

TANZANIA

Report on excavations at the Swahili site of Pujini, Pemba Island, Tanzania

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Three summer field seasons have been conducted at Pujini or Mkame Ndume (HnJx; UTM 589710E/9413820N), a Later Iron Age Swahili site on Pemba Island, Tanzania (Figure 1). The exploratory 1989 season has been reported previously (LaViolette 1989; LaViolette and Fleisher 1995). The present interim report summarizes two subsequent field seasons, held from July 2 to August 4, 1990 and June 16 to July 31, 1993.

The site of Pujini comprises the ruins of a stone-built (mortared coral-rag, or limestone) central area surrounded by a rectangular rampart about 8 m thick and 130 m² (Figure 2). Elegant domestic areas, storage rooms, specialized-activity areas, and structured open space fill the enclosure. Nearby, some 150 m west-southwest, stands a zinc-roofed earthen mosque (non-stone buildings are basic wattle-and-daub or pole-and-mud construction with thatch or zinc roofs, called hereafter earth-and-thatch when archaeological) still in use, surrounded by the rubble of a ruined stone mosque covering an area of about 20 x 28 m probably contemporary with the fortified site, and possibly also an earlier earth-and-thatch mosque. Several simple Muslim-style graves, stone wells, and evidence for earth-and-thatch houses (surface finds of daub, local and imported pottery) are located in the immediate vicinity. Clark and Horton (1985:28) dated the walled stone site to the 15th century based on blue-and-white imported pottery finds. Three sets of radiocarbon dates from various levels within the enclosure support a span of habitation from the 15th to 17th centuries (see discussion below and Table 1), and we expect to refine this with further analysis of materials.

The site nestles amid mangrove swamp, agricultural fields, groves, orchards, and a number of hamlets which collectively are known today as Pujini. There is evidence for a low-density scatter of houses, possibly grouped in hamlets, in this general area contemporary with the fortified settlement and bridging the period from the stone site's abandonment to the present. We have also made a few finds of "derived" Tana Tradition (Horton 1984) or Triangular Incised Ware (TIW) (Chami 1994) which suggest early settlement, consistent with Horton's finds from the Pemban sites of Ras Mkumbuu (9th-10th centuries) and Mtambwe Mkuu (approx. A.D. 1000) (Figure 1; Horton 1992; LaViolette and Fleisher 1995).

Research Goals

This research is part of a long-term project directed at helping to construct the social, economic, and cultural processes at work within and among sites on Pemba over roughly the last millennium. The project aims ultimately to carry out multiple surveys, and to excavate a range of sites along axes of age, size, and complexity, including idiosyncratic Pujini, which is more than an elite residence but less than a major town. The objectives of the fieldwork reported here included: 1) to identify and excavate areas of specialized function, that might help explain and date the fortification; 2) to establish the nature of non-stone components of the site, and having done that, 3) to explore the continuities and discontinuities between the stone site and any village occupations before, during and after the fort was occupied; 4) to open large exposures in the stone-built domestic areas of the site to investigate daily life, indicators of cultural identification, craft specialization, and economic activities; and 5) to increase understanding of the site's architecture and other material culture to tie it into a more informed local context on Pemba and on the mainland.

Summary of 1990-1993 Excavations

Over these two summers we opened 21 excavation units (Units 5 through 12 in 1990, and 13 through 25 in 1993; see Figure 2 for locations and sizes). Most were inside the ramparted area of Pujini, and several were by the mosque and in outlying areas near possible domestic and craft-production locales.

Figure 1: Pemba Island, Tanzania, locating sites mentioned in the text.

