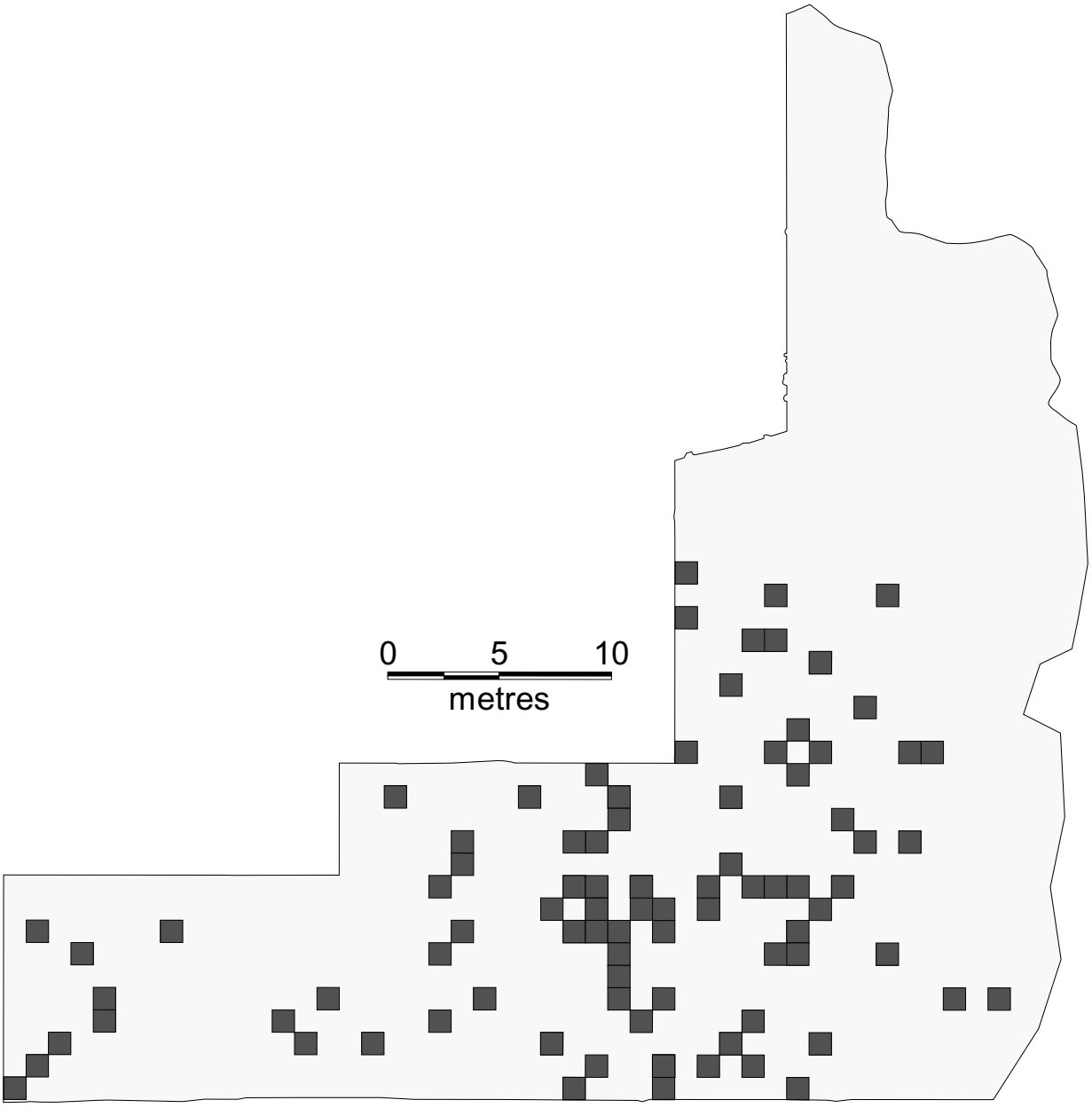


Figure 166. Distribution of shell, stone, coral and bone tools in the artefact layer.

of almost complete green stone axe fragments. On the whole though, these artefacts are thought to occur outside structures and represent secondary disposal rather than primary deposition representing *in situ* tool use (Fig. 166).

6.5.6 Colonial material[166]

The assemblage of European material from El Cabo is reasonably large when compared to that of other extensively researched indigenous sites in the Greater Antilles such as En Bas Saline, Haiti, and El Chorro de Maíta, Cuba (17 and ca. 300 pieces, respectively, Deagan 2004; Valcárcel Rojas 1997; Roberto Valcárcel Rojas pers. comm. 2009).

166 I am grateful to Dr Kathleen Deagan, Florida Museum of Natural History, for providing the initial identification from emails and photos of the European material recovered during excavation.

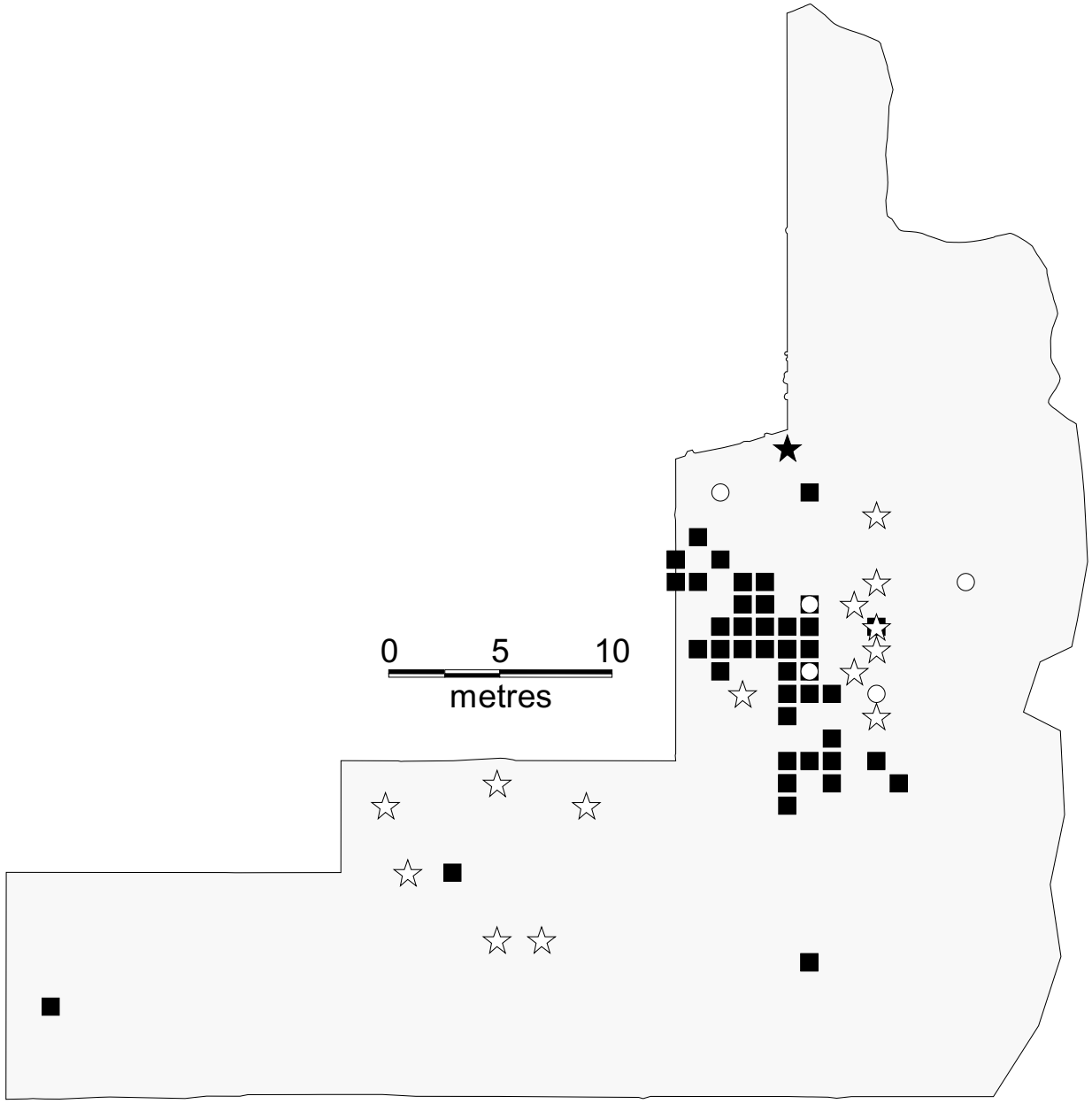


Figure 167. Distribution of colonial material in the main unit, including olive jar (black squares); white glazed ceramics (white stars); glass beads (white dots); glass table ware (black star).

The colonial material discussed here mainly comprises European glazed ceramics. These, together with several glass beads are securely indicative of early contact exchange. Other objects which may be related to the last phase of the indigenous village of El Cabo such as bone fragments suggesting the presence of European animals (mainly pigs) and other items of glass and metal have not been included in the distribution map (Fig. 167) because without specialist study their presence cannot be securely associated with indigenous activities in the contact and colonisation periods, but may belong to later, sub-recent periods.[167] It should be noted, however, that the material *not* included is minimal. Two postholes which contained glass and metal in their fills are also discussed here.

Olive jars are Spanish storage vessels, used as shipping containers and secondarily as construction material, which are common across the Spanish American colonies (Arduengo García 2008; Deagan 2002:30-34; Goggin 1960:8-11;

167 Research is ongoing, including isotopic analysis to identify the possible local or exotic origin of the remains (Jason Laffoon, pers. comm.). Implications of the presence of imported European animals will be discussed later.

Florida Museum of Natural History historical archaeology database). Olive jars have been recovered from early Spanish sites in Hispaniola such as Concepción de la Vega, Puerto Real and La Isabela (Deagan 2002a; Deagan and Cruxent 2002a, 2002b), and from indigenous sites, including sites in the Higüey area such as Playa de Bávaro (Olsen 1978a) and Playa Sardinera, Isla de Mona (Dávila Dávila 2003).

The olive jar from El Cabo is typical of the early style, handled variety (Fig. 168). It dates between AD 1500 and 1550. Most pieces have a characteristic green lead glaze on the inside. Approximately 80 sherds were recovered from El Cabo, with most squares containing one sherd, and one square containing five sherds. These mostly comprised body sherds, but also a part of a handle and rim fragments. Sherds range from one to several centimetres in size, with old breaks, but show no discernible modification or wear on the edges.

The second most commonly occurring colonial pottery type recovered in El Cabo is majolica with a white glaze, possibly Columbia Plain. Produced in Spain from AD 1490 to1650, it was used for both utilitarian and tableware. About twenty pieces of this type were recovered from El Cabo, again the majority rather small body and rim sherds (from a plate or bowl?), a few several centimetres across, and many showing hairline cracks in the shiny grey-white glaze. The breaks appear old with no significant modification or wear.

Five glass beads or glass bead fragments were recovered: three glass beads of the Nueva Cadiz type, two complete, and one with a recent break (Fig. 169; bottom). Two pieces of a cobalt blue glass bead were also recovered which may belong to the same item. The complete Nueva Cadiz beads are approximately 3cm long and an iridescent blue/green/white in colour. The blue bead fragments show faceting on the ends. All the beads have square cross sections and round holes.

A hand blown piece of ornamental glass, seemingly a rim piece with raised vertical ribbing on the walls, possibly from a decanter, vial or liquid containing vessel, was also recovered (Fig. 169; top). The glass is an opaque iridescent pink colour and consistent with either Spanish or Venetian fine glassware from the early sixteenth century (Kathleen Deagan pers. comm. 2009).

These diagnostic and identifiable items of early European material culture occur predominately in the main unit, the only exceptions being an olive jar sherd and a white glazed sherd in one of the 2×2m units (85-41) adjacent to the main unit, and two olive jar sherds 60m north of the main unit in one of the most northerly 2×2m units (85-27). Seeing as the northern part of the site is the most under-explored, the extent of this material to the north is unknown, but it is remarkable that nothing was recovered in the surveyed area to the south, and that the European imports have a very tightly circumscribed distribution in the unit.

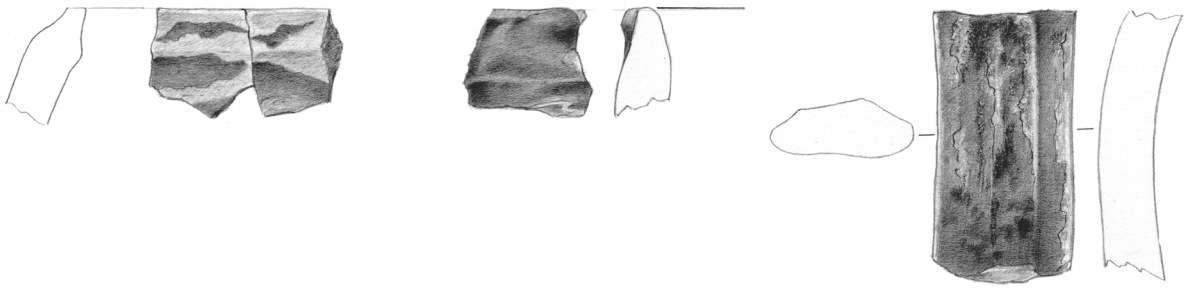


Figure 168. Rim and handle fragments of olive jar. Scale 75%. Illustrator Erik van Driel.

The majority of the material clusters in the northwest in Sectors 50 and 51. Interestingly, each type has a unique position within this distribution: the olive jar forms the core and is flanked by two small distributions of white-glazed sherds, one on the coastal side, and a more dispersed cluster to the west. The beads and the Venetian-style glass lip are dispersed to the east of the olive jar distribution. Although there is some overlap, it is remarkable that such detailed distinctions can be observed, perhaps representing discrete, though closely timed episodes of discard or maintenance.

When overlain with other artefact distributions, the confined distribution of European material is clear, although it coincides with the dense accumulations of ceramic and other deposits in the north of the unit. However, the European material also extends slightly further north where other deposits dwindle.

6.5.7 Discussion

These data represent sweeping accumulations from the living area, with possible incidences of primary context finds. Most of the patterning in deposit density is the result of maintenance activities. The variety in material culture suggests that there was little to no differentiation in the activities occurring across the unit, i.e. the discard of ceramics, food remains, tools, modified items, and bodily adornments occurred in all excavated areas.

The accumulations comprise small artefacts from a wide spectrum of material culture: griddles, ceramic containers, a variety of shell species, valuable and personal items, and also bone and coral objects (the distribution of which is not included in this discussion). The general shallowness of the deposits implies that this may not have been the main or final dumping area, but represents sweeping accumulations of domestic debris. Given the accretions seem to adhere to cer-

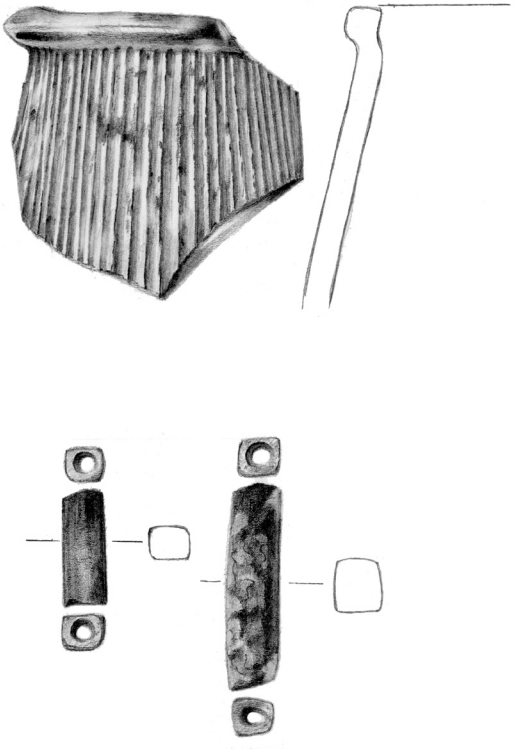


Figure 169. Fragment of glassware (top) and two glass beads, type Nueva Cadiz (bottom). Actual size. Illustrator Erik van Driel.

tain fixed contours, it appears that production and use or consumption and discard were occurring in the same, immediate area. Living activities created swept debris which accreted around individual or clusters of individual structures.

It is proposed that the distributions are directly related to structures from the last phase of habitation. This hypothesis is supported by the fact that the areas of lowest trampling and European material are to be found in the high density areas, indicating more precisely the location of the latest discard activities in the unit. Discrepancies in the general pattern of artefact distribution can be seen in the location of some items of paraphernalia such as stone collar parts, trigonoliths and possibly the *guaíza*, as well as one area of discrete accumulation of ceramics. In Section 6.5.7.2 these will be discussed in terms of their relation to particular structures.

