Archaeology And Settlement Histories Along The Pra River, Southern Ghana, Circa 500 B.C. – Ad 1970

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DISSEMINATION ABSTRACT

Archaeological and historical data are used to examine transformations in settlement organization and settlement patterns along the Pra River, southern Ghana, from the first millennium BC to the mid-twentieth century. The study’s focus is on Supomu Island and Wawase, two abandoned settlement sites located in the lower reaches of the Pra River, 15 kilometers north of the coastal trading and port town of Shama. Mapping of surface features, surface collections, shovel test pits, and test excavations are used to document intra- and inter-site artifact distributions. These lines of evidence are used in conjunction with historical sources to explore the processes of settlement formation, expansion, and abandonment at Supomu and Wawase over the past three millennia. The study illustrates how local and the emerging global processes of the Atlantic world played out within the settlement histories of these communities. The assemblage of European trade materials including ceramics, pipes, glass beads, and liquor bottles, and local materials like pottery, stone beads, and lithics from the sites are analyzed and compared. Although limited, this study provides the first local ceramic chronology of this locality. Archaeological evidence of a lithic component that underlies the Atlantic era at Wawase suggests a long-term continuous sequence of occupation at the site. This evidence is supported by a series of radiocarbon dates, which place the earliest occupation levels at Wawase in the first millennium BC. By contrast, at Supomu, archaeological and documentary evidence suggest an occupation period between the seventeenth and nineteenth centuries. Supomu may have functioned as a sociopolitical and commercial center in the Shama hinterland during the Atlantic period. This is evidenced in the number and variety of European trade goods and census data in 1891, as well as transitions in the Supomu toponym and modern political organization in the Shama traditional area. The island’s importance in the region may have derived from its strategic location in the Pra River, which made it ideal for trade particularly in contraband, possibly including a continued trade in slaves during the nineteenth century following the abolition. The locality’s comparative isolation again played out in Wawase, the successor town of Supomu in the second quarter of the twentieth century, which expanded along the plains on the east bank of the Pra River adjacent to Supomu. The Wawase settlement appears to have actively participated in and profited from the burgeoning illegal liquor trade in the Gold Coast colony and postcolonial period.
ARCHAEOLOGY AND SETTLEMENT HISTORIES ALONG THE PRA RIVER,
SOUTHERN GHANA, CIRCA 500 B.C. – AD 1970

by

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Dissertation

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DEDICATION

To my entire family and victims of Ebola and COVID-19
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CHAPTER ONE. INTRODUCTION

This study employs archaeological and historical data to document settlement histories from the first millennium BC to the mid-twentieth century to understand the transformations in settlement organization and settlement patterns along the Pra River, southern Ghana. The work focuses on two abandoned settlement sites, Wawase and Supomu, located along the Pra River about 15 kilometers north of Shama, a prominent European trading entrepôt for this area during the Atlantic trade, between the sixteenth and nineteenth centuries (see Figure 1.1 and Figure 1.2). Shama is located at the mouth of the Pra River in the Western Region of southern Ghana. Shama is the location of one of the three earliest European fortifications on the West African coast. Fort São Sebastião (or Fort St. Sebastian), at Shama, was built by the Portuguese in the 1550s to take advantage of the provisions afforded by the region and the availability of wood for ship repairs (DeCorse 2010:222-224; Lawrence 1963:274; van Dantzig 1980:19). This early outpost for the European sea-borne trade provided a crucial context for African-European interactions in this portion of the Ghanaian coast. Although its navigability is limited up to about 35 kilometers from Shama to Daboase, the Pra River provided an important entry point into the resource-rich areas such as Wassa, Twifo, Aowin, Denkyira, and Asante in the interior from this part of the coast. Shama is flanked by equally important

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1 The term Gold Coast is the historical name of the coast and immediate hinterland of the modern-day Republic of Ghana. The name Gold Coast originated from the region's predominant trade item, gold, that Europeans received on this part of the West African coast. In the discussion, the reader should note that the two names are synonymous. But the term Gold Coast is particularly preferred in historical context while Ghana is used for more general discussion.

2 The other two early European fortifications are Castelo de São Jorge da Mina (otherwise known as Elmina Castle) and Fort St. Anthony at Axim. Fort St. Anthony lies to the west of Shama and Elmina to the east.
port towns of Komenda and Elmina to the east and Axim to the west (see Figure 1.1 and Figure 1.2).

Supomu island is located approximately mid-way between the port of Shama and the navigable end of the Pra River at Daboase (see Figure 1.2). Wawase is situated on the right bank of the river just to the northeast of Supomu Island. The location of these settlements—their positions on the river and relative accessibility—likely contributed to the economic prosperity of these settlements at particular historical moments. The vicinity of Supomu and Wawase is sequestered in the broader hinterland region of the Shama hinterland. The modern town of Supomu Dunkwa,3 which lies on the main highway from Cape Coast to Takoradi on the left bank of the Pra River, claims traditional custody of the now-abandoned sites of Supomu and Wawase. The people of Supomu Dunkwa claim that they are historically connected to the people of Yarbiw and Shama. Yarbiw is a small town that lies to the southwest of Supomu Island, approximately equidistant between Shama and the island. The traditional structure of governance is the region is indicative of this historical connection, as claimed by these people (for discussion on traditional authority in contemporary Ghana see Brempong 2007; Busia 2018; Ray 2003).4 Shama is the head of the paramountcy of the Shama Traditional Area. The people of Supomu

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3 In this discussion, Supomu without the appended Dunkwa will be used in reference to the island of Supomu. Supomu Island and Supomu are used interchangeably to refer to the historic island. The reader should also note that this historic island settlement is different from the modern town of Supomu Dunkwa as described above.