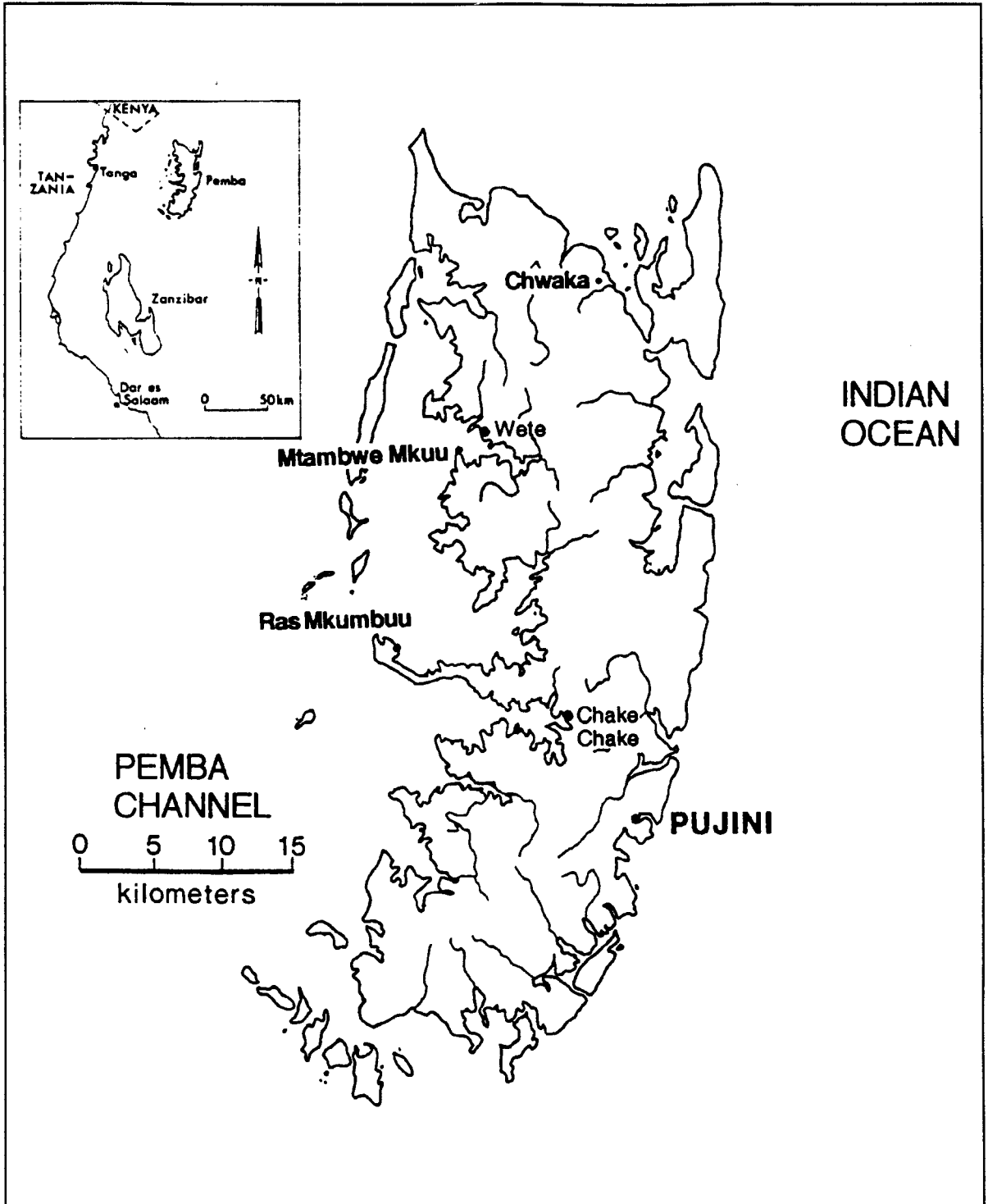


Figure 2: Plan of Pujini, with excavation units from 1989, 1990 and 1993.