Lastly, if the domestic area was the primary disposal area, with regular removal of bulk refuse to other areas, where were these located? One possibility is that the material was used as compost for horticultural plots, in the house gardens of the *yucayeque*. This would have supplemented the poor karst soils, and potentially explains the almost unbroken thin carpet of ceramic and shell debris across the entire site (see Section 6.6). Another option is that the waste was simply tipped into the sea. Several kilograms, including over 30 fragments of polished green stone tools and about 50 sherds of pottery, were collected from the seabed by local fishermen immediately below the Cabo promontory. The dynamic coastline and rocky sea floor meant that ceramics especially were ground down and hard to spot, but the high number of tools collected in just a few, short dives is remarkable. The finds were concentrated along a stretch of about 30m, starting parallel with the top of the unit (*y* axis =5540), and ending halfway down parallel to the unit (*y* axis = 5510). The divers reported that beyond this small stretch there was little material. Similarly, they did not venture more than ca. 10m out to sea. Whether this was because the morphology and depth of the seabed changes here is unclear, but in any case it gives the impression of a concentrated and dense band of finds in the sea directly below part of the domestic area. These finds are consummate with refuse dumping.

6.5.7.1 Chronology of the deposits

Further evidence on the temporality of the deposits comes from the structures themselves. The fact that deposits are related to activities in the latest phase of habitation is borne out by the unit phasing and distribution data together (Fig. 170). The later phases of habitation (*c*, *d* and *e)* correlate with the cleaner areas to the west. The densest accumulations of deposits, especially in Phase *d*, collect around the exterior of the structures. Finer distinctions in the distribution can be seen in Phases *c* and *d*, where the long fence Structures (16 and 52) act as artefact traps so that clusters of deposits collect in parallel concentrations in front of them. This indicates that it is not only the very latest maintenance activities which can be distinguished, but also earlier episodes of discard, if they are seawards of subsequent habitation. Of course, not all the deposits in the unit are related to structures in the unit. For example, the dense accumulations of material in 85-40 are probably related to structures to the west, outside the unit.

As mentioned in Section 6.1, Phases *a* and *e* are least secure in terms of placement in the chronological sequence of the unit. In particular, Phase *e*'s positioning at the end of the sequence of phases is based on artefact distribution rather than absolute dating. Phase *a* structures occupy areas of both light and heavy deposits, and whereas accumulations seem to adhere to the contours of especially Structures 11 and 13, possibly the latest structures in this phase, these patterns

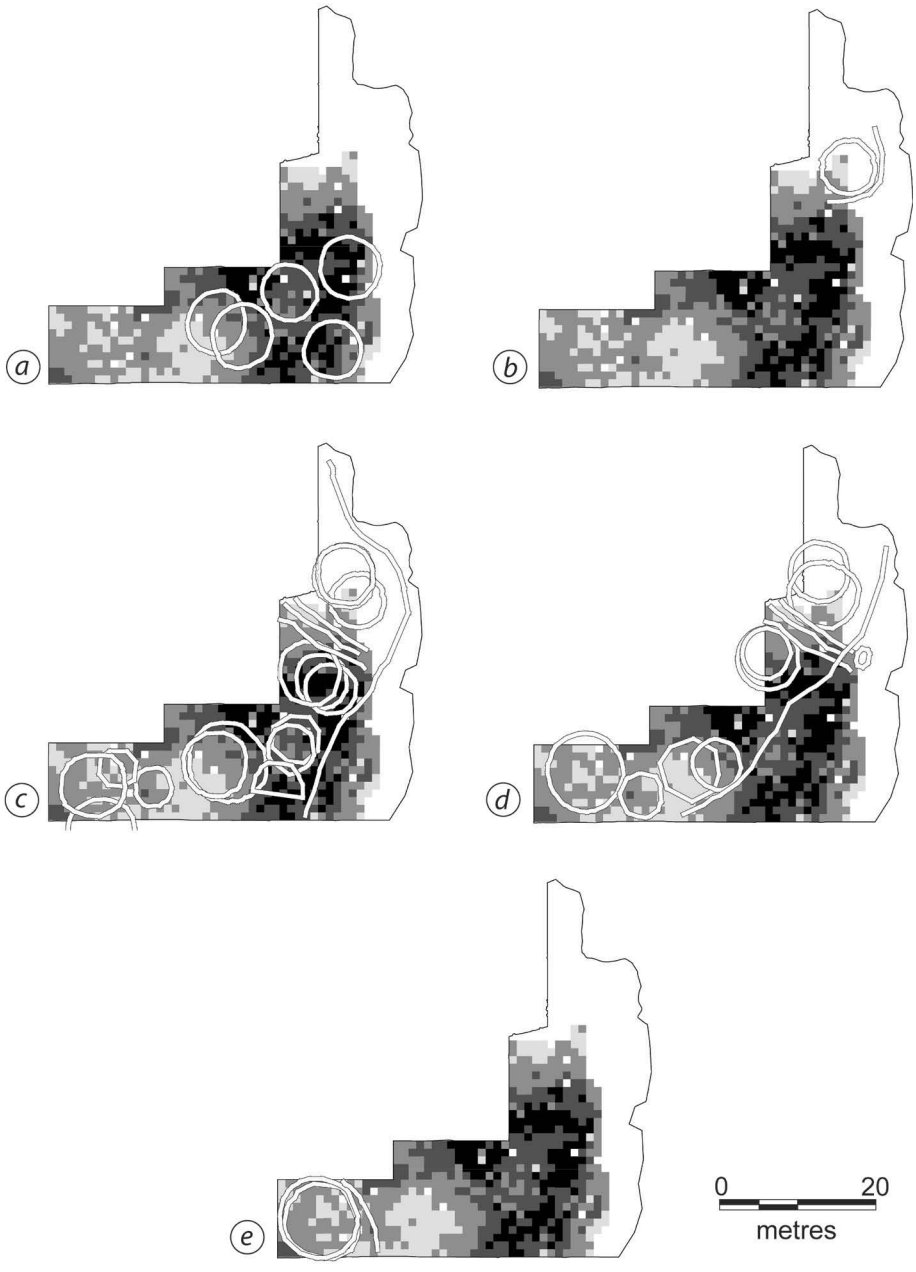


Figure 170. Structures per phase (a-e) shown together with ceramic weights distribution in four weight classes (see Fig. 156). Note that, where deposits are intact, earlier structures are associated with denser deposits, and later with thinner, indicating accumulations relate to maintenance activities in chronologically later phases.

can also be related to later structures in this palimpsest location. For reasons discussed in Section 6.1, these structures belong to one phase, and it would seem reasonable based on their lack of relation to the deposits, to place them at the start of the sequence.

The two house structures and fence from Phase *e* are a little more enigmatic. The Phase *e* structures occupy a low density artefact area, indicating that they are late. However, this sector has one of the highest feature densities, and also many unassigned features which complicate the picture. Unlike other structures, the Phase *e* houses are oriented with entrances to the northwest, so the backs of the houses are towards the south. Due to the constraints of the excavated area, the associated refuse deposits are not visible, although the cleanliness of the northwest corner and the density of remains in the extreme southwest corner of the unit also indicate this. Their temporal relationship with the young Phase *d* structures, associated with colonial material, is thus interesting. There is not enough hard evidence to propose that the Phase *e* houses were colonial period dwellings,

and a far earlier position at the start of the sequence is equally plausible. The presentation of both sets of data (from the structures and artefact assemblage) warns against *over*-determination of either set on its own.

The relationship between the artefact assemblage and the features can also shed light on the use of space in the past. A general observation can be made about continuity in this respect. The areas with the least deposits, i.e. the cleanest areas (84-29/39/49), are the areas with the highest feature density (3.3/m²), whereas the areas with most deposits (84-49/59, 85-50/60 and 85-51/61) have a comparatively lower feature density (1.4/m²). This suggests that there was stability in the areas used for building and the areas used for discarding refuse, even on a small scale. Despite overlap (of course there are some features under dense sweeping accumulations) these areas are sufficiently differentiated to be distinguishable. This observation is significant for interpretations of data at the site level later on (6.6.6).

6.5.7.2 House Trajectories and their assemblages

So far we have seen how the artefact distribution temporally relates to the latest phases of habitation in El Cabo. But the artefact assemblage also relates to the individual House Trajectories. Due to the renewal and continuity of House Trajectories in the same or nearby locations, it may be possible to assess the quality and character of these institutions and the nature and status of relations between different House Trajectories by looking at the artefact assemblage as it relates to the individual estate.

Firstly a number of items of regalia such as *cemí* icons, trigonoliths, and stone collar parts are clearly associated with House Trajectories (Fig. 171). This is the case for the two fragments of a stone collar related to House Trajectory 5 and the *guaíza* and the largest trigonolith, sandwiched between fence Structure 49 and structures of House Trajectory 2. Smaller trigonoliths, portable valuables, are a frequent occurrence in the main unit. Pané reported that three-pointed stones in northern Hispaniola were believed to cause cassava to sprout (Pane 1999: Ch. xix). Whether all trigonoliths were related to vegetative propagation, and what other specific functions or significance such items had is not known. In all ten trigonoliths were recovered from the main unit, of which several are fragmented. All of these are spatially associated with house structures; either immediately inside their walls, or just outside. This may be due to the fact that many of them are small items swept to the edges of houses through acts of maintenance. However, several may be in primary, rather than secondary position. This has already been mentioned for the trigonolith associated with House Trajectory 2, but is also probably the case for a medium-sized trigonolith recovered adjacent to one of the internal roof supports behind the entrance of Structure 4, House Trajectory 4 (Fig. 172) and two small stone trigonoliths found flanking the entrance of Structure 2, just behind the front pair of internal roof supports. The architectural elaboration and frequent deposits of personal items into the postholes of the entrance of houses has already been mentioned, and therefore such items are unsurprising in this context. Most of the other Phase *a* structures of the same type (7, 11 and 13) are also spatially associated with trigonoliths outside their perimeter walls, although these are early structures in the sequence and the palimpsest situation makes it unwise to posit a firm correlation between Type 2 houses and micro-trigonoliths. Although these items are certainly common in the domestic domain and in direct association with house structures.

Two teeth inlays for *cemí* icons from the sweeping deposits cannot be related to particular houses, but they do indicate that either the manufacture, or/and curation and veneration of these valuables occurred in the domestic area, associated with houses.

The majority of the abovementioned regalia and socially valuable items are interpreted as intentional deposits, and most likely abandonment deposits. This is because they do not follow the pattern of the other swept remains, and were either buried in particular locations, or were recovered in areas of minimal other remains (i.e. stone collar parts). The location of these items suggests that that houses were the locus of veneration, ritual or consultation practices, and that certain houses were more closely related to certain types of valuable than others. Whereas micro-trigonoliths are associated widely with House Trajectories 2, 3 and 4, stone collar remains are limited to House Trajectory 5 (Fig. 171). The distribution of inlays for *cemí* icons is unclear in this respect as they are small, easily displaced, and not particularly common. Nevertheless, the shell *guaíza* has a strong association with House Trajectory 2, albeit outside the structure.

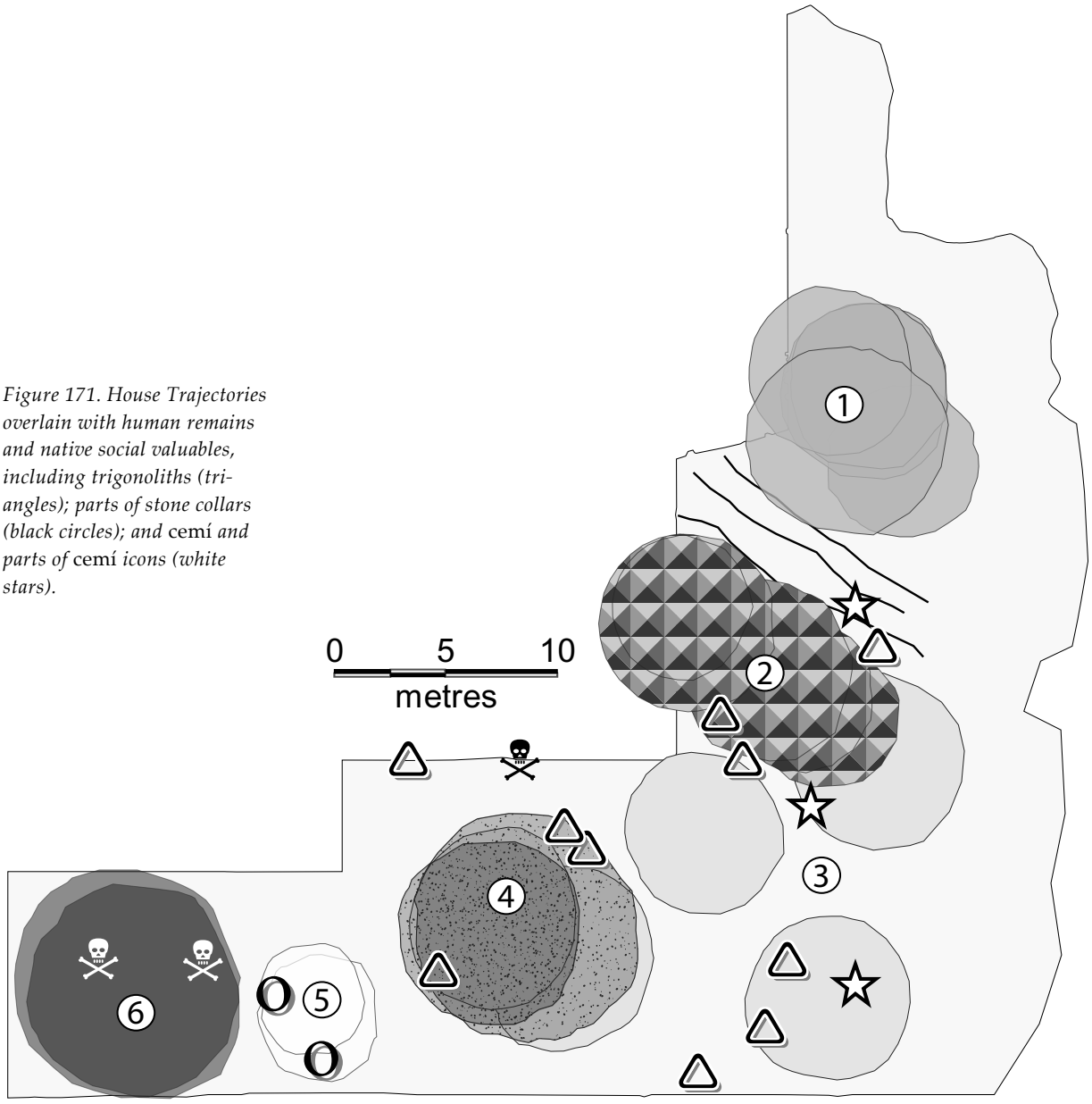


Figure 171. House Trajectories overlain with human remains and native social valuables, including trigonoliths (triangles); parts of stone collars (black circles); and cemí *and parts of* cemí *icons (white stars).*

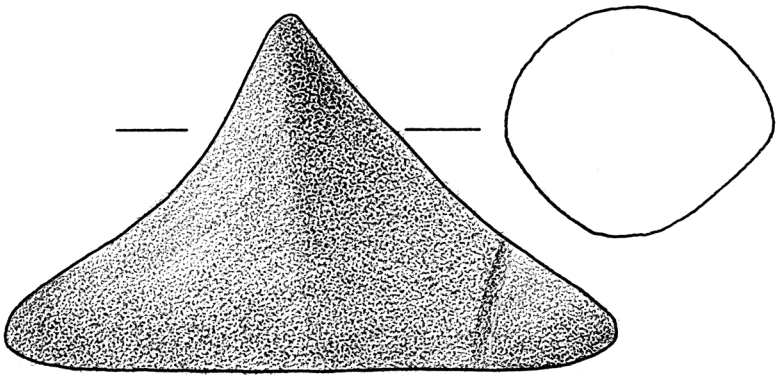


Figure 172. Trigonolith found adjacent to internal posthole feature of Structure 4. Actual size. Illustrator Erik van Driel.

6.5.7.3 Human remains

Whether the three depositions of human remains (neonate in small pit, long-bone in posthole and adult inhumation grave) in the unit are related to any of the house structures is unknown (Fig. 171). In the map some of the remains are associated with House Trajectory 6, although this picture is incomplete seeing as many other structures occupy the same location. As mentioned in the description of the individual structures these can be spatially related to the insides of six different houses, but not securely tied to any of them. Nevertheless, the absence of human remains in any of the other houses in the unit is conspicuous. Although other locations were presumably systematically used for the disposal of the dead (caves, cemetery area?), the presence of at least some remains indicates that in certain circumstances the domestic area was appropriate for deposition, but that this was not a regular occurrence for the any of the House Trajectories in this area of the *yucayeque*. Burials in the midden and on the edge of the excavated house area may suggest interment here, outside structures, although more research is needed to confirm this. Burial in houses was an exception rather than the rule.