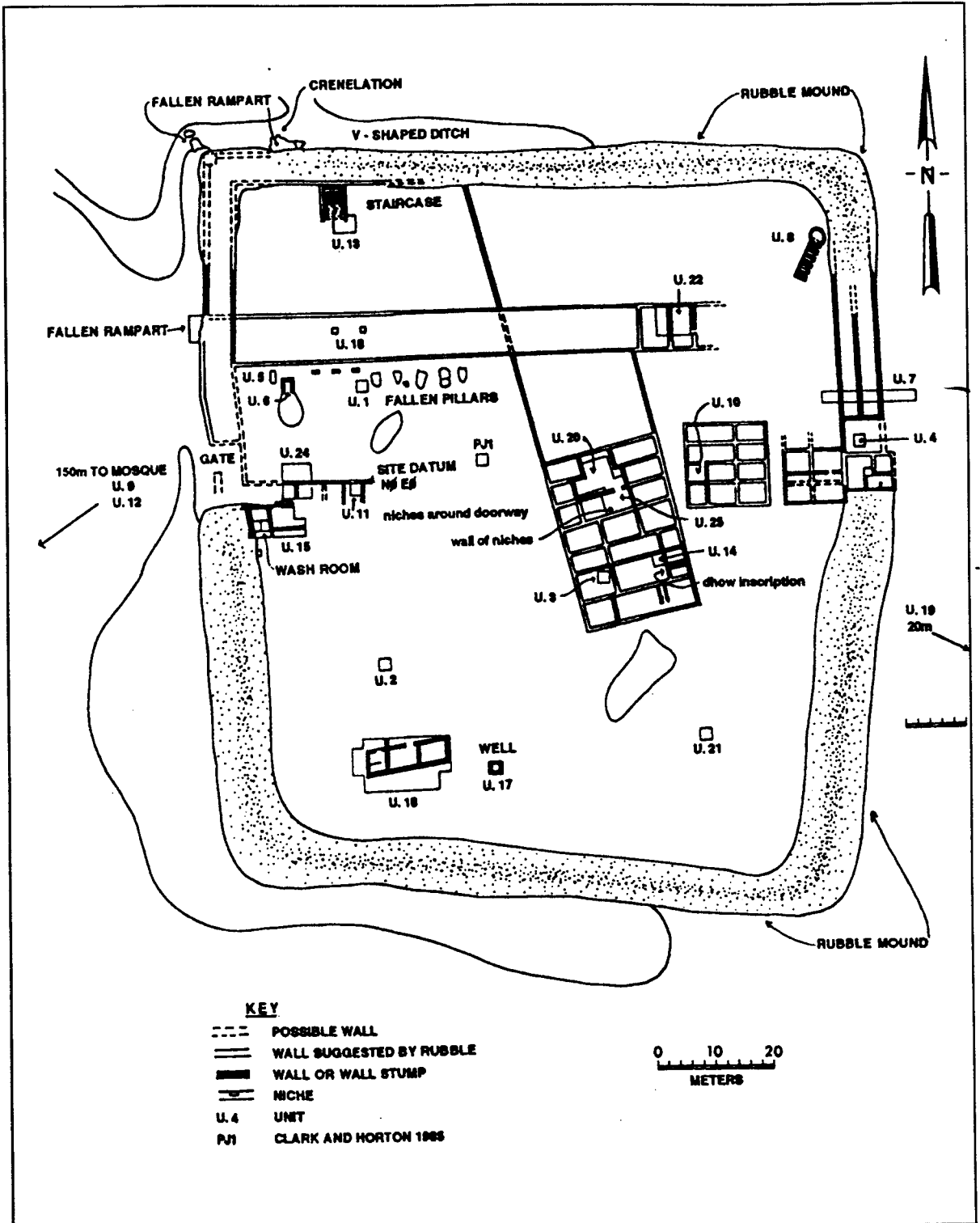


Table 1: Summary of Radiocarbon Results.

Sample #	Unit	Radiocarbon Age	1-sigma SD	2-sigma SD
93-1	13	560 ± 70 BP	AD 1400-1445	AD 1300-1485
93-17	15	320 ± 70 BP	AD 1475-1655	AD 1440-1675, AD 1770-1800, AD 1940-1950
90-2	10	180 ± 60 BP	AD 1670-1780, AD 1795-1895, AD 1910-1950	AD 1655-1950

All depths given below are in meters below sub-datum (DBSD) unless otherwise noted, usually the highest surface point of the corners of the unit, or in some cases a point above ground where walls or rubble obstructed other ways of measuring. We dug all units to sterile unless noted. Although the site has intact strata, many parts of the site have witnessed disturbance from cultivation (since 1989, bananas, cassava, tomatoes), extensive stone-robbing at least since the early 1900s, and root and rodent activity. Excavation was by natural layers, divided into 10 or 20 cm levels, depending on the amount of rubble present in the unit. The fossilized-coral bedrock at Pujini is close to the surface, and is topped by thick clay studded with coral gravel. "Sterile" occurs at significantly different depths in the subunits; I note here only maximum depths for each unit. The site supervisors responsible for the excavation units are listed in parentheses in each case. I restrict my comments to the most revealing units thus far: those through the rampart, by the staircase, inside the western gate, in the central domestic block, in the southwest corner of the enclosure, and at the mosque. A forthcoming report will contain all excavation data and analysis to date.

The Eastern Rampart (P. Lane, E. Kessy, E. Davies)

Unit 7, measuring 16 x 2 m, was an east-west transect dug in four subunits through a section of the eastern rampart, to show construction techniques and the nature and function of the triple-wall architecture revealed by the site mapping in 1989 (LaViolette 1990). This transect sits a few meters north of a small complex of rooms in the eastern rampart. The buildings encircled by the ramparts concentrate--apart from the Southwestern House--in a thick band lying east-west across the middle of the enclosure; on the west they tie into the main gate, and on the east, perhaps into a secondary one.

At least in some stretches of the rampart, the builders achieved the mass of the wall by erecting three parallel stone walls slightly more than 2 m apart. The space bounded by the two outer walls contained a dense packing of coral rag and clayey soil, and both imported and domestic sherds. The transect revealed that in this location on the rampart, the space between the inner and center walls, though packed with rubble and clay, once held a

cross-wall between them, with a dressed-stone lintel and two door jambs. At least some of the apparent mass of the encircling wall, therefore, was open rooms or passageways rather than densely-packed defensive wall, though the outer, solid portion of the rampart is still approx. 4.5 m thick at this spot. It is not clear if the passageway was later filled-in to shore up the center wall or to increase the mass of the defensive rampart, or whether it filled when the site was abandoned. Wall trenches are not deep, and we located few cross-walls that would have bonded together the parallel walls, so that considerable shifting, leaning and falling of the inner and outer walls have taken place.

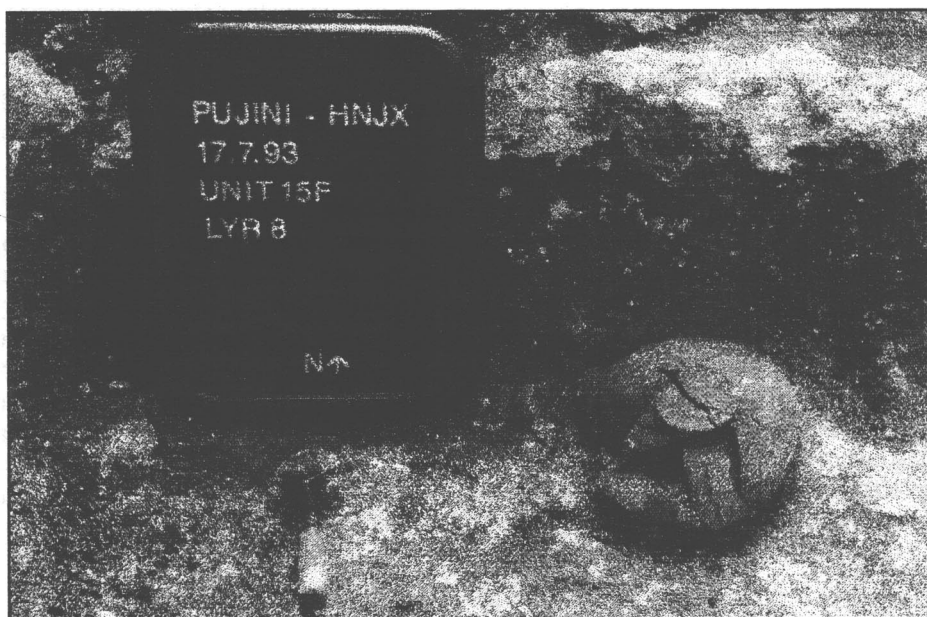
The Western Gate Complex

Unit 15 (J. Fleisher) was an effort to explore the area around the gate in the western wall, just inside the rampart and south of the apparent location of the gate opening. The western part of the unit revealed a sluice and probable latrine, the former lined with *porites* coral--fine-grained coral cut from living reef, allowing carving and shaping before it hardens--and built on a sloping angle to drain into the ground, set in an intact mortared floor. We left the mortar and *porites* surface intact, and continued to excavate north and south of it. The

fill was typical for the site: unglazed ceramics, a few imports (Persian, Chinese), shell, bone, and bits of daub. Just north of the sluice, at between 2.05-2.45 DBSD, we encountered a small stone-lined pit, seemingly unrelated to the latrine feature. Thought to be evidence of an earlier structure, a radiocarbon sample from this pit yielded a date of AD 1460-1675 (Table 1), which seems too late to be significantly pre-fort, and is therefore probably associated with construction of the fort itself.

Moving east we encountered a large room entered by a northern doorway. In front of the lintel and the step down into the room was a single inverted pot partially embedded in the mortared floor, consistent with *finjo* offerings made to protect dwellers against evil. These are known from the coast archaeologically, such as at Gede (Kirkman 1963:26ff.; n.d.:7), and ethnographically (Donley-Reid 1984), and also from Bantu-speaking peoples from the coast and its hinterland (Allen 1993; Spear 1978:47ff). When we excavated this floor we found another *finjo* offering, a pot overturned to form a lid on a second one (Figure 3), containing six clay pellets about 4 cm in diameter and .75 cm thick. A midden laid directly over the mortared floors in this structure, and contained fragments of luxury items including glass, copper alloys, and imported ceramics.

Figure 3: The covered *finjo* pot from Unit 15 containing clay pellets, embedded in the mortared floor, Western Gate Complex.



Unit 24 (A. Reid, S. Chawewe, M. Osujaki, E. Kessy) comprised a bridging of several features: the architecture in Unit 15; the western re-entrant gate of the fortification, which we traced but did not excavate (Figure 2); and the standing walls just to the east, excavated in 1990 as Unit 11 (E. Davies). The east-central area of Unit 24 is of special interest due to evidence for the apparent presence of iron-working debris. Inside the two small rooms in the southern part of the unit we recovered imported and local pottery, bone, shell, and slag. From one we have a small chunk of baked clay with slag adhering to it which may be the clay cone at the base of a forge bellows. A feature in the eastern profile of the unit led to excavation of a 1 m² subunit, that produced the complex stratigraphy of a deep pit, and yielded a large amount of slag and charcoal. It is tempting to call it "pre-fort" because it does not belong inside the coral rag architecture next to it, with the understanding that pre-fort may be immediately prior to and during construction of the fort, rather than a preexisting settlement.

The Staircase (G. Haney and A. Mbarouq)

We placed Unit 13 at the base of the stone staircase, apparently used to transport people and goods between inside ground level to the top of the wall and into dhows, that could have approached the site via a now-silted channel through the mangroves (Kirkman 1964:182; Clark and Horton 1985:28, 55). This unit was dug to 0.90 m; two pit features emerged, one of which extended under the stone steps and provided a dated radiocarbon sample of AD 1300-1485 (Table 1). The pit's contents included a charcoal lens, plaster fragments, bone, local pottery, and a presumably intrusive late 19th-century import. At the base of the pit was a large chunk of limestone plaster (approx. 2 kg) bearing the clear impression of a round-bottomed basket or folded mat. The pit, including the evidence for burning, may have to do with mixing plaster for use on the staircase or elsewhere. The second pit was a dark, midden-like fire/cooking area containing local ceramics, decorated and not, and some with red paint; oil lamps; copper or copper-alloy bits; Chinese and Indian imported ceramics; mortar; slag (copper alloy?); crucible/pipe fragments; and burnt bone and coconut husk. This pit bottomed out on the limestone bedrock.