6.5.7.4 European imports

House Trajectory 2 is closely associated with the majority of the colonial material (Fig. 173). The material clusters at the back of the latest house structures in this House Trajectory (Houses 21 and 38), with the squares containing the densest concentrations of olive jar falling outside the back wall of Structure 38. The fence structure between House Trajectories 1 and 2 acts as a barrier for the material, anchoring it to House Trajectory 2. It is also the case that House Trajectory 2 is associated with two of the most elaborate artefacts recovered; the *guaíza* and largest trigonolith. It is difficult to say whether these artefacts were exclusively dominated by this House Trajectory alone seeing as surface deposits were eroded away in the north of the unit. However one of the structures of House Trajectory 1 had bottle glass in the posthole, and some features on the north side of the fence are also associated with pig remains. However, the co-occurrence of elaborate Chicoid paraphernalia and European imports with the last, and smallest house in this trajectory, Structure 38 (31m^2) is suggestive. Given the fact that there is a general trend to a slight increase in size of houses throughout the development of a trajectory, it may not be coincidental that the smallest house coincides with the era of European colonisation, a time when indigenous society was under considerable stress and the communities of the eastern region were being broken up, and redistributed to gold rich areas. As late as 1514 for example, Moya Pons notes that communities were redistributed and moved to

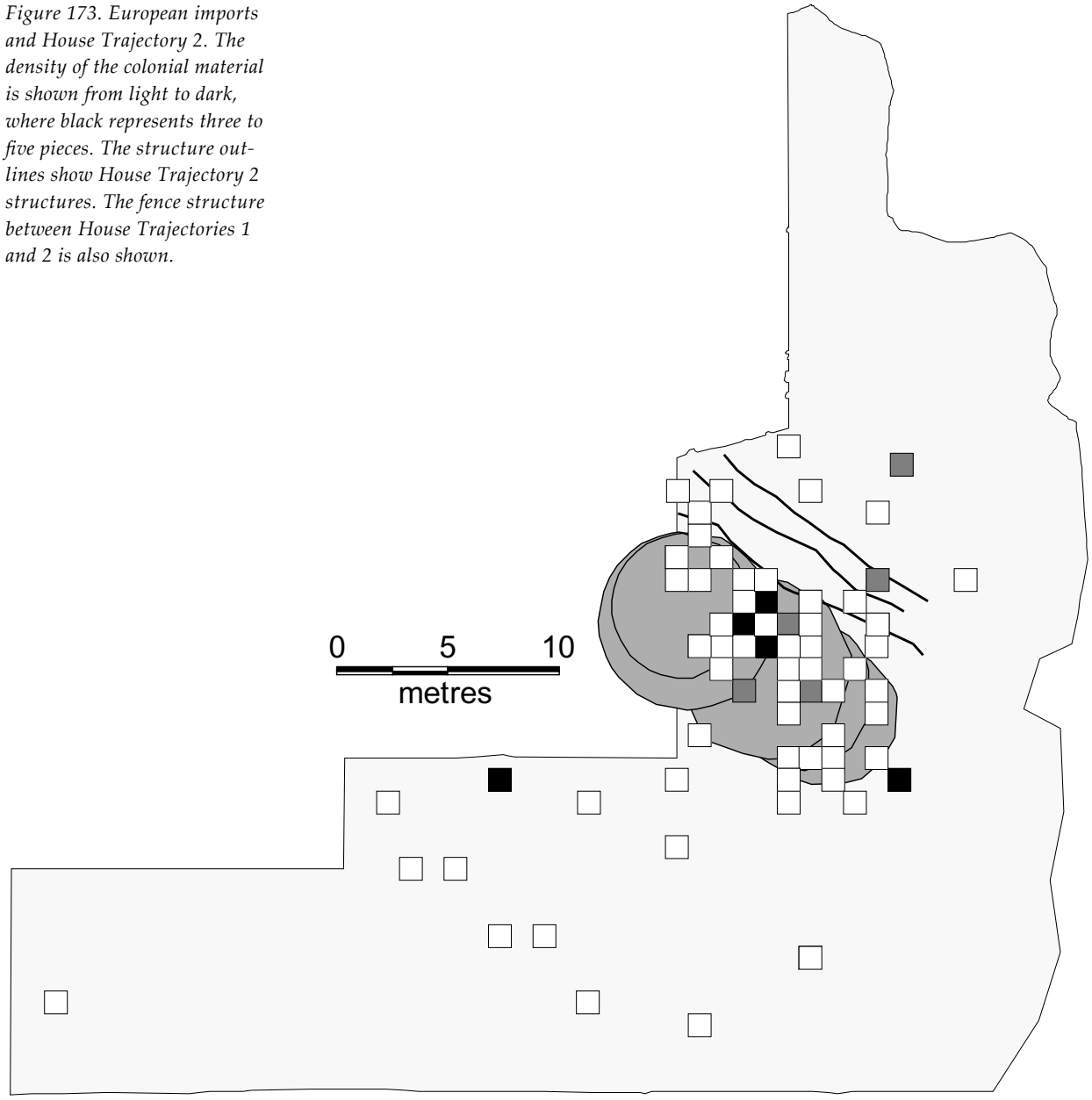


Figure 173. European imports and House Trajectory 2. The density of the colonial material is shown from light to dark, where black represents three to five pieces. The structure outlines show House Trajectory 2 structures. The fence structure between House Trajectories 1 and 2 is also shown.

Higüey (1992). A stark picture is revealed in the 1514 census in which hardly any children were recorded among the remaining native population, and none at all in the two large Amerindian communities in Higüey. This illustrates the extremes of social and demographic collapse in the area. Structure 38, which is also the smallest of the dwelling structures of the 31 excavated in the site, may be the graphic indigenous reality behind the Spanish bureaucratic records. The *guaíza* and trigonolith may be interpreted as defiant statements of indigenous culture, or increased appeals to *cemí* resources for success in battle or protection.

6.6 The *yucayeque* (survey results)

It is suggested that the structures and artefact distributions in the main unit represent most of one house group. But is this the case, and how does this compare to the picture in the rest of the site? One can envisage several different scenarios: (1) a dispersed settlement pattern of multiple contemporaneous house groups,

(2) a large nucleated settlement pattern of contiguous houses (the towns referred to by Las Casas), (3) one or more house groups making residential moves over time within the site, and (4) any of the above in combination with a central focus such as a plaza. Without sufficient chronological control or data on intra-site mobility, the third option could account for the same patterns as produced by the former two. Results from the surface survey gave particularly clear results which helped to resolve these questions.

Ceramic and marine shell distributions are deemed to show most data integrity and be most clearly and directly representative of pre-Columbian activities. Bone, coral and stone are not further discussed here. The results are represented in distribution maps in which weight distributions of marine shell and ceramics are plotted together with weight distributions of the same material in the main unit. The distribution of griddle sherds is also plotted. The weights from the main unit have been divided by a factor of ten to account for the quantitative discrepancy between the excavated and the surface recovered material. This adjustment is a rough and ready solution based on the assumption that the volume of the excavated material is roughly forty times more than that of the surveyed material (bearing in mind layer 1 was on average 10-20cm thick and that the main unit was excavated in 1×1m squares, whereas the survey units are 2×2m). This seems a reasonable assumption, and the results are consistent (i.e. the percentage breakdowns similar between the two) and provide a basis for compari-

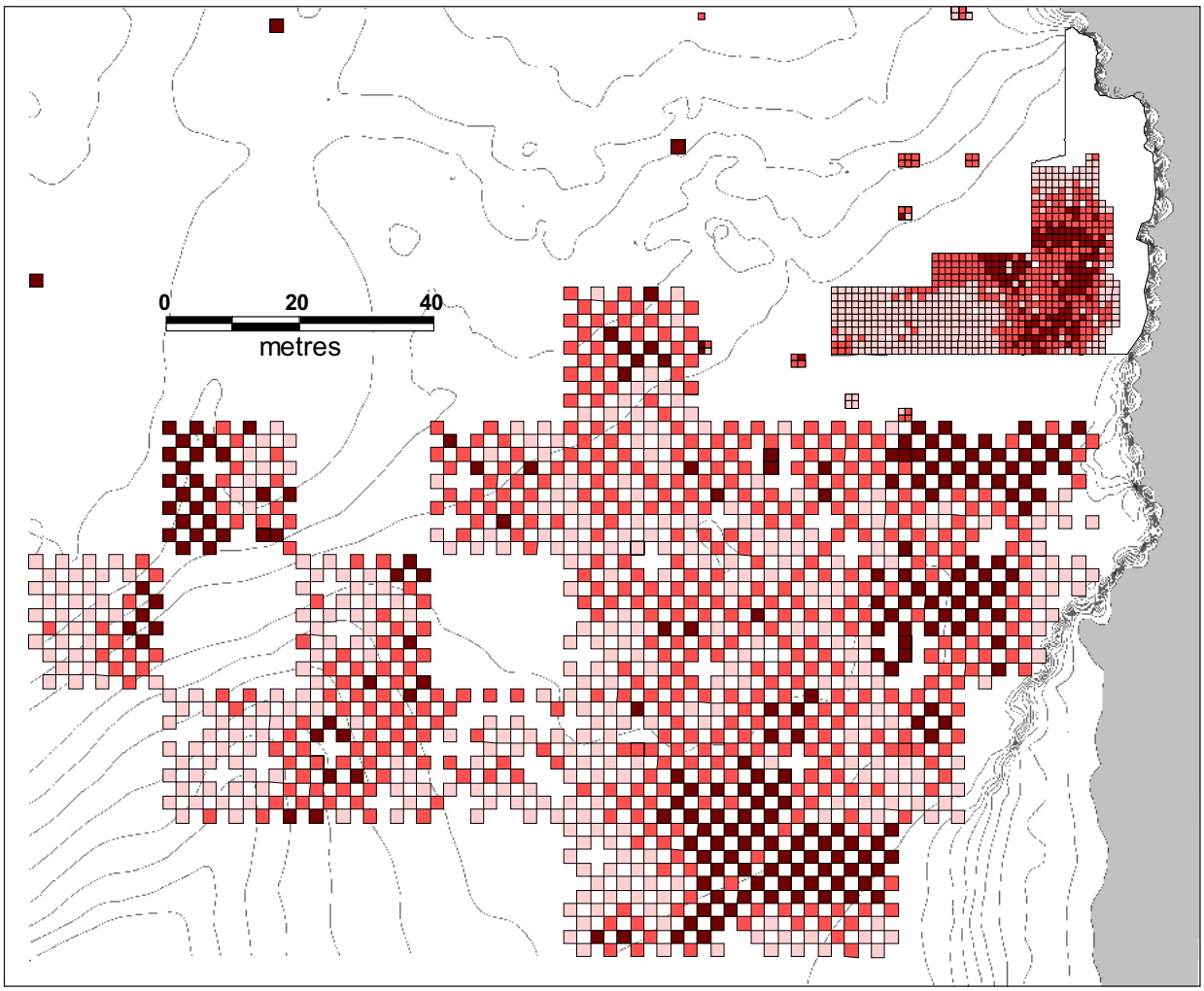


Figure 174. Ceramic distribution across the southern part of the site. Ceramic weights from light to dark 1-50g, 51-200g, 201-1000g.

son.[168] Thus we get an impression of how representative the excavated area is of a large part of the late-phase community. To complete the picture, we ideally need to know the extent of the Chicoid occupation in the northern portion of the site, with posthole dates from the 13th century. Indications suggest that it was not as extensive as in the south, and in any case this must be left for future research. It is assumed that the area surveyed represents most of the Chicoid habitation.

Items of paraphernalia have also been plotted as although rare outside the main unit, they provide important qualitative data. Items of colonial material culture are conspicuously absent from the rest of the southern part of the site, at least on the surface, being limited to the main unit and to the north as discussed in Section 6.5.6.[169]

6.6.1 Ceramic distribution

Four (including the main unit) irregularly shaped, but discrete concentrations of ceramics, 20-40m wide and 10-20m long, can be seen strung out in linear fashion along the edge of the cliff, roughly 10-20m apart (Fig. 174). Here ceramic density is greater than 200g. The densities decrease concentrically around these concentrations, with a smaller band of spotted concentrations occurring in a parallel line 80-90m inland and another large concentration occurring ca. 130m inland from the coast. Even in the areas of lowest density (1-50g), ceramics were present in all collection units. So we see a carpet of surface ceramic material with distinct and discrete concentrations occurring at regular intervals along the coast, and a further high density area on the north-western flank of the mound, the exact extents of which are not known due to the survey boundaries.[170]

6.6.2 Griddle distribution

A somewhat more starkly accented picture, in keeping with the pattern from the ceramic distribution seen above, emerges from the distribution of a particular type of pottery, griddle fragments, across the site (Fig. 175).[171] In addition to the (unadjusted) amounts of griddle pieces excavated from the main unit, two surface concentrations of griddle pieces occur along the edge of the cliff, and two concentrations inland in the west and southwest. Again the precise configuration of the westerly concentration is unknown due to the survey boundary. These concentrations are 50-60m apart and occur together in the areas of highest (non-griddle) ceramic densities.

The griddle concentrations on the mound were particularly conspicuous during survey as the bedrock was at the surface in many places. The sparse remains of any kind in this area, alternating with clear discrete concentrations of especially griddle pieces gave the impression of clearly defined activity or discard areas.

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168 The best method would have been to have carried out the surface survey at the beginning of the fieldwork, including the excavated area. Logistically this was not possible, however, and thus the rough adjustments are seen as appropriate.

169 It should be noted that a few sherds of colonial ceramics were recovered from the surface immediately in the area of the main unit, which indicates that had they been present elsewhere, the surface collection would have registered them.

170 Although still relatively dense in the west and south, surface artefact visibility drops off very sharply a little beyond these areas so that it can be stated with relative confidence that the survey extents are the site extents in the south.

171 Griddle numbers rather than weights are used because the griddle was not separately weighed in all cases for the surface collected material. Griddle weights for the main unit alone are discussed in Section 6.5.2.

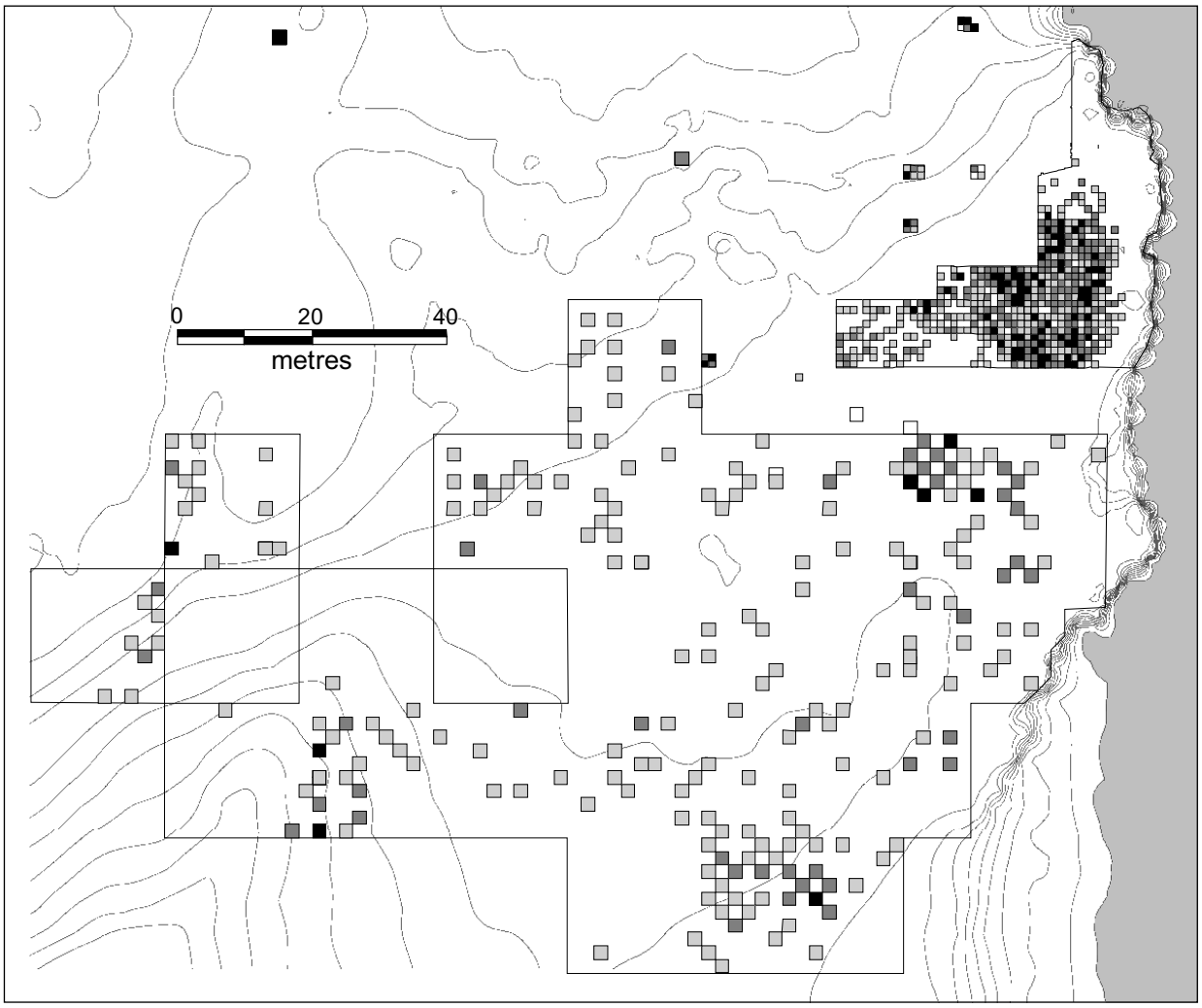


Figure 175. Distribution of the number of griddle sherds across the site. Numbers from light to dark: 1-3, 4-7, 8-22 fragments. Note that the griddle numbers in the main unit have not been corrected with respect to the surface collected material. Solid line marks the extents of the surveyed area.