We can say at this point that the stairs were built without a foundation trench of any kind, over an existing midden; however, it is possible that a portion of the midden was still in use after the staircase was built.

The Main House

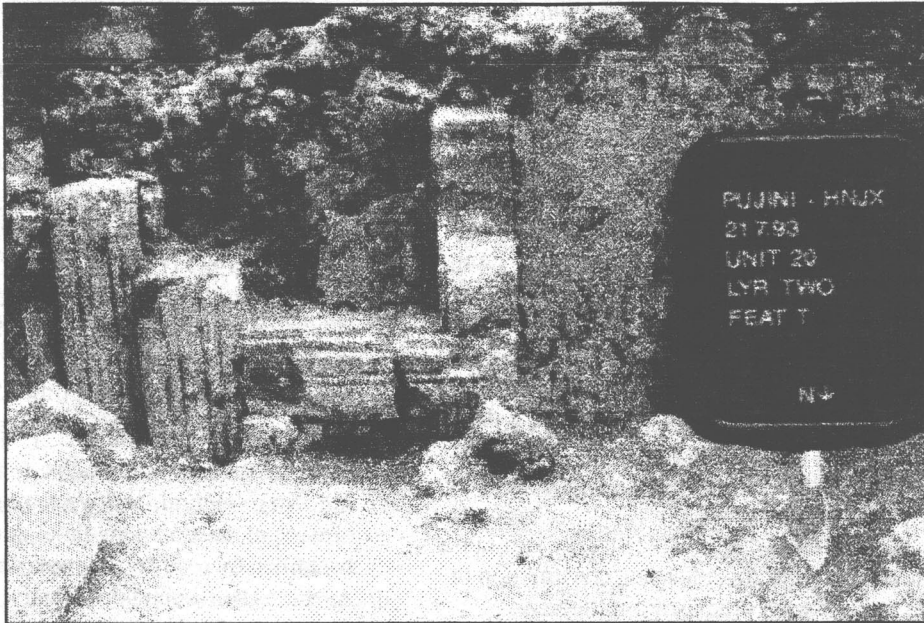
Near the center of the enclosed area is a mound of wall stumps and rubble, parts of which were excavated in 1989 (Unit 3), 1990 (Unit 14), and 1993 (Units 20 and 25). This mound, designated the Main House, revealed stunning architectural detail in 1993 that changed the way we look at this site. Unit 20 was immediately north of Unit 25 (Figure 2).

Unit 20 (T. Mangieri, E. Kessy) became so complex that we were unable to take most areas of it down to natural, and we took measures to make best use of the remaining time. Although completely backfilled for security, this area will be re-excavated. As the season wound down and it was clear that this area (including Unit 25) was one of the most potentially revealing at the site, I wanted to extract as much information as possible to help with future preservation efforts.

Unit 20 began as a 4 x 3 m investigation of the north/northwest corner of the central domestic block, north of Unit 14 (T. Mangieri), a room bearing a dhow graffito (noted by Horton et al. 1986:6). Excavation revealed finely carved and plastered *porites* blocks in a jumble at the southeast corner of the unit. They appeared to have fallen from a door frame in that corner that the unit had not originally encompassed, so we extended the latter. Work here yielded a plaster floor that enabled orienting this area with the room to the south (see below).

The southeastern part of Unit 20 was completely dominated by several dozen pieces of grooved and plastered *porites* blocks, some .40 m long. Most of these blocks bore pink plaster, tinted with crushed mineral pigment, probably hematite. We did not reach the bottom of this unit, and certainly more blocks remain in the deposit. The bottom part of the doorway was *in situ*, revealing that finely worked, rectangular niches lined the two door jambs (Figure 4). The fill contained burned bone, mortar and plaster, local sherds (including red-painted ware), shell, imported earthenware with blue-and-white glaze, and a lamp.

Figure 4: Plastered *porites* niche *in situ* in western jamb of doorway, Main House.



The niched door led into Unit 25 (E. Kessy, T. Mangieri), placed to extend our knowledge of the domestic block. Within a few days of opening the unit we came down (at 0.34-0.39 m DBSD) on a row of arched *porites* wall-niches (*zidaka*), part of a full wall of niches extending across the southern part of the unit, which had begun to fall away from their back wall as the room filled after abandonment. The niches, supported by the deposit in front of the, each comprised four or more separate pieces of stone, similar to those found in the roughly contemporary Eastern Dwelling of the Great House at Kilwa (Chittick 1974: Vol. I, Pl. 38a, Vol. II, Pl. 162b). Excavation of the wall without the presence of an architectural conservator would have meant the collapse of each tier of niches as we dug. Thus, we recorded all exposed niches, and removed the pieces of one that had already fallen. The maximum depth of this area was 1.21 m DBSD. Clearly, the *zidaka* related architecturally to the plastered doorway. This room appears to be the house's *ndani*, or private inner room used predominantly by women (Donley-Reid 1984: 182) in Swahili stone houses.