6.6.3 Marine shell distribution

The marine shell distribution is largely similar to that of the pottery, though slightly less neat (Fig. 176). Concentrations occur in the same locations along the edge of the cliff and in the far west. But whereas there is quite a clear distinction between the concentrations of ceramics which decrease in an inland direction, this is not so clear in the marine shell distribution which is distributed less discretely across the site. Nevertheless, the marine shell, like the ceramics, also forms a more or less unbroken carpet of deposits across the site, except in the southwest part of the survey area where sparse to no marine remains were recovered.

6.6.4 Paraphernalia distribution

Very few items of paraphernalia were recovered during the surface survey (Fig. 177). Certain objects such as a coral micro-trigonolith, a piece of stone collar and a stone *guaíza* made of re-crystallized local brown limestone with incised face and tear motif were recovered, however, as well as some small beads and other bodily adornments, attesting to the thoroughness of the survey personnel. Most items of paraphernalia were recovered from excavated units, and the material from these units is also shown in the above figure. Interesting in this respect are two pieces of a sandstone *cemí* which fit together forming a phallus-

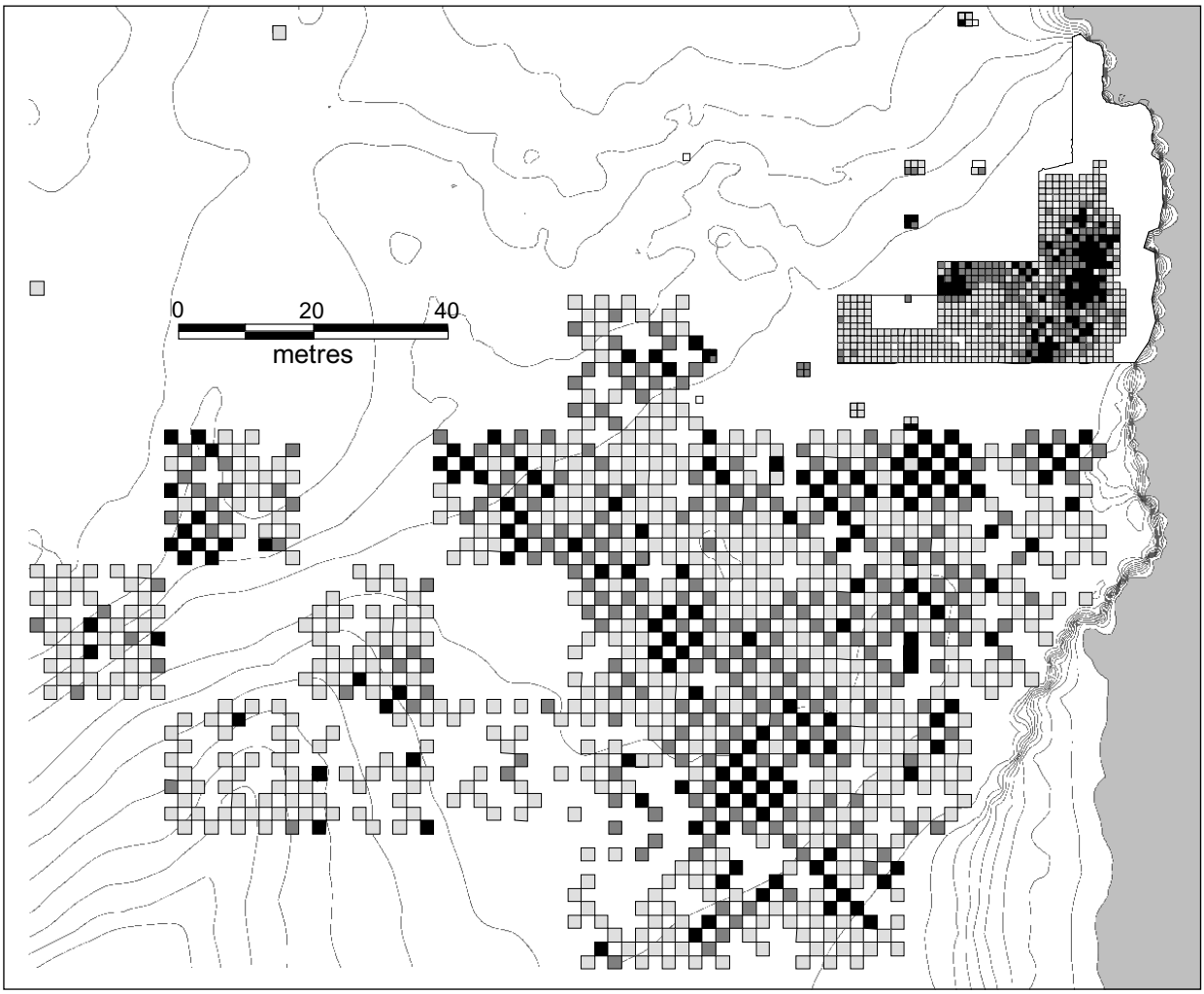


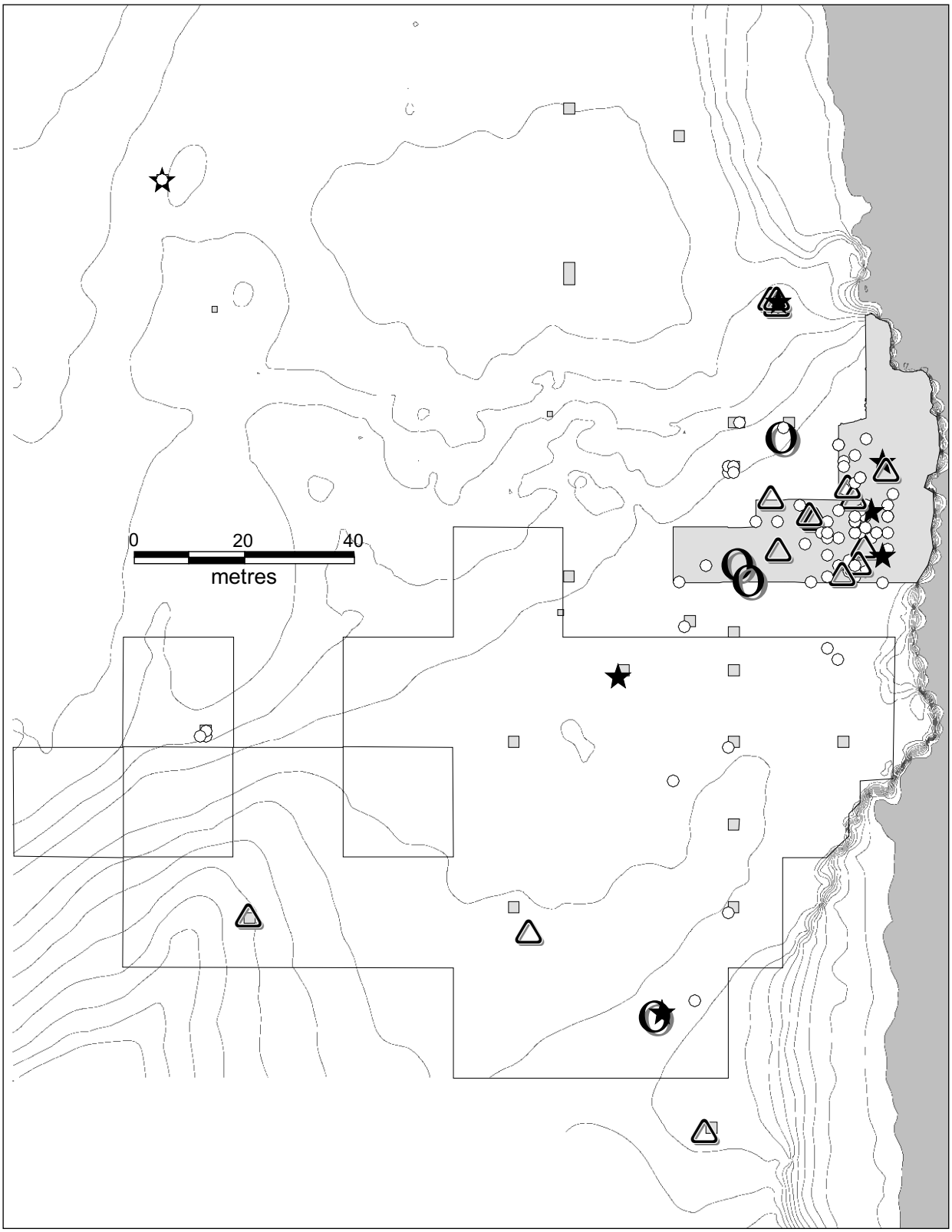
Figure 176. Marine shell distribution across the southern part of the site. Weights from light to dark: 1-20g, 21-50g, 51-1000g

formed object, ca. 15cm long, 155g, with a tulip-shaped top with vertical incision and a face motif incised on the base end. This was excavated from 2×2m unit 84-17.

In general, most items of paraphernalia occur along the coast, following the same trail of concentrations seen in the other categories of material culture. Of particular interest is a possible fourth piece of stone collar in the southernmost extents of the surveyed area. This needs to be studied further, but on brief inspection it appears to be a fragment stone collar made of a greenish, coarse-grained stone, and similar to those found in the main unit and in 85-41 to the north. There is a possibility that not just the two specimens from the main unit, but all four pieces are from the same artefact, although this needs corroboration through further research.

6.6.5 Discussion of distributions

Although the details of the distributions are slightly different, together they form a picture of discrete, but closely spaced focuses of discard with a range of material culture categories, occurring in five or six discrete concentrations across the site. These should be interpreted in the same way, as the sweeping accumulations of systematic maintenance in domestic areas. These areas have a mostly linear coastal distribution, but another major concentration of deposits can be seen inland to the west, with smaller concentrations in spaces in between. Seeing as the



survey ran the full extent of the site in the south, this is an accurate picture of the spatial dynamics of discard across the southern portion of the site (with the exception of the rather abrupt cut-off in an area of dense deposits in the west).

The southernmost accumulation of deposits appears to be as large as or even larger than that in the main unit, although this assumes that the relative weighting of the excavated versus survey material is equivalent. Nevertheless, even if

Figure 177. Distribution of bodily adornments and beads (white dots), stone collar fragments (black ovals), trigonoliths (triangles), and cemí *artefacts (stars) from the surveyed area, 2×2m units and main unit.*

one cannot very precisely compare sizes, it is clear that the house clusters in the main unit are mirrored in similar clusters across the site, along the edge of the cliff, and ca. 100m inland. The presence of domestic pottery, food remains (marine shell), tools related with food preparation (griddles), and a range of bodily adornments, *cemí* items and regalia implies similar cultural and quotidian activities occurring across the site as in the main unit.

It is reasonable to assume that each of these discrete clusters represents a house group 10 to 20m apart, as is the case in the main unit. Each house group is basically doing the same things – i.e. performing the same quotidian, political, ritual and economic functions, and on roughly the same scale. The horizontally extensive forms (see for the clearest example of this the three main clusters of ceramics along the coast of the survey area, Fig. 174) imply that house replacement dynamics operated in similar ways in other house clusters as it did in the main unit, i.e. that the habitation sequences followed long trajectories in more or less the same location, moving inland over time. This interpretation is strengthened by looking at the relationship between artefact distribution and features in the next section.

In terms of timescales and which period the distributions represent; it can be noted that, as discussed in Section 6.5, discard contours are associated with the latest phase of the Chicoid habitation. This is also probably the case over the larger surveyed area, although it does not necessarily mean that these clusters were contemporaneous, although as is argued below, there are reasons to think that they were.

6.6.6 Features and artefact distributions across the site

In 6.6.5 it was argued that differential spacing of the features indicates multiple house groups across the late-phase site. This evidence is borne out by the similarly clustered patterning of the survey deposits. Looking at the relationship between presence and absence of features and artefact distribution together, can further elucidate the wider habitation configuration, i.e. whether the distributions from the survey are indeed correlated with domestic features in excavated units, and if so, how (Fig. 178).

There is no information on the presence or absence of features from unexcavated areas, but the distribution of excavated units is extensive, and consequently provides a good sample. The presence of posthole features, indicated by the white squares in Figure 178, is associated with empty areas west of dense accumulations. In other words, postholes occur in areas of low surface artefact density, usually oriented inland with respect to the deposits. The circles on the contrary, indicate excavated units with no posthole features. In the survey area, the areas devoid of features (circles) are those either in the midst of dense deposits, or east of them. So neither unit in the far west of the site (74-36 and 42) has any features, despite being in areas, or on the edge of areas with dense deposits. That posthole features occur in areas of low artefact density, west of artefact concentrations, is a similar dynamic to that in the main unit, strengthening the interpretation of the surface deposits as sweeping remains related to domestic structures. Without wanting to over-determine the data, the spatial patterning of features and deposits may give an indication of the orientation of habitation, that even inland house groups were still oriented with entrances facing west. If this were true, one would expect to find posthole features in the area immediately to the west of this find concentration. This might also be the case for 74-42. Placing a unit five or six metres to the west may also encounter posthole features. No features were identified in units in the extreme limits of the site.

In summary then, artefact distribution and feature density, both in the main unit and across the southern part of the site, identify multiple discrete clusters of domestic structures, or house groups.

6.7 The house within the *yucayeque* community setting

The late El Cabo settlement was a largely coastally-oriented community arranged along the top of the cliff. Closely spaced house groups were oriented with their entrances facing away from the sea. Domestic debris was regularly swept from the fronts of houses and work areas, to the back of the structures, and likely into the sea. The clean areas in front of the houses would have been the daily congregation and work/recreation areas of households when people were in the settlement. Fence rows indicate that multiple house groups were contemporaneous and interrelated for the duration of centuries. This fence line does not stop at the boundary of the unit, but continues for an unknown length. Possibly it bracketed multiple house groups, all the way down the coast to the end of the settlement in the south. Even if this were not the case, indications that the various house groups were contemporaneous come from radiocarbon dates from the second artefact cluster/house group to the south of the main unit (2×2 unit 84-34, Fig. 38) in which two dates from superimposed layers dated to the 13th and 14th centuries (GrN-30532, GrN-30533, Section 4.2.8.3). This indicates longevity of occupation in this spot contemporaneous with the main unit. Moreover, the dispersal of four pieces of stone collar, potentially from the same artefact, in distinct house clusters the length of the late-phase site, hints that these at least may have been related to contemporaneous houses, perhaps broken up and dispersed at the same time, and related to an abandonment phase late in the community's life. A linear thoroughfare links the house groups along the coast, and separates them from other house groups at a short distance to the other side.

The presence of stone collar parts begs the question of whether there is a formal plaza in El Cabo like the nearby Atajadizo or Isla Mona sites. And if so where? Archaeologically we could not confirm the presence of any such feature. The clearing between the house groups arranged along the top of the cliff and those inland to the west is an area of roughly 50×50m which has relatively low density deposits. The finds of the collar parts flank the coastal side of this area, inviting comparisons with the eleven collar pieces found on the edges of the plaza in Atajadizo (Veloz Maggiolo 1976). However, this clearing has no regular shape and there is no indication of earth or stone embankments. It is more likely a pathway between the house groups on the coast, and those further inland. The deeper, sandier deposits in the northern part of the site, which may have been more easily levelled is a more suitable area for a plaza. The results from the geophysics will shed more light this.

Plazas are comparatively rare in Hispaniola. There is an assumption in the literature that the presence of stone collar parts indicates the presence of a plaza. However, data from Puerto Rico, where there are far more plazas than in Hispaniola (roughly 3:1, Wilson 2007:123) show that this is not necessarily the case: three sites in the Maunabo Valley produced collar pieces but the valley has no documented plazas (Curet 1992b). Oliver (2009) suggests isolated farmsteads without plazas may have been production sites for collars used at larger ceremonial centres with plazas. Therefore collar parts are not substituting evidence for plazas, and in the case of El Cabo we should not necessarily expect to find one. This does not mean that there was no central gathering place in the *yucayeque*, just that this was either not demarcated, and has not yet been located.