Excavation of Unit 25 continued for several days away from the *zidaka*, in a strip extending approx. 1 x 5 m along the northernmost section of the unit. Due to time constraints, we stopped at 1.18m DBSD. We sunk a 1 m² test pit in the north-eastern corner of Unit 25 to test the stratigraphy of the room and see if a plaster floor there indicated the depth of the wall niches; a floor was located at 1.64m DBSD. We stopped excavating when we reached the plaster floor, but cultural deposits continued.

Three classes of artifacts found in this fill intimate some of the former contents of the *zidaka* niches, that typically held objects of elite value in Swahili society, at least as early as the 19th century (Donley-Reid 1984) but probably before: a set of matched Chinese blue-and-white rice bowls; a piece of gum copal, and chunks of quartz (rock crystal; Horton 1987a). Other more typical finds included unglazed ceramics, shell, and bone. I intend to re-excavate this unit and hire an architectural conservator to rebuild the doorway and wall-niche feature for public view (along with other parts of the site), which will conform to the wishes of Zanzibar Antiquities.

The Double Niche House

Unit 10 (P. Lane), dug in 1990, was the first hint that architecture at this site contained evidence of domestic space associated with other stone-built Swahili coastal sites. The unit began as a 2 m² excavation flush with the north and east walls of a room with four standing walls, and eventually expanded to 2.8 m². It revealed a plastered coral-rag staircase that once reached a second floor or rooftop; a corner landing where the staircase turns, complete with *porites* coral entry step; a pair of large, plastered coral-rag niches set side-by-side in the west wall facing the landing (Figure 5); and a doorway leading out the north wall, with one jamb clearly visible, plastered over by Antiquities in a conservation campaign in 1980 (S. Seif, personal communication). Below the stone architectural features lay a pit containing pottery wasters. A radiocarbon sample from this pit yielded a date of AD 1670-1780 (Table 1), too late to be part of an earlier occupation and later than expected, which I discuss below. Fill from the unit included local and imported pottery, bone, and daub.

The Southwestern House

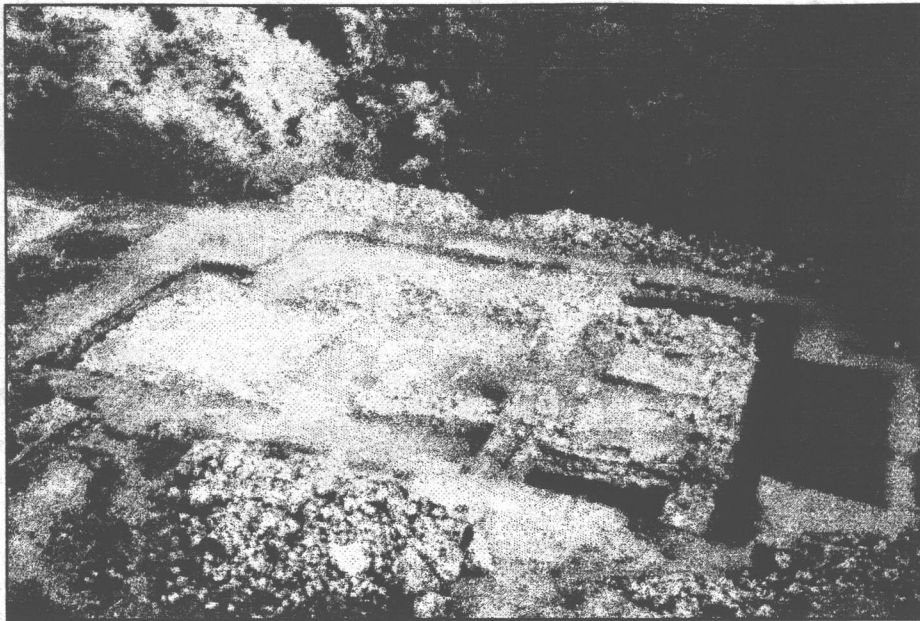
Unit 16 (E. Kessy, L. Koplin, C. Cain) addressed the issue of non-stone buildings in the southern part of the fortified area; having excavated a probable bread oven there in 1989 (Unit 2, E. Kessy; LaViolette 1990), we assumed non-stone dwellings might have clustered in this area of the enclosure. After clearing dense growth, a single standing coral-rag wall stump appeared--noted on Clark and Horton's plan (1985:55) but missed by us in the 1989 site plan--south of Unit 2 and west of a stone well. We excavated Unit 16 for much of the summer, and it comprised a large house structure, the only obvious domestic space neither contiguous with the ramparts themselves nor the central residential block (Figure 6). It is on a different axis from that of the Main House and bears no evidence of *zidaka* or *porites* detail.