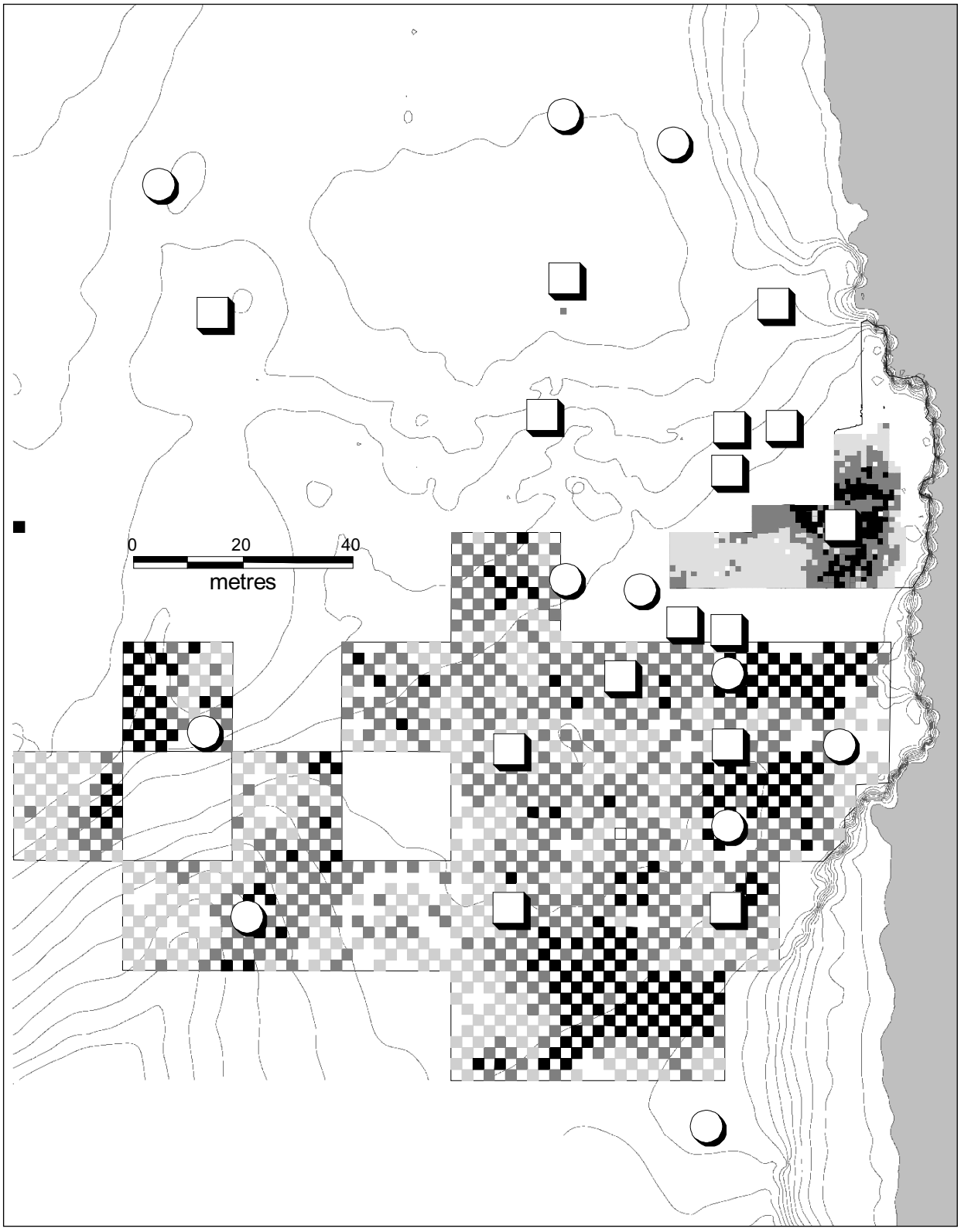


Figure 178. Distribution of ceramic weights as seen in Fig. 174 including the location of presence (squares) and absence (circles) of posthole features in the excavated units.

Returning to the house groups in the settlement, it is noteworthy that the greater density of features to the west of sweeping accumulations in both the main unit and in the rest of the site to the south, as well as the east-west elongated shapes of these accumulations, suggest strong stability in occupation, namely that centuries-long renewal of houses and the development of the institutions known as House Trajectories was a settlement-wide phenomenon and the habi-

tation pattern in the Chicoid phase of community life. In other words, long trajectories of house-building on the same spot occurred in all the house groups across the site, in a comparable way to the main unit. Of course there was also habitation in the north of the site in the 12th century, and possibly even in the far north at a later date as evidenced by the colonial ceramics, but again only further research will clarify the extent of this.

From the available archaeological data, it appears that all house groups were of comparable size and carrying out the same functions, both in terms of household production and consumption, and in terms of access to regalia (i.e. the stone collar). As we have seen from the main unit, there were close ties between contemporary houses within a group and such groups may have shared access to ritual resources such as stone collars. It may be proposed that house groups functioned as households. It is unclear the extent to which individual houses functioned as economic units within house groups. From sweeping accumulations relating to the last phase of settlement, it appears that all houses in a group and across groups were actively engaged in domestic activities of production and consumption. However, only detailed qualitative analysis, rather than spatial analysis alone will shed more light on this. The household itself was divided into individual houses with distinct physical and metaphysical boundaries. These social units were made up of people who considered themselves kin and who could trace the historical trajectory of their particular house and ancestors, and therefore ancestral kin. These houses were custodians of iconic valuables such as other types of *cemí* items (namely perishable *cemís* with shell inlays, trigonoliths and *guaízas*). It is likely that a certain house within the group was considered prior or the original house to which others were related.

6.8 House and community demography and kinship

Although in general complexity of archaeological data is not suitable to estimate something as synchronic as population numbers, this is a necessary part of house and settlement reconstruction. This is, firstly, because the ultimate goal of household archaeology is people, rather than house and site size. Thinking in terms of people implies envisaging a social group and the particular social configurations which peopled the archaeological entities. If a house has been excavated, it is important to know how many people lived there, and who they were, hence the focus on kinship as an alternative way to do this. At a larger scale, discussions of regional population dynamics, colonization, migration and other themes beloved of Caribbean archaeologists rely on accurate models and formulas for population estimates at the smaller scale. Estimates at household and site levels will always be more accurate than those made at the regional or population level. However, to date there are few sites with archaeological data of sufficient quality to make such projections. This is a problem because population density at contact is a controversial topic with scholars downplaying the more or less unanimous 16th century observation that the population of Hispaniola alone was in excess of a million at contact (Anderson-Cordova 1990:141-156 and Tables 4 and 5). Estimates range from tens of thousands to tens of millions, with archaeology contributing little to these discussions, although I suspect the higher numbers are more accurate.[172] There is, however, consensus on the rapid

172 Judging from the surveys carried out in the eastern region by the *Museo* (see Olsen in *Boletín*) and from personal observation of the evidence for Ceramic Age activity in caves, on beaches, inland and the foot of the cliffs, from the Cabo de San Rafael to Punta Macao and probably beyond, the landscape seems to have been pretty full pre-1492.

reduction of the population to about 25,000 by 1515, with a large part of the population made up of those displaced from elsewhere from the Caribbean and mainland, and 2000 by 1529 (Anderson-Cordova 1990).

6.8.1 House and site population estimates

Curet's (1998) recommended formulas for estimating house and site population numbers for the South American lowlands and Caribbean are used to generate estimates for the El Cabo data. His approach is based on a number of assumptions, the most important being that Tropical Lowland cultures are the best available analogies to the pre-Columbian Caribbean. This was also the approach of Schinkel (1992) who worked out estimates for Golden Rock on the basis of ethnographic analogy. Curet's calculations are not far off Schinkel's higher estimate of 6m² per person for the Golden Rock houses. Indeed, especially in the case of small houses, the difference in people numbers generated by the many different formulas, some more or less rule of thumb, are small (one or two people), which begs the question what actual real difference this makes in terms of the implied household composition. Nevertheless, Curet's formula is preferred because of his critical discussion of the available models and use of ethnographic analogies.

To estimate the number of people per domestic structure, Curet recommends using a formula obtained from a linear regression analysis based on an ethnographic data set of nuclear and multi-family dwellings (1998:Fig.1):

Number of occupants = 0.50636 + floor area (0.16949).

Although there is a linear relationship between floor size and numbers of inhabitants, this correlation is strongest in large houses, or those with many inhabitants. Households with ten individuals or fewer, or dwellings less than 100m² (which he terms nuclear family houses, as opposed to communal or multi-family dwellings) show a high degree of variability in population numbers. This is because changes in population numbers of small households will not necessarily affect the size of the house, but will necessarily strongly effect the floor area per person (i.e. the addition of a second person in a house halves the available floor space, but probably won't necessitate the building of a larger house; *ibid.*:367).

An additional cultural reason, not discussed by Curet, is that dwellings for smaller social entities (household compositions which may or may not be the "nuclear families" cited by most scholars) may be more idiosyncratic, governed more by the status of the inhabitant group, and less by the general principle that variation is governed by population size. In native Amazonia, for example, house variation can exist within a single group depending on household resources, ability to muster communal labour and individual preferences. Younger people build more modestly, whereas established shamans build more prestigious, larger structures (P. Oliver 1997: 1621). The inclusion of a more stable data set, i.e. the larger multi-family houses, thus produces a more workable formula, but runs the risk of effacing this variability. This is problematic for a Late Ceramic Age Caribbean data set, which consists mainly of floor plans belonging to the smaller category. This is the case for all the post-Saladoid house plans used by Curet, except Maisabel (1998: Table 3), and also for practically the whole of the Caribbean archaeological house plan repertoire, as well as for the size range of historical houses reported by Las Casas (Curet 1992a:162; Las Casas 1992). The same goes for El Cabo where all except two house structures are less than 100m² in floor area.

Similarly, at the site level, the relationship between site size and population is not equally stable for sites of all sizes. This leads Curet to make a distinction between small sites (≤9000m²) and large sites (>9000m²). El Cabo, at 22,000m² for the late-phase settlement, falls into the larger, more stable category, so we do not have a similar complicating factor as for houses. Site population estimates are based on data from horticultural groups (Tropical Forest cultures) with permanent, nucleated habitation. The formula used is the logarithmic formula for larger sites (*ibid.*: Fig.9):

*Settlement population = -2579.2 + 671.58*LOG(area in m²).*

6.8.2 El Cabo house and community estimates

The average number of inhabitants per house structure in El Cabo (based on the mean of the 24 house structures, excluding the small Type 1 *cemí* houses) is 9.6 inhabitants (Table 5). This ranges between 5.8 people for the smallest house and 17.5 for the largest. If one makes this calculation only for the most reliable houses (confidence classes 1 or 2), the mean number per house is practically the same at 9.2 inhabitants, whereas the range is tighter so that the least populated house has 6.1 inhabitants and the most has 14.4.

As discussed, multiple houses were inhabited contemporaneously. It is assumed that the excavated area of the main unit represents most of one entire domestic group. This group consists of a minimum of three contemporaneous house structures (as bracketed by the long north-south fence rows). It is likely that there may have been more, possibly up to five contemporaneous, neighbouring houses per group in the latest phases of habitation. Taking a middle estimate of four houses per group, with an average population of 9.2 people per house, this means that there may have been approximately 37 people per house group.

Given the five more or less equivalently sized house groups in the late-phase site, and additionally several smaller groups and possibly at least one additional group to the north (12th century postholes in the 2×4 unit), we can say that there were seven house groups of four houses. We have made a case for these being contemporaneous with each other throughout centuries duration. This gives an estimate of a stable population throughout Phases *c* and *d* of 258 inhabitants.

The estimate for settlement population is based on the cumulative estimates per house, per house group, and finally per number of house groups in the settlement. In the course of the argument, the suppositions necessarily mount up. This can be justified by judicious use of the archaeological evidence (i.e. the interrelatedness of the detailed information per structure and household group from the main unit, with information on the dimensions, location and dynamics of house groups across the late settlement from the small units and surface collection), and comparison with alternative ways of calculating site population.

One such alternative way is using Curet's formula for estimating site population as stated above. For El Cabo, based on an area of 22,000m² as a best approximation of the Chicoid phase village, the population is 337 people.

When compared to the population calculated on the basis of population per house, we see that this figure is higher by 79. However, both figures are of the same order of magnitude, i.e. there is no huge discrepancy between the figures whereby one set of calculations produces a dispersed hamlet of a few individuals, and the other a densely nucleated city! The house estimate is probably better, because this takes into account the specifics of the site. The settlement estimate fills these gaps by relying on the appropriateness of the ethnographic model. Of course the inhabitants per house estimate is also based on ethnographic projec-

Structure no.	Area	Confidence class	Type	No. inhabitants
15	19	2	1 (not house)	3.7
43	24	4	1 (not house)	4.6
38	31	3	1	5.8
20	33	2	1	6.1
1	36	1	1	6.6
3	37	1	1	6.8
7	40	1	2	7.3
2	43	1	2	7.8
24	43	2	1	7.8
29	45	2	1	8.1
9	48	1	2	8.6
23	48	2	1	8.6
13	48	2	2	8.6
21	49	2	1	8.8
11	50	1	2	9
34	50	2	1	9
5	51	3	2	9.2
48	53	2	1	9.5
14	54	2	1	9.7
42	54	3	1	9.7
30	60	2	1	10.7
27	72	3	4	12.7
6	77	1	3	13.6
4	81	1	1	14.2
22	82	2	4	14.4
40	100	3	2	17.5

Table 5. Population estimates per house structure based on Curet's (1998) recommended formula.

tion. Nevertheless, the figures represent the closest reasonable indication of a real population in the late phase. We can be less sure of this figure for the earlier Phase *a* community, where houses replace each other through time, but with no indication of whether they also grouped together as is the case in subsequent phases.

In summary then, house structures domiciled between 6.2 and 14.4 inhabitants. Thirty to forty men, women and children, the household, lived in house groups of three to five houses each, mostly aligned along the edge of the coast, but with a couple of house groups located more inland. In total, the late-phase community witnessed a constant 250 to 350 people over several centuries habitation.

6.8.3 Social composition of houses

Overing and Passes describe the domestic domain as "the hot and affective space of personal family relationships centred around the everyday care and responsibility of children" (2000:3). It is in this "hot and affective space" that kinship is created. But what was household composition? Did it consist of kin (real or fictive), and if so, who were considered kin? How might one characterize the relationships between people in the same house group? And what was the relationship between different house groups in the community? What did houses do? How did they constitute society?

There is no significant burial population in El Cabo to access the demographic characteristics of the community. The human remains excavated from the site are extremely few and need to be studied in detail. Of the four inhumation graves excavated, one is the burial of a neonate, another one of a young adult female, and the other two adult inhumations. Lack of direct dating and almost complete absence of grave goods means the remains cannot be securely related to the late phase, although from their contexts it is presumed all post-date the 10th century. As mentioned before, excavation of over 50 structures indicates that burial under house floors was not a systematic practice, and although all burials are associated with postholes, they cannot be firmly associated with any structure in particular. This only tells us that in the Chicoid community it was relatively unusual that mortuary rituals ended in deposition in the habitation area, but that when this was the case, individuals of different ages and sexes qualified for such treatment. The presence of individuals of different ages and sexes, as well as a full range of domestic and ceremonial material culture and permanent habitation over the course of centuries, points to the fact that there was a full and complete living settlement population.

That Late Ceramic Age households consisted of small extended families seems a reasonable assumption based on historic sources (Curet 1992a). It is clear that the Spaniards interpreted the inhabitants of houses as related families, but what kind of family relationships these were and how they manifested themselves in terms of residence, succession and descent perplexed the early chroniclers just as much as it has vexed scholars ever since (Curet 1992a:162, 2002, 2005; Curet 2006 *contra* Keegan 2006; Helms 1980; Keegan 2006 *contra* Curet 2002; Keegan and Machlachlan 1989; Lovén 1935; Rouse 1948/1992; Veloz Maggiolo 1993).

In El Cabo it has been shown that individual houses articulated into larger house groups, or households. Intimate social relationships, such as those engendered by membership of the same house group were probably expressed through the language of kinship. The recovery of the precise terms and typological configurations is beyond the grasp of archaeologists. Of greater interest and infinitely recoverable is what these kinship groups *did* as closely bonded affinitive groups of mixed age and sex. As has been discussed by many before (Belaunde 2000; Helms 2007; Joyce and Gillespie eds. 2000), kinship is not given, it is created, and it is the process and dynamics of its creation which is of anthropological interest. Kinship is created by living well together, and it is this process which is important to describe and understand, and this process which can be described with recourse to the archaeological evidence.

6.8.4 The dimensions and manifestations of kinship in El Cabo

This chapter was entitled "the house that Higuanamá inherited", which refers to the fact that long-lived houses were the physical manifestations of the long-lived lineages which inhabited, renewed and perpetuated them. The social identity of inhabitants was linked to the membership and inheritance of a certain house. Membership of an enduring and successful house probably conferred social status and legitimacy, a status recognised in heads of houses (*caciques*) by the Spanish in historical times.

Individual houses were composed of around nine men, women and children, probably both kin and affines, who referred to each other by kin names. Certain house members, and here for narrative's sake, the matriarch and her daughters, could trace their ancestors back through the House Trajectory which was a de-

fining aspect of their and their house identity. The origins and history of the centuries-enduing house would have been insider knowledge passed on by the residents of the house, especially and more formally at times of house renewal.

On the next level, one also belonged to a larger group, in which individual houses formed households of up to three to five similar houses whose members were closely related, probably sharing the same *cemí* house and performing work and craft tasks within the house group. Thus the 30 to 40 people co-residing within a house group probably considered itself the larger "family" and household group. Several other house groups from which they were spatially separated in the settlement probably housed more distantly related affines who were nevertheless members of the same *yucayeque* community. We know from the chronology of the excavated domestic area, in which the number of houses increased from phase to phase, that the reproduction of these kin groups was successful and developed over time, up to the contact period.

There are thus three levels of settlement membership: your own house, the house group, and the *yucayeque*. The limits of this study end here, but additional levels of membership probably extended to local communities along the coast and inland in a local settlement network. How this may also have extended across the Mona Passage and further within Hispaniola must be a subject of future study (already discussed with respect to elite culture, Oliver 2009).

6.9 Discussion

This chapter attempted to breathe life into the reconstructions presented in Chapter 5 by presenting the structures in the main unit in chronological succession, both in terms of their synchronic relationships with each other per phase, and through their development through time. Five phases were identified spanning the 9th to 16th centuries. One of the most remarkable and recurrent patterns which emerged over seven centuries of habitation was the repeated renewal of house structures forming long-lived House Trajectories. These House Trajectories were propagated by their inhabitants through cycles of renewal, common to all house structures, in which closing rituals, abandonment and rebuilding were probably coordinated events. The house was an important vehicle of socialisation as can be seen in the attention to detail of its aesthetics and the link between it and the bodies of its members. One of the primary sources of an individual's dentity and status was the house and historical House Trajectory.

The structures in the main unit form the majority of one house group, equivalent to a household. This household was one component of the whole Chicoid settlement which consisted of five to seven more or less equal and contemporaneous house groups. These neighbouring house groups formed the late phase community, or *yucayeque*, which, smaller in its beginnings, grew, developed and persisted for centuries up to the first decades after European contact.

Chapter 7

House Trajectories, the constitution of culture, and social complexity in Higüey

7.1 Summary of results

The preceding chapters presented results of dissertation research from the Late Ceramic Age settlement site of El Cabo, in the Higüey region, on the east coast of the Dominican Republic. The focus of the fieldwork and research questions was the documentation and interpretation of features from the habitation area of the late-phase (post AD 800) site, with the aim of reconstructing domestic structures. This was to gain an archaeological perspective on the indigenous house and household dynamics.

Of the 2100 features excavated in 1030m² in the main unit, 99% are postholes made for sinking wooden posts into. This interpretation was made mainly on the basis of their incorporation as structural elements within buildings or other constructions. The majority of postholes are extremely regular in execution and spatial patterning, and their preservation is excellent, allowing the identification of tool marks and the reconstruction of over fifty domestic structures.

These structures fall into eight main types: four house types, two types of special-activity structure - one a covered shelter, the other canopied with open walls -, a type which includes all post alignments, including windbreaks around structures, long fences running along the edge of the cliff, alignments demarcating or separating houses, rows of inclined posts, perhaps acting as screens, or brief alignments perhaps representing racks, stands, hanging poles, or other domestic tools. Other alignments were more enigmatic and evaded interpretation. Finally, a unique small structure is interpreted as a communication platform or lighthouse due to its position on the edge of the cliff. In all over 70% of features documented in the main unit were incorporated into reconstructions.

Methodologically this study shows the potential for household archaeology where horizontally extensive excavation with the explicit aim of recovering settlement features and time-investment in post-excavation analysis is possible. The site taphonomy of El Cabo was suited to reconstruct settlement features, but by no means unique in the Antilles where many other sites, especially in karst areas, display these properties.

The majority of structures, 31 out of 52, are interpreted as houses. Twenty six of these could be assigned a type from1 to 4, and the other five were too partial, or had confidence ratings which were too low to assign a type. House structures are the focus of the dissertation as these are interpreted as significant and primary indigenous material and social units. Houses are consistently more elaborate and regular than other structures. They all share common features, are generally larger than other structures, have roofs and continuous, probably closed walls, a regular orientation, great internal symmetry and monumentalized

entrance façades. Houses are the locations of commemorative acts and closing rituals and have specific lifecycles of renewal not seen in other structures. As architectural units, houses share the same principles of construction. They all are circular buildings with an outer ring of closely-set (mean 67cm), slim postholes, 12 to 14cm in diameter, and 15 to 20cm deep. Roof supports form an inner ring,[173] on average 85cm away from the external wall, which consisted of eight large posts. These posts formed pairs aligned along a front-back axis, and two pairs perpendicular to this. There is no centre post in any of the houses. This lack of a concentric layout is something which is underscored by other aspects of the architecture, namely the fact that houses were high at the front, and low at the back, which all suggest that the inhabitants would not have experienced any kind of "centre", despite the circular plan. Houses are oriented in a dominant westerly direction, with slight orientation changes between phases.

Houses are very regular buildings in which the balance and proportions of the structure was clearly ascribed a meaning. Multiple levels of symmetry are apparent in house architecture; such as the way in which the posthole proportions move as a wave decreasing in size from the front to the back of the house, and the alignment of internal roof-supports on larger postholes within the perimeter circle. The care taken in the proportions and spacing of the foundations should be seen as a reflection of the real timber architecture, but also as evidence that the preparation of the foundation and construction of the house itself was a significant act.

The house posts of the façade would have been imposing, perhaps decorated, and formed a house front which ran up to one third of the way along the exterior of the house. The best place to work, sheltered from the sea wind, was in the lee of the façade, facing into the *yucayeque*. Despite its size, the façade probably contained a small doorway through which only one person at a time could pass, and perhaps whilst bowing one's head. Wall posts, like the entrance, were closely-set posts about 10cm thick, and between them thin canes tied together with vines to close the walls and to protect against the wind. There was space enough between the house wall and the eight large posts supporting the tie-beams to walk between the wall and the internal roof-support ring. As one went towards the back of the house, towards the pair of internal posts in front of the back wall, the roof got lower (and the house darker).

Houses are interpreted as the principal living structures and focus of domestic life, through which inhabitants claimed membership of a social group and historical past which was one of their first sources of "us" identity. Activities such as eating, sleeping, *cemí* veneration, raising children, and the organization and performance of work tasks were carried out in and around the house and especially probably outside the front wall of the house, in the shelter created by the façade. The house was the locus of insider conviviality and identity, and on a daily basis the main material vehicle for the transmission and reproduction of cultural, social and moral values through the order and equilibrium inherent in house aesthetics, the symbolic equivalence between house and the bodies of its inhabitants, and house-related practices, such as deposition. Each house embodied the ideals and aesthetics of proper sociable living in the details of its architecture and lifecycle.

House structures were inhabited by a social unit of between 6 to 14 inhabitants. It was through membership of this institution that inhabitants derived, transmitted and transformed identity and cultural and social values. One of the

173 With the exception of house Type 3 in which roof-supports are incorporated into the outside wall (Section 5.4.3).

primary ways an individual's social status was negotiated was probably through membership of a house, which conferred core moral, ancestral and historical identity. From the archaeological remains associated with the house structures, it is likely that inhabitants participated in a range of house-centred activities within or in the outside-space of houses. This included the preparation, consumption and storage of food and beverages - witnessed by food and pottery remains -, the performance of productive and craft activities - witnessed by tool remains-, and the accommodation and veneration of house valuables such as *cemí* icons and trigonoliths - witnessed by the presence of such paraphernalia outside normal refuse distributions and related to houses. The lack of additional features inside the house, other than roof-supports, indicates that houses had no fixed structures or divisions inside. Moreover, there is a conspicuous absence of fires, hearths and cooking features, although whether this is related to archaeological visibility or past practices is unknown. Such features are common at other sites in the Greater Antilles, either in houses, or in separate kitchen structures. There is also a general absence of burial and human remains associated with the houses, one can state that it was not common practice to permanently dispose of the dead in houses (although they may have been curated in non-archaeologically recoverable ways, i.e. suspended in baskets from the house beams).

The repeated re-building of house structures results in the diachronic development of a phenomenon termed the "House Trajectory". There are six House Trajectories in the main unit, formed of closely spaced or overlapping house plans. House Trajectories find expression through long-term cycles of house renewal in which individual structures are stages in longer sequences of rebuilding. Individual structures lasted multiple generations, however, at a cyclically coordinated point the decision was taken to abandon them, not because they were in a state of disrepair, but because of a moral and cultural imperative. Posts were removed from the old house, items belonging to former inhabitants symbolising personal and household identities were deposited into cardinal postholes, and new foundations dug. This was repeated up to five times for some of the longer House Trajectories which lasted up to and perhaps longer than 500 years. House Trajectories show deliberate concern with perpetuating the house beyond the lifetimes of its inhabitants or households. This is seen by successive generations of rebuilding resulting in the development of a long-lived institution. Houses appear to have been very stable institutions, which promoted their own reproduction in the same, repeated mould whilst at the same time encouraging the growth and development of the estate through the appearance of younger, related House Trajectories and additional structures, swelling the settlement through time. It should be made explicit that individual house structures are just one "particular cultural fragment" (Robin 2002) of the House Trajectory. It is assumed that ancestral, burial and bathing places, *conucos*, caves, *cenotas* and other areas "outside the house" which were intrinsic components of the material and immaterial cultural landscape may also have been included in the transgenerational estate, although governed by different rules of membership or succession. It is potentially a serious weakness to fetishize the architectural remains at the expense of the rest of the elements which make up the House Trajectory. Nevertheless, of all the elements of the domestic political landscape it is assumed that the house was probably the main focus of social life and long term social reproduction.

Houses were arranged in clusters of three to five neighbouring houses forming a "house group". House groups are the equivalent of households consisting of between 30 to 40 individuals sharing intimate, probably familial bonds.

It is not known to what extent the household was an economic unit, however the presence of the long-lived storeroom associated with regalia indicates the house group may have functioned as a ritual unit. It is assumed that the structures excavated in the main unit form the majority of one house group. Contemporaneousness of houses in a house group is indicated by fences and post alignments around and between proximate houses, and the spatial relationships houses had with each other. It is also indicated by the parallel development of House Trajectories suggesting that cycles of abandonment and renewal were coordinated. Approximately five, more or less equally-sized house groups, spatially separated from each other are seen across the site. This is posited on evidence from the surface survey which indicate at least four artefact concentrations in the southern part of the site in addition to that in the main unit. These concentrations are similar in size to each other and are interpreted as sweeping remains like those excavated in the main unit. Moreover, the location of presence and absence of features from the small unit excavations show a correspondence between sweeping remains and postholes across the site, the dynamics of which correspond with what is seen in the main unit (namely sweeping remains accumulate on the coastal side of areas of posthole features). This is interpreted as evidence for a settlement which consisted of multiple house groups.

Given the similarity of the archaeological patterns between the main unit and the surveyed area and small excavated units, the house groups across the site are assumed to be of equal longevity with that of the main unit. Namely, habitation across the site is estimated from ca. AD 850 until after European contact and colonisation. House groups are assumed to be contemporaneous and neighbouring, rather than representing non-contemporaneous residential moves through time. In other words, the whole settlement or *yucayeque* is considered to have been made up of at least five (and possibly seven) equally-sized neighbouring house groups (with other smaller additional groups) which together formed a stable community for up to 700 years (AD 850 to ca. 1504). This is calculated to mean a community population of between 250 to 350 people at its height. In the 9th and 10th centuries the population may have been smaller, with the demographic peak from the 11th and 12th centuries. Arguments for the contemporaneity of house groups are again based on a number of lines of evidence. Firstly, contemporaneous radiocarbon dates from two house groups, secondly the unbroken sequences of renewal in the main unit some of which endure for up to 500 years which indicates residential mobility was not a common practice. Thirdly, material culture in the southern part of the site is largely Chicoid and more tentatively, pieces of the same stone collar were recovered from one of the other house groups to the south, indicating not only contemporaneity, but also the details of a shared history.

One way in which houses may have differentiated themselves from each other both within the house group and across the *yucayeque* is on the basis of longevity of their respective trajectories. Longevity and status can be argued to be universally linked (Helms 1998; and with respect to architecture Pauketat and Alt 2005). Perpetuating the house estate was a clear concern of inhabitants of El Cabo. This suggests that the houses in Trajectories 1 and 2 in particular, may have been of higher status than others in the main unit, which were younger and of shorter duration. What this meant in real terms is difficult to say, for although their origins may have been asserted as prior, and used as a vehicle for the legitimation of one's own lineage (following a logic presented in Curet and Oliver 1998), there is no straightforward evidence that this occurred in El Cabo. For example, there are no discernible differences between houses in pat-

terns of production, consumption and discard in the latest-phase deposits. This is also the case more widely, across the *yucayeque*, in which the different house groups appear to have been engaged in the same activities with no difference between them. Only more detailed analysis of, for example, faunal remains or raw materials may indicate whether there were qualitative differences in access to certain foodstuffs and products between houses or house groups. Moreover, in terms of those artefacts considered high-status, indigenous vectors of status are not yet clearly understood due to the fact that the archaeological context of those artefacts are generally not known (although this is changing, see Mol 2007; Oliver 2009). Artefacts which are considered ritually potent and therefore socially valuable are associated with houses in El Cabo, although whether and how this conferred status is open to multiple interpretations. In terms of specific valuables (*guaíza* and large trignolith), and exotic items such as the European imports, it is clear that certain houses, such as those in House Trajectory 2, may have had more access than others. *Cemí* icons, trigionoliths and *guaízas* are related to particular houses or House Trajectories and part of the confection of the house, whereas stone collars are related to other structures, interpreted as *cemí* houses (or regalia storerooms), within house groups. Moreover, stone collar parts were recovered from multiple house groups, suggesting that no one group had a monopoly over these resources. Therefore although houses have all the ingredients to potentially act as agents to promote difference, the circumstances under which this might have been the case are not clear, although could be explored by investigation of neighbouring house groups, or of how houses functioned in the earlier, Ostionoid phase at El Cabo, or other sites.

The demise of these native institutions in El Cabo occured within about 20 years of colonisation in Hispaniola. Material evidence for the reception and rejection of European culture is seen in the presence of imports relating to the first voyages of exploration, the subsequent incorporation of these exotic items into the lifecycle of houses, and the rejection of later imports despite the fact the *yucayeque* was inhabited through subsequent phases of exploitation and colonisation. Future analysis of how pig remains relate to the indigenous settlement may provide further evidence of selective incorporation of imported elements. Higüey was one of the last regions to be directly effected by colonisation. However, indications that the stress and impact of colonisation eventually affected the community, leading to the dwindling of its population may be seen in the fact that against the general trend of growth seen in the house groups, one of the last house structures in the settlement, associated most closely with European material, is also the smallest.

7.2 Implications of a house perspective for Late Ceramic Age culture and social complexity

What are the implications of these results and interpretations more widely for an understanding of the Late Ceramic Age of the Greater Antilles? One of the most significant implications has been to show how the house is an instrument for cultural transmission and social reproduction. The existence of the House Trajectory in El Cabo, not just in one instance, but as a general, community-wide domestic norm, can provide a model for the social processes and domestic politics by which stratification could potentially emerge. By the time of contact, many Greater Antillean societies, especially in Hispaniola, were organised in stratified societies where the position of leadership was institutionalized and inherited (Curet 2005; Curet and Stringer eds. 2010; Rouse 1992; Veloz Maggiolo

1993; Wilson 2007). How this came about has been discussed with reference to symbols of power such as *cemí* icons and the manipulation of elite iconography (Alegría 1983; Curet 1992b; Moscoso 1978, 1983; Oliver 2009; Rouse 1992; Siegel 1999, 2004, 2005). This has focussed attention almost exclusively on a small, archaeologically undocumented, section of society (the *cacical* caste), with scholars on a "wild goose chase" for that elusive paramount chief, and an almost palpable disappointment with sites which don't reveal them (Keegan 2007; Oliver 2003; Righter 2002b; Veloz Maggiolo 1973; Wilson 2007:135).[174] This neglects the rest, i.e. the majority of social life, and denies the way in which indigenous society, domestic politics and sociality operated on an everyday basis over hundreds of years – i.e. through membership of and reproduction of the house. Through this study of the settlement features of El Cabo, the house, not the chief, has emerged as the *social persona*. It is not known when the origin of House Trajectories in El Cabo began, and this is one of the limitations of the site data. Perhaps House Trajectories were already developed in the earlier period of settlement from the end of the 6th century. Only further research will shed any light on this. However, the potential for future research to see whether and how the development of social complexity is linked to the development of the house as an institution would be very enlightening. Moreover, the site of El Cabo is probably not unique in having House Trajectories. Other sites in the Greater Antilles and further afield also show trends towards house perpetuation and re-building (e.g. Los Buchillones, Caguana, and Kelbey's Ridge 2).