Areas to both east and west of the stump are interior rooms, although that stump appears to be the division between two distinct parts of the house; it may have been an exterior wall at one time, and later the scene of an addition. The two parts of the

Figure 5: The double-niche feature and staircase landing in Unit 10, facing north/northwest, Double-Niche House.



Figure 6: View of the Southwestern House from above, facing south/southwest.



house remained distinct throughout the excavation. It appeared that a *baraza* or veranda/bench extended across the southern length of the house.

In the western side of the unit, two features of note came out of one room: a mortared sluice; and a narrow northern doorway that may have been plastered for reuse as a *qibla* (orientation line toward Mecca, often used in Swahili rather than *mihrab*). The two features in tandem suggest a private place of prayer. The area outside the house to the west also revealed dense midden deposits.

The artifact density was heavier in the east, with numerous large sherds, many from the same pots, lying among and below much of the wall/ceiling rubble and above the first plaster floor encountered, as if the house was used as a dump after it, or at least the eastern half, was deserted. The impression of this house and its contents, including seemingly later local pottery and the presence of European imports, is that it is single-story, and post-dates the buildings in the center of the site.

From the results of Unit 16 plus other exploratory work in the southern half of the site (Unit 21 and test units 93-4 to 93-12, G. Haney and A. Mbarouq), there appears to be no area of earth-and-

thatch architecture within the fortified area contemporary with or post-dating the stone buildings. Those living within the fortified area at Pujini lived in coral rag houses.

The Mosque

The mosque used by the residents of Ukutani, the hamlet flanking the site to the west, stands atop stone ruins of a larger mosque, surrounded by rubble mounds. Bases of ruined stone columns, three across, lie just north of the standing mosque. Local oral traditions name the ruined mosque as that built by Mkame Ndume, the locally-infamous historical figure said to have built the larger stone site and after whom the site is known in the area.

In a 1989 shovel-test pit located near the southwest corner of the mosque, we found "derived" Tana Tradition (M. Horton, personal communication) or TIW ware at 0.9 m below ground surface (LaViolette 1990; LaViolette and Fleisher 1995). The possibility of the mosque area being linked to early settlement at Pujini, and a desire to examine the stone ruins of the earlier mosque, led to Units 9 and 12 (E. Kessy) in 1990. Unit 9 measured 2.5 x 2.0 m

and abutted the existing mosque on the north. In strata below those of the ruined stone columns, we found large TIW sherds (LaViolette and Fleisher 1995) at 0.92 m below surface. In the absence of other domestic debris, the presence of a large globular water (ablution?) pot suggests the possibility of an earth-and-thatch mosque. There is a precedent for superimposed mosques, beginning with a modest one of earth-and-thatch, at Shanga (Horton 1987a, b). No other direct evidence for an early mosque was found here, however, and the sensitivity of our locating an excavation unit by the currently-used mosque made further explorations untenable.

We placed Unit 12 a few meters to the north of Unit 9. It grew to cover 12 m², was dug to a depth of 1.5 m below surface and revealed a fallen slab of mortared stone wall, possibly that of a surrounding wall that fell toward the mosque, a blue glass bead, TIW, and later local pottery.

Discussion

A discussion could go in many directions, but I comment here only on chronology and the emerging nature of the site. Pujini's chronology is becoming more clear. Pearce (1920:378) suggested it was post-A.D. 1400, based on the presence of what he assumed were firearm loopholes in the rampart crenelations, no longer visible (the single partially-intact, fallen crenelation in the northwest does not have a loophole; Figure 2). Horton and Clark (1985) dated the site to the late-15th and early-16th century based on blue-and-white ceramics. Except for the quiet presence of TIW sherds in a few locations, there seem to be no other local or imported wares that predate the 15th century. European and other late imports suggest a re-inhabitation of parts of the site, or at least its reuse as a dumping area.

Radiocarbon dates confirm what continuity in local pottery styles had already suggested: that apart from the mosque area, cultural strata preceding the stone-defined settlement do not constitute a distinct, previous habitation, but rather, activity directly related to the construction of the stone site (Table 1). The date from the pit by the staircase, AD 1400-1445, is where we expected it to be. The other two dates are more challenging to interpret. Of the three possibilities for the date from the deep, stone-lined pit by the western gate, even the earli-

est of them, AD 1475-1655, is later than expected. The third sample, from the Double-Niche House, also yielded three possible dates, the earliest of which was AD 1670-1780: again, later than the context and other finds would support. Site disturbance may have contributed to these late dates, but we will continue to explore other possibilities.

Three seasons of excavation at Pujini have revealed surprising architectural finds. The artifact assemblage has thus far been surprising in a different way: it is consistent with other Swahili sites of the 15th century and later, but quite thin and non-revealing about the activities that took place at this site. Although parts of the excavated site may have been in use earlier, such as the mosque, and later, such as the Southwestern House, the bulk of the site seems to be 15th- and possibly 16th- century at the most. The deposits, though thick from rubble, are not particularly deep with stratified cultural deposits, suggesting a relatively short life span for most buildings within the enclosure.

Finds from around the western gate complex in 1993 shed light on what this site was not. It was not a fort in a strict military sense. Families lived within its walls. Nor was it a kind of feudal castle, in which local villagers and their livestock could seek refuge. The western gateway, which opened into a complex of small rooms with finished floors, *finjo* pots, and a washing area, was meant for the passage of visitors in small numbers, and was most like the door of a house. The crenelated, fortified surrounding wall appears to have been a manifestation of, and contributor to, island tensions--political, economic, social--while life inside the walls may have been indistinguishable from that elsewhere on Pemba. Tensions among settlements, although not ignored historically, are often overshadowed by our view of Swahili life as dominated by their oft-cited "middleman" role: typically we ask, what was their relationship with other Indian Ocean traders, with people from the hinterland? At Pujini one is also forced to ask, what was their relationship with other people on the island?

A number of seeming peculiarities led writers to classify Pujini as "foreign," even while the conventional wisdom held Swahili society at large to be the result of Arab colonization (e.g., Coupland 1938; Chittick 1974). That is, the visible structures were deemed of a design and type of

construction inconsistent with most stone-built coastal sites (Pearce 1920), and other Indian Ocean peoples were suggested as its founders (Buchanan 1932; Gray 1954). Lack of wall bonding, described above, is one of the characteristics cited to support the "foreign" and "hurried" labels Pujini has born (e.g. Pearce 1920; Kirkman 1964). The "foreigner" leitmotif abounds in contemporary oral traditions about the site, now at least partially "contaminated" with published accounts of earlier oral traditions as well as the commentary of 20th-century colonial administrators and others on this issue (e.g., Pearce 1920; Gray 1954). Now that opinion logically has swung toward Africa itself in the search for Swahili origins, Pujini's supposed architectural oddities are thrown into a different light.

I mention this to contextualize some results of this research; rather than presenting itself as culturally peculiar, Pujini instead shows its idiosyncrasies to be framed within a familiar set of Swahili architectural and other material vocabulary. The architectural shortcuts, such as minimal wall trenches and lack of corner bonding, rather than pointing to "foreignness," may be evidence instead of a shortfall in labor and materials, that itself may derive from the political and economic climate on Pemba at the time of construction rather than cultural ignorance. The presence of the spectacular *zidaka* and pink-plastered, niched doorway, *finjo* offerings, collections of blue-and-white and other imported ceramics, and many other artifacts attest to a mainstream Swahili cultural pattern important to the residents of the site. Left out of consideration for decades, ultimately Pujini's version of Swahili life will contribute to understanding Pemba Island in the 15th century, so densely settled and at the heart of the Swahili world, and to wider Swahili contexts. Plans are underway for a fourth and final season at Pujini, with the primary goal of excavating more of the central house, and conserving the *ndani* and its *zidaka*. That season will lead into an expanded project on Pemba, including surveys for other, especially non-stone sites (LaViolette and Fleisher 1995), and excavations in the northern part of the island around Chwaka.

Acknowledgements

As always, I thank Dr. Abdurahman Juma of the Antiquities Unit of the Office of the President, Zanzibar, for his hospitality, collegiality and ongoing intellectual and logistical input in this research. Mr. Hamad Omar, Director of Museums and Archives, Zanzibar, has also shown unflagging support for this work, for which I am deeply grateful.

The field crews are to be thanked for their hard work, sacrifice, and good cheer during all field seasons. In 1990, the site supervisors were Dr. Paul Lane, now of the University of Botswana; Emanuel T. Kessy of the University of Dar es Salaam (UDSM); Salim Seif of the Antiquities Unit, Pemba; and graduate student Evan Davies. For the 1993 season, I thank Dr. Andrew Reid, now of the University of Botswana; Emanuel T. Kessy and Dr. Felix Chami from UDSM; graduate students Chet Cain, Jeffrey Fleisher, John Fulmer, Gina Haney, Lynn (Van Duyne) Koplín, and Tina Mangieri; Salim Seif and Ashura M. Mbarouq of the Antiquities Units, Pemba and Zanzibar respectively; and Martin Osujaki and S. E. Chawewe, then undergraduates at UDSM. My gratitude goes also to Dr. Bertram Mapunda of the UDSM, who in 1989, just graduated from UDSM, conducted the preliminary site planning upon which Figure 2 is based.

Thanks to the Wenner-Gren Foundation for Anthropological Research, the National Endowment for the Humanities, the British Institute in Eastern Africa, the Foundation for African Prehistory and Archaeology, the UDSM Archaeology Unit, and the Anthropology Departments of Rice University and the University of Virginia, all of whom supported aspects of this field work. Lastly, thanks especially to Jeff Fleisher, graduate student at the University of Virginia, for his cartographic and other contributions to this report.

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