It is through the House Trajectories that the indigenous *yucayeque* of El Cabo developed as a place. In this sense, the domestic realm can be seen as an important arena to perpetuate an ethos of settled place and identity. Much has been written about the shift from a regional to a more local focus on identity in the transition between the Early and Late Ceramic Ages (Curet et al. 2004; Curet and Oliver 1998; Hofman and Hoogland 2004; Siegel 2004). The houses from El Cabo are a concrete (limestone!) materialization of this. The creation and duration of established house institutions which perpetuated themselves for at least 500, and possibly more than 600 years (the latter half of Period III and Period IV (Rouse 1992)) and which were the building blocks anchoring a community for around 700 years indicates that house-based society was inherently stable in material expression, and one of the major constituents of indigenous culture. The analysis of the House Trajectory is a direct way of observing the dynamics, practices and temporalities of complex society. Moreover, the study of domestic structures in El Cabo offers a distinct and insular Caribbean model of house life.

174 In my opinion one of the worst consequences of the so-called "tyranny of ethnohistory" (Curet 2005; Keegan 1991).

Glossary of terms used in dissertation

Areíto/areyto	Formal dances and songs, composed and passed down by the indigenous elite, referred to in the Spanish chronicles.
Batey	Court, plaza, or cleared space for the practice of ball games. Archaeologically such courts range from cleared spaces in settlements to earth-banked (esp. in Hispaniola) or stone-lined (esp. Puerto Rico) features as part of ceremonial complexes. Bateys are referred to in the Spanish chronicles.
Behíque	Taíno word for shaman.
Bohío	Indigenous roundhouse, referred to in the Spanish chronicles.
Cacicazgo	Indigenous term referring to the regional polity or political-geographical entity of a cacique/a (see below) the boundaries of which were described by the Spanish chroniclers, especially in Hispaniola, but the nature of which are debated in current scholarship.
Cacique/a	Indigenous term referring to the head of a household, or someone in a position of authority, of which multiple grades were possible. Often glossed in anglophone literature as "chief". Early Spanish chronicles report both men and women caciques/as.
Caney	High-quality indigenous, roundhouse, referred to in the Spanish chronicles.
Cemí	A quality or potency often of animate beings or ancestors, or any portable item possessing this quality.
Cenota	see manantial.
Chicoid	A description of Late Ceramic Age material culture principally encountered in Hispaniola from the 9th century and recognised by its elaborate ceramic decoration including incised and punctate designs and anthropo-/zoomorphic modelled and appliqued adornos for vessel handles. Trigonoliths (see below), stone collars (see below), sniffing tubes and vomitive spatulas are also characteristic items of Chicoid material culture.
Cohoba	Refers to both a substance (*Anadenathera peregrina*) and the ritual ingestion of the substance, reportedly by shamans or the indigenous elite. The ritual involved a period of fasting, purging the body by induced vomiting and inhalation of the cohoba substance. Cohoba has hallucinogenic effects.

	Archaeological artefacts associated with this ritual are snuffing tubes (for inhalation), cohoba stands (for presentation) and swallowing sticks or vomitive spatulas (for purging).
Conuco	Home-garden or cultivation fields. In the Spanish chronicles conuco refers to the combination of house and gardens.
Duho	Low, usually wooden, seat or stool, often with anthropo-/zoomorphic carved decoration, the use of which denotes rank.
Early Ceramic Age	General chronological reference to denote the period covered by the first horticultural expansion into the Caribbean islands by Saladoid pottery producers several centuries BC to ca. AD 600. Such societies are typically characterised as having an egalitarian social organisation and a mainland oriented cosmology.
Griddle	Usually circular, pottery baking plate, placed on a fire and used for cooking cassava bread and other food stuffs. Common in archaeological assemblages. (Spanish. burén)
Guaíza	Face or "face of the living " (Mol 2007), in archaeological usage, usually describing small, incised faces made of shell.
Guayacán	*Guaiacum officinale* or lignum-vitae. A tropical hardwood used for craft production, construction and fuel and found in archaeological contexts.
Guáyiga/Zamia	*Zamia* spp. An undomesticated cycad with a green leafy crown and a thick subterrenean stem, which when processed, in a manner similar to manioc, produces flour. It thrives in karst regions and has been found in precolumbian archaeological assemblages and referred to as a food source in Spanish colonial sources.
Karst	Describes the topography of carbonate geological formations dissolved by the action of water. Karst landscapes are highly variable and their character depends on formation processes, i.e. whether they are eroded by rainfall or rivers or a combination of both. Karst landscapes are common on the limestone islands of the West Indies. Other well known karst landscapes worldwide occur in South China and Slovenia.
Late Ceramic Age	In the Greater Antilles this refers to the period from ca. AD 600 to the time of European contact in which a series of material transformations, including demographic growth, agricultural intensification and ceremonial elaboration occured. This is generally seen as a period of increased complexity with respect to the Early Ceramic Age.
Maloca	Traditional architectural form in tropical South America consisting of a large communal roundhouse, often housing the whole community.

Manantial	Body of underground water in karst landscapes, usually with a restricted entrance. (Spanish. Manantial)
Manioc	Also yucca or cassava: *Manihot esculenta*. A staple food crop in tropical regions of the Americas. The processing of its starchy tuberous root for the production of flour is labour intensive and comprises several stages including peeling, grating, soaking to extract the poisonous prussic acid, and drying.
Mellacoid	A Late Ceramic Age archaeological culture dating from the 9th to 16th centuries characterised principally by pottery with scratched, rough surfaces with basketry impressions and rectilinear incision. The main distribution of Mellacoid ceramics occurs in the Cibao Valley of the Dominican Republic, northeast Haiti, Jamaica and Cuba. Mellacoid material culture has been related to the hisorically mentioned Ciguayo and Macorix ethnic groups in the Dominican Republic.
Modo de vida	Literally "way of life". Term in Marxist Latin American Social Archaeology, qualified with an adjective such as village or chiefly, to classify the subsistence base, relations of production and organisation of labour in any society.
Nitaíno	A member of an elite family or relative of a cacique.
Ostionoid	A Late Ceramic Age archaeological culture dating from the late 6th/7th century in Hispaniola. Ostionoid ceramics are characteristically well-fired, thin-walled, red with plain bodies and zoo-/anthropomorphic application.
Saladoid	An Early Ceramic Age archaeological culture with distinictive white-on-red polychrome ceramics and South American mainland origins. Saladoid pottery-producers migrated into the Antilles in the last few centuries BC. Saladoid expansion more or less halts at the Mona Passage between Puerto Rico and the Dominican Republic and thus Saladoid ceramics are rare in Hispaniolan assemblages.
Stone collar	Also referred to as stone belt (Spanish. aro lítico). Archaeological term for stone artefacts shaped like large doughnuts or yokes, often with geometric/zoomorphic decoration, and interpreted as items of regalia, tentatively associated with ceremonial aspects of the ball game.
Taíno	Archaeological and popular shorthand used to denote the precolonial and historical indigenous populations of eastern Cuba, Hispaniola, Puerto Rico, the Virgin Islands, Jamaica, The Bahamas, and the Turks and Caicos Islands from ca. AD 1000 to European colonisation. The term incorporates much ethno-linguistic and socio-political diversity and is principally associated with Chicoid material culture.

Trigonolith	Archaeological term for irregular three-pointed artefacts, the larger examples often being of stone with anthropomorphic decoration, the smaller- micro-trigonoliths - plainer and of a variety of hard materials.
Yucayeque	Taíno word for native community/settlement, from Hieronymite Interregatory 1517.

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Appendix 1: Field forms

Appendix 1a: Feature form (80%)

SITE: El Cabo	**SITE ID:**	**TRENCH AND FEATURE NUMBER:**

Date: Level: Recorded by:

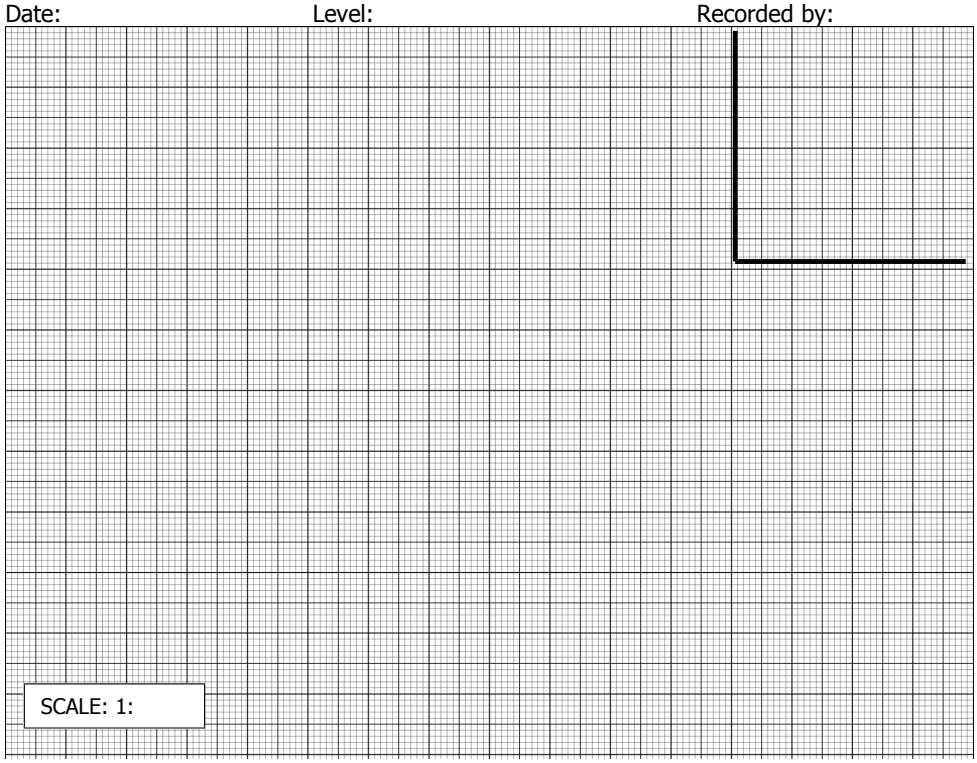

photo reference nr: find nr/s:

shape and outline: diameter/width (max.): depth (max):

soil description: type:
1 4
2 5
3 6
toolmarks y/n:..... angle of feature:.....
Additional info:
sample 2nd segment (type): cuts through: is cut by: assoc. with:

remarks:.....

type: pm=postmold (outline/shadow or actual post), **ph**=posthole (i.e. pit dug for post), **pmh**=postmold and posthole, **bt**=bioturbation, **ab**=animal burial, **al**=ash layer, **bl**=burnt layer, **br**=human burial, **cec**=ceramic concentration, **chc**=charcoal concentration, **coc**=coral concentration, **cr**=cremation grave, **dc**=drainage channel, **dg**=drip gully, **dis**=discoloration, **dp**=depression, **ds**=digging stick marks, **dt**=ditch, **ht**=hearth, **ls**=living surface, **mid**=midden, **pt**=pit, **ov**=oven, **rec**=recent disturbance, **pr**=postrow, **shc**=shell concentration, **wp**=water pit, **nat**=natural, **xxx**=unknown
shape: sq=square cornered, **rd**=rounded, **fl**=flat, **c**=cone-shaped, **ho**=holster-formed, **ir**=irregular
outline: sh=sharply defined, **vg**=vague/diffuse border, **iv**=increasingly vague
sample: general, C14, faunal, floral, isotope, other
soil description: Munsell and fill and matrix texture
cuts through/is cut by: only relates to features in soil (i.e. not bedrock), **assoc. with:**
toolmarks: are they visible y/n? vertical grooves / pecking / other?
angle of feature: **V**=vertical, **S**=slanting (describe angle and orientation)

Appendix 1b: Feature fill split form

Date:

Filled in by:

COUNT																		
		remarks/description																
	ceramic	griddle pieces																
		colonial																
		decorated																
	coral	paraphernalia																
		tool																
	bone	human (unworked)																
		paraphernalia																
		tool																
	stone	paraphernalia																
		tool																
	shell	paraphernalia																
		tool																
WEIGHT (g)		other																
		charcoal																
		ceramic																
		bone																
		crab																
		marine shell																
		TOTAL SIEVED WEIGHT (g)																
		FEATURE NR.																
		FND NR.																

Appendix 1c: Square split form

Date:

Filled in by:

EL CABO 2008 MATERIAL FROM EXCAVATED SQUARES

	WEIGHT (g)							COUNT														
FND NR.	marine shell	ceramic	charcoal	other (glass etc.)	TOTAL SIEVED WEIGHT (g)	marineshell	stone	bone	coral	ceramic	remarks											
						tool	tool	tool	tool	decorated sherds												
						modified	modified	modified	modified	undecorated sherds												
						parapharnalia	exotic	human (unworked)	parapharnalia	colonial												
							parapharnalia	parapharnalia		griddle												

N.B. 'Other' refers to other materials which may be encountered such as glass, guanin etc. Specify material in 'remarks'.

Remarks' should be used to describe material in the 'tool', 'parapharnalia', 'modified', 'human' (if known) categories, i.e. if tool, describe 'blade greenstone adze', 'coral rasp' etc., if exotic (i.e. not limestone/sandstone) describe 'quartz', 'brown flint' etc., if paraphamalia, describe 'bead', '3-pointer' etc. makde descriptions as full as possible. use back of form if necessary, and don't forget findnumber.

Appendix 1d: Survey square split form

EL CABO 2007 SURFACE SURVEY SPLIT FORM

Date:

Filled in by:

FND NR.	COORDINATES	TOTAL SIEVED WEIGHT (g)	marine shell	crab	stone	bone	coral	ceramic	charcoal	other	COUNT shell MNI	shell modified	stone unmodified	stone modified	bone unmodified	bone human (unworked)	coral unmodified	coral modified	ceramic undecorated	ceramic decorated	ceramic griddle	remarks/description

Appendix 1e: Shell split form for features

Date:

Filled in by:

findnumber	feature	Chiton		Limpet		Strombus		Citt. pica		Nerita		Bivalves		Olividae	
		MNI	total weight	MNI	total weight	MNI	total weight	MNI	total weight	MNI	total weight	MNI	total weight	MNI	total weight

Appendix 2: Overview of attributes per structure

Structure No.	Diameter (m)	No. external features	No. internal features	Mean span ext. feats (cm)	Mean span int. feats (m)	Mean span adj. feats (m)	Area (m^2)	Length (m)	Dist. between peri. & int. feats (cm)	Entrance width (cm)	Entrance orientation	Abandonment	Confidence class	Type	Slanting (True/False)	Avg. feat. diam. (cm)	Avg. feat. depth (cm)	Phase	No. inhabitants (formula Curet 1992)
1	7	46	8	46	4,57	1,94	36	-	94	90	W	burnt	1	1	T	23	42	*c*	6,6
2	7,4	34	8	50	5,65	2,5	43	-	63	77	WNW	posts removed and back-fill	1	2	F	17	40	*a*	7,8
3	7	72	8	50	4,45	2,04	37	-	105	65	W	posts removed and back-fill	1	1	T	17	36	*b/c*	6,8
4	10,6	70	8	57	8,11	3,06	81	-	70	102	W	burnt	1	1	F	21	33	*c*	14,2
5	8,3	22	5	59	5,96	2,34	51	-	80	-	WNW	posts removed or left to rot	3	2	F	17	28	*a?*	9,2
6	10	41	-	57	8,93	4,05	77	-	-	112	W	burnt	1	3	F	23	38	*d*	13,6
7	7,3	32	8	64	5,09	2,02	40	-	84	56	WNW	posts removed or left to rot	1	2	F	16	30	*a*	7,3
8	6,5	33	-	77	-	-	31	-	-	-	-	unknown	1	5	F	13	22	*d*	-
9	7,8	25	8	54	6,08	2,64	48	-	53	65	WNW	posts removed or left to rot	1	2	F	18	36	*a*	8,6
10	6	8	-	-	5,93	2,42	29	-	-	-	-	posts removed or left to rot	1	6	F	29	73	*c*	-
11	8,5	51	8	56	5,65	2,51	50	-	90	74	WNW	posts removed or left to rot	1	2	F	14	21	*a*	9
12	6	23	-	84	-	-	26	-	-	-	-	posts removed or left to rot	2	5	F	13	17	*c*	-
13	8,2	47	8	57	5,77	2,51	48	-	74	68	W	posts removed and back-fill	2	2	F	15	23	*a*	8,6
14	8,3	60	8	64	6,09	2,83	54	-	65	72	W	posts removed and back-fill	2	1	T	17	28	*c*	9,7
15	5	60	15	50	3,21	1,55	19	-	74	57	W	posts removed or left to rot	2	1	T	15	32	*c*	3,7
16	-	41	-	132	-	-	-	53	-	-	-	not burnt	2	7	T	15	21	*c*	-
17	-	26	-	49	-	-	-	10,3	-	-	-	posts removed and back-fill	1	7	T	13	19	*e*	-
18	-	22	-	76	-	-	-	14,5	-	-	-	not burnt	1	7	T	16	25	*b*	-
19	-	6	-	45	-	-	-	2,23	-	-	-	unknown	3	7	F	13	15	*?*	-
20	6,5	21	8	98	4,59	1,9	33	-	81	75	W	posts removed and back-fill	2	1	F	15	25	*c*	6,1
21	8	24	5	56	5,57	3,24	49	-	104	-	W?	posts removed or left to rot	2	1	F	15	24	*d*	8,8
22	10,5	32	8	82	7,37	3,56	82	-	108	85	NW	posts removed or left to rot	2	4	F	19	36	*e*	14,4
23	8	29	8	74	5,07	2,32	48	-	114	-	W?	unknown	2	1	T	18	36	*c*	8,6
24	7,5	38	8	63	5,26	2,62	43	-	82	72	W	posts removed or left to rot	2	1	T	21	42	*c*	7,8
25	2,5	8	-	82	-	-	3	-	-	-	-	posts removed and back-fill	2	8	T	22	59	*d*	-

Structure No.	Diameter (m)	No. external features	No. internal features	Mean span ext. feats (cm)	Mean span int. feats (m)	Mean span adj. feats (m)	Area (m^2)	Length (m)	Dist. between peri. & int. feats (cm)	Entrance width (cm)	Entrance orientation	Abandonment	Confidence class	Type	Slanting (True/False)	Avg. feat. diam. (cm)	Avg. feat. depth (cm)	Phase	No. inhabitants (formula Curet 1992)
26	8,2	13	3	84	-	3,28	57	-	-	-	-	unknown	3	0	F	15	25	*c*	10,2
27	9,8	38	8	80	7,02	3,06	72	-	117	90	NW	unknown	3	4	F	15	24	*e*	12,7
28	4,6	8	-	-	4,54	2,04	18	-	-	-	-	posts removed or left to rot	1	6	F	23	51	*c*	-
29	7,6	41	6	56	5,2	2,37	45	-	96	-	W?	posts removed and back-fill	2	1	F	15	25	*d*	8,1
30	8,8	39	7	79	5,31	2,34	60	-	141	68	W	posts removed and back-fill	2	1	T	18	26	*d*	10,7
31	8,3	25	8	84	6,72	3,02	56	-	55	75	W	posts removed or left to rot	3	0	F	18	32	*?*	10
32	-	5	-	47	-	-	-	1,9	-	-	-	unknown	3	7	F	17	33	*?*	-
33	-	-	-	30	-	-	-	0,9	-	-	-	unknown	3	7	F	17	36	*?*	-
34	8,4	29	8	95	5,36	2,39	50	-	111	60	WNW	unknown	2	1	F	18	25	*c*	9
35	-	5	-	58	-	-	-	2,3	-	-	-	posts removed and back-fill	3	7	F	20	31	*c?*	-
36	-	6	-	79	-	-	-	3,9	-	-	-	posts removed and back-fill	3	7	F	26	35	*c?*	-
37	-	6	-	1,2	-	-	-	6	-	-	-	unknown	3	7	F	18	45	*recent*	-
38	6,5	11	4	94	5,09	2,26	31	-	68	-	WNW?	unknown	3	1	F	15	24	*d*	5,8
39	-	24	-	2	-	-	-	46	-	-	-	unknown	3	7	F	15	20	*recent*	-
40	11,6	20	4	120	7,86	2,99	100	-	131	-	WNW?	unknown	3	2	F	15	25	*?*	17,5
41	13,5	17	4	117	10,7	4,53	142	-	86	-	W	posts removed and back-fill	4	0	F	16	21	*?*	24,6
42	8	34	8	77	5,54	3,09	54	-	104	111	E	not burnt	3	1	T	17	28	*c*	9,7
43	5,7	25	8	71	3,82	1,71	24	-	59	-	-	not burnt	4	1	F	14	18	*d*	4,6
44	10	18	6	119	7,96	4,08	74	-	58	-	-	not burnt	4	0	F	19	24	*?*	13
45	8	9	2	71	-	1,72	51	-	62	-	-	unknown	3	0	F	14	25	*?*	9,2
46	6,6	17	-	75	-	-	22	-	-	-	-	unknown	3	5	F	13	36	*c*	-
47	-	23	-	67	-	-	-	14,7	-	-	-	posts removed and back-fill	2	5	F	15	17	*?*	-
48	9	30	6	79	6,51	2,27	53	-	111	71	W	posts removed and back-fill	2	1	F	19	27	*?*	9,5
49	-	38	-	100	-	-	-	13	-	-	-	unknown	3	7	T	16	20	*c/d*	-
50	8,15	8	-	-	7,3	3,22	45	-	-	-	-	posts removed and back-fill	3	6	F	23	52	*d*	-
51	8,4	20	-	99	-	-	57	-	-	-	-	posts removed and back-fill	3	5	F	11	14	*a?*	-
52	-	24	-	2,16	-	-	-	45	-	-	-	unknown	3	7	F	13	19	*d*	-

Appendix 3: Features per structure

Appendix 3: Archived under the following persistent identifier:
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"Renewing the house: Trajectories of social life in the *yucayeque* (community) of El Cabo, Higüey, Dominican Republic, AD 800 to 1504."

Summary

This study is a contribution to the household archaeology of the Caribbean. The aim of the research was to arrive at a definition of the late-prehistoric to protohistoric house, based on material remains rather than to rely on the few, superficial, Spanish colonial descriptions from the 15th and 16th centuries as is commonly done. The results of four years of archaeological research at the site of El Cabo in the Higüey region of the Dominican Republic are presented, in which seven centuries of community history, from its origin, development and florescence to its eventual demise, are narrated through its dominant structure, the house.

The Higüey region, a dry coastal plain made up of ancient coral limestone deposits and riddled with caves and underground water sources, was one of the heartlands of indigenous culture before the arrival of the Europeans. The last area of Hispaniola to be pacified, its local population twice took up arms against the Spanish at the turn of the 15th century. The inhabitants of the village of El Cabo, perched on a coastal promontory at the extreme eastern end of the island, played a role in these events through which, ultimately, their ways of life, maintained for centuries, were destroyed.

Two thousand archaeological features, the associated artefact assemblages, and the spatial organization of the settlement between ca. AD 800 and 1504 are described in detail. This study includes a reconstruction methodology, a structure typology and a chronology of the domestic structures. The unique preservation of postholes directly cut into the limestone bedrock enabled identification of over fifty structures, thirty of which are interpreted as houses, in addition to a communication platform, storerooms for community regalia, fences, windbreaks and work huts. A small number of burials as well as a large assemblage of pottery, shell, bone, coral, and stone artefacts attest to the quotidian and ritual activities of the community.

The house structures share recurrent forms, extreme regularity and symmetrical foundations, elaborate architectural features including imposing entrance façades, a consistent orientation, prepared floors, and swept and clean interiors. Principal postholes were selected for the deposition of personal items on abandonment of the house. The lifecycle of a particular house was just one stage in a long process of *renewal,* in which the inhabitants periodically rebuilt the same house on the same spot over the course of centuries. Each house embodied the ideals and aesthetics of proper sociable living in the details of its architecture and lifecycle. The evidence suggests that the structural renewal was coordinated across houses, and possibly across the whole community (*yucayeque*). This led to the development of "House Trajectories", or long-lived estates. It is argued that the House Trajectory is an instrument of social reproduction and cultural transmission, forming an important factor in the constitution of indigenous culture and sociality. The most successful house trajectories lasted up to 500 years.

When "discovered" by Columbus, the territory of the present Dominican Republic was one of the most populous areas of the Americas. The large-scale "rediscovery" in current times, especially of coastal regions for developer/touristic purposes, is expunging this history once again. The collaborative relationship between local people, Leiden University fieldschools and the Museum of Dominican Man through the El Cabo archaeological project has contributed in a small way to the preservation of Dominican cultural heritage in the region.

"Renovando la casa: Trayectorias de vida social en el *yucayeque* (la comunidad) de El Cabo, Higüey, República Dominicana, 800 a 1504 d.C."

Resumen

Este estudio es una contribución a la arqueología doméstica del Caribe. El objetivo de esta investigación es arribar a una definición material y alternativa de la casa precolonial, en lugar de simplemente retomar las superficiales y exiguas descripciones españolas de los siglos XV y XVI. Presentamos cuatro años de investigación arqueológica del asentamiento El Cabo en la República Dominicana. Se narran siete siglos de historia comunitaria, que abarcan desde el desarrollo y el florecimiento hasta el eventual abandono, tomando como punto de referencia la estructura dominante: la casa.

La región de Higüey, una llanura costeña seca, formada por coral antiguo, depósitos de roca caliza y lleno de cuevas y depósitos subterráneos de agua, fue uno de los centros de la cultura indígena antes de la llegada de los Europeos. Fue también la última zona de La Española en ser pacificada y el escenario en el que la población local tomó dos veces las armas en contra de los españoles a finales del siglo XV. Los habitantes del pueblo El Cabo, ubicado en un promontorio costero en el extremo oriental de la isla, participaron en estos eventos, al final de los cuales sus estilos de vida, mantenidos por siglos, fueron destruidos.

Se describe en detalle la interpretación de cerca de 2000 elementos arqueológicos, conjuntos de artefactos asociados y la organización espacial del asentamiento entre 800 y 1504 d.C. Esto incluye una metodología de reconstrucción, una tipología de estructuras y la cronología de estructuras domésticas. La preservación excepcional de las huellas de postes, cortados directamente en el lecho de roca caliza, permitió identificar más de 50 estructuras, 30 de las cuales fueron interpretadas como casas, a ésto se agrega: una plataforma de comunicación, estructuras para almacenar objetos ceremoniales comunitarios, vallas, protecciones contra el viento y cabañas de trabajo. Un número reducido de entierros, así como una gran colección de cerámica, concha, hueso, coral y lítica, son evidencia de las actividades cotidianas y rituales de la comunidad.

Las estructuras domésticas comparten formas recurrentes, una regularidad extrema y cimientos simétricos, elementos arquitectónicos elaborados que incluyen imponentes fachadas de entrada, una orientación consistente, suelos apisonados así como interiores barridos y limpios. Huellas de postes principales fueron elegidas para depositar efectos personales al abandonar la casa. El ciclo de vida de una casa en particular no era más que un estadío del largo proceso de *renovación* en el cual los habitantes periódicamente reconstruían la misma casa, en el mismo sitio, una y otra vez, a lo largo de siglos. Cada casa personificaba los ideales y la estética de una vivienda sociable apropiada en los detalles de su arquitectura y su ciclo vital. Las evidencias sugieren que la renovación era coordinada entre varias casas y posiblemente también entre toda la comunidad (*yucayeque*). Esto condujo al desarrollo de Trayectorias de Habitación, o fincas de larga vida.

Este trabajo sostiene que las Trayectorias de Habitación son un instrumento de reproducción social y transmisión cultural así como un factor importante en la constitución de la cultura indígena y la socialización. Las Trayectorias de Habitación más exitosas duraron hasta 500 años.

Cuando Cristóbal Colón "descubrió" La Española, esta era una de las regiones más pobladas de América. En la actualidad, el "redescubrimiento"a gran escala, especialmente de las regiones costeras con propósitos turísticos y de construcción, está borrando esta historia, una vez más. La colaboración entre los habitantes locales, las escuelas de campo de la Universidad de Leiden y el Museo del Hombre Dominicano a través del proyecto arqueológico El Cabo, ha contribuido de manera modesta a la preservación de la herencia cultural dominicana en la región.

"Van huis tot huis: Gemeenschapszin in El Cabo, Higüey, Dominicaanse Republiek, 800 – 1504 na Chr."

Samenvatting

Deze studie vormt een bijdrage tot de archeologie van het huishouden in het Caribisch gebied. Het doel van het onderzoek was om een definitie van het laatprehistorische tot protohistorische huis te ontwikkelen gebaseerd op materiële overblijfselen in plaats van uitsluitend gebruik te maken van de weinige, oppervlakkige, beschrijvingen ervan door Spaanse kolonisten uit de 15e en 16e eeuw zoals tot op heden gebruikelijk is. In dit boek wordt vier jaar archeologisch onderzoek op de vindplaats El Cabo in het gebied van Higüey, Dominicaanse Republiek, gepresenteerd. Zeven eeuwen geschiedenis van de gemeenschap El Cabo, vanaf haar ontstaan, via haar ontwikkeling en bloei tot haar uiteindelijke ondergang, worden gereconstrueerd door middel van haar meest dominante structuur, het huis.

De streek Higüey, een droge kustvlakte bestaande uit koraalkalksteenafzettingen en bezaaid met grotten en ondergrondse bronnen, was voor de komst van de Europeanen een van dé centra van inheemse cultuur. Het was het laatste gebied van Hispaniola dat gepacificeerd werd: aan het eind van de 15e eeuw nam de locale bevolking twee keer de wapens op tegen de Spanjaarden. De rol die de inwoners van het dorp El Cabo, gelegen op het uiterste puntje van de oostkust van het eiland, speelden in deze gebeurtenissen was van dusdanige invloed dat hun manier van leven, na eeuwen van instandhouding, teloorging.

De interpretatie van meer dan tweeduizend archeologische grondsporen, de daarmee geassocieerde artefactverzamelingen en het nederzettingspatroon, te dateren tussen ongeveer 800 en 1504 na Chr., worden in detail beschreven. Het betoog bevat ook een methodologie van de wijze van reconstructie, een typologie van de aangetroffen structuren en een chronologie van de huisstructuren. Dankzij de unieke conservering van de paalgaten, die direct in de kalkstenen ondergrond zijn ingegraven, is het mogelijk om meer dan vijftig structuren te herkennen. Dertig daarvan zijn geïdentificeerd als huizen, de resterende twintig structuren bestaan uit een communicatieplatform, een bergingsstructuur voor gemeenschappelijke regalia, hekken, windschermen en werkplaatsen. De vondst van een aantal begravingen en een grote hoeveelheid artefacten van aardewerk, schelp, bot, koraal en steen getuigen van zowel de dagelijkse alsook rituele activiteiten van de gemeenschap.

De huisstructuren hebben telkens dezelfde kenmerken: de vormen herhalen zich en de fundamenten zijn uitzonderlijk regelmatig en symmetrisch. De architectuur kenmerkt zich door indrukwekkende toegangspartijen, een consequente oriëntatie van de plattegrond, afgevlakte vloeren en geveegde, schone interieurs. Wanneer een huis verlaten werd, deponeerde men persoonlijke voorwerpen in de belangrijkste paalgaten. De 'levenscyclus' van een afzonderlijk huis kan alleen gezien worden als één fase in een lang proces van *herhaling* waarin de bewoners in de loop der eeuwen periodiek hetzelfde huis op dezelfde locatie keer op keer herbouwden. Elk huis belichaamde in zijn architecturale details en levenscyclus de idealen en esthetiek van een goed sociaal leven. Er zijn gegevens die aantonen dat de herhaling van een huis een gecoördineerd project was dat plaatsvond voor verschillende huizen, misschien zelfs voor alle huizen van de gemeenschap (*yucayeque*) tegelijkertijd. Dit heeft geleid tot de ontwikkeling van "Huistrajecten", of "langlevende landgoederen". Betoogd wordt dat het "Huistraject" een instrument van sociale reproductie en culturele overdracht vormt en een belangrijke factor was in de vormgeving van de inheemse cultuur en haar maatschappelijk karakter.

Toen het eiland Hispaniola, waarvan de Dominicaanse Republiek het oostelijk deel vormt, werd "ontdekt" door Columbus was het een van de dichtstbevolkte gebieden van beide Amerika's. De grootschalige "herontdekking" in de afgelopen jaren van met name de kustgebieden, die ontwikkeld worden voor toeristische doelein-

den, wist de geschiedenis van de bewoners wederom uit. De samenwerkingsrelatie die ontstaan is uit het archeologisch project in El Cabo tussen de locale bevolking, de Universiteit Leiden en het *Museo del Hombre Dominicano* heeft op kleine schaal bijgedragen aan het behoud van het Dominicaanse culturele erfgoed in de regio.

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Curriculum vitae

Alice Samson was born in 1977 in Dover, Kent. From 1989 to 1996 she attended Sir Roger Manwood's school, Sandwich, Kent. She read Modern and Medieval languages, French and Italian, at Clare College Cambridge (BA Hons Cantab.) during which time she spent a year in Agrigento and Brussels. After graduating in 2001, Alice worked for two years as an assistant to an MEP in the European Parliament in Brussels. During this time she maintained a long-standing interest in archaeology by participating in excavations in Italy (Pozzuolo del Friuli, Neolithic). From 2003 to 2005 she studied NW European prehistory in Leiden and completed a research masters with a thesis on the social aspects of Bronze Age seafaring (*cum laude*) as well as participating in two Bronze Age excavations in the Netherlands (Zijderveld and Zevenbergen) working for the archaeological unit Archol. From 2005 to 2009 she was a member of the research project *Houses for the Living and the Dead* (NWO) and wrote a dissertation on the settlement features from the site of El Cabo, Dominican Republic, where she participated in fieldwork. Alice currently works as a research assistant in the Caribbean Research Group, Faculty of Archaeology, Leiden University.