4 In Ghana, there are two intersecting domains of political authority: local government (or state) authority and traditional or chiefly authority. The local authority which involved the creation of district and municipal assemblies is derived from the postcolonial nation-state and chiefly authority is mainly derived from tradition and custom of a given region or community (Ray 2003:242-243). These divisions form part of the chieftaincy divisions laid down during the colonial and postcolonial periods.
Dunkwa form the *Nifa* (Right Wing) Division, while the people of Yarbiw form the *Benkum* (Left Wing) division of the Shama paramountcy.

The location of Wawase and Supomu, as hinterland settlements of Shama, provides the context for understanding the economic and historical significance of this portion of the coast in the early Atlantic trade. However, before the current study, detailed historical and archaeological knowledge of this area was limited. The present research situates the settlements’ histories and changing settlement patterns of the region within the long-term history of this area. The study examines the formation, growth, and abandonment processes of these settlements and their implications for the broader economic processes and culture history of this locality. This long-term perspective situates these settlements within their deeper African past to appreciate African societies before the Atlantic trade and understand how the trade impacted on these societies.

Archaeological data derived from surface surveys, mapping, shovel testing, and test excavations are used to make a comparative assessment of artifacts assemblages, their lateral distributions, and chronological implications within and between the Wawase and Supomu sites. This comparative evaluation of the archaeological record is used to explore the histories of Supomu and Wawase to develop an understanding of the transformative processes of the settlements and assess their implications to local and Atlantic socio-economic processes.

Supomu and Wawase provide a unique archaeological lens through which to evaluate such long-term transformations in settlements organization and settlement
patterns in an area that is poorly known from both archaeological and historical sources. Located on the east bank of the Pra River, Wawase is a multi-component archaeological site with pre-Atlantic and Atlantic period occupations. The Wawase site has the potential to enhance our understanding of the long-term transformations within the region from at least the first millennium BC to the mid-twentieth century. Supomu, in contrast, is an island that was occupied during the period of the Atlantic slave trade, from the seventeenth century to the end of the nineteenth century. The broad chronological spans of these sites provide a unique opportunity to evaluate the processes of settlement formation, growth, and abandonment. Wawase offers a deep pre-Atlantic context, while Supomu provides an understanding of settlement reconfigurations during the Atlantic slave trade and the volatile political situation in southern Ghana from the seventeenth to the nineteenth century.

Settlements like Wawase and Supomu are also of particular interest because these communities were not in direct contact with Europeans, whose points of engagement in the region were principally confined to the coastal trading enclaves at Shama, Elmina, and Komenda, and adjacent portions of the coast. Also significant is that settlements such as Wawase, located in the coastal hinterlands, appear to have had a continuous occupational history dating to at least the first millennium BC until the twentieth century. They thus have the potential to provide a deep-time perspective of the history of southern Ghana. This point resonates with the observation that the archaeological focus on political and economic centers during the Atlantic trade which derives from an overemphasis on oral and documentary sources tended to produce partial histories of
West Africa’s intersection with the Atlantic world (DeCorse 2013:25; 2016a:11-12; Monroe and Ogundiran 2012a:11-12; Schmidt 2006; Schmidt and Walz 2007).

The above observation underscores the need to document societies that were not in direct contact with the European trade centers on the coast and are, to a large extent, poorly or completely undocumented in European documentary sources, particularly during the first centuries of the Atlantic period. In southern Ghana, the pressures of warfare during the seventeenth and eighteenth centuries resulted in the reconfiguration and reorganization of hinterland settlements, making them ideal loci for studying the pre-Atlantic past (e.g., Daaku 1970; Kea 1971; Law 2007, 2008, 2012, 2013a; Shumway 2004, 2014). Archaeological research has tended to favor political and economic centers that are at least partially known through oral and documentary sources (DeCorse 2016a:9-10). Settlements that are beyond the coastal trading enclaves of the Europeans come into focus through archaeological survey and excavation as borne out by archaeological survey data from the Central Region Project (Cook and Spiers 2004; DeCorse 2009; DeCorse et al. 2000; Reid and Amartey 2019; Spiers 2007a).

Within the wider context of the archaeology of the Pra Basin, Supomu and Wawase initially came into focus during the Central Region Project, which involved the systematic archaeological survey of a 425-kilometer square area in the Central Region and parts of Western Region of Ghana (Amartey 2017; Cook and Spiers 2004; DeCorse...
2005; DeCorse et al. 2000; Reid 2020; Reid and Amartey 2019; Spiers 2007a). Our knowledge of Wawase and Supomu through such research underscores the importance of archaeological surveys in understanding the broader settlements landscape of regions across the West African hinterlands (Bower 1986; DeCorse 2005, 2009; McIntosh and McIntosh 1984; Richard 2007; Smith 2008; Usman 2007; Usman 2000).

Although the Pra River Basin appears to have been very significant in the region’s intersections with the Atlantic world, this area is poorly known archaeologically and historically. David Henige’s (1975a) work remains the most focused historical study of the settlement histories and sociopolitical developments in the Shama hinterland. Henige examines the changing political relations between Yarbiw and Adom states that dominated the sociopolitical landscape of the Shama hinterland during the Atlantic trade. His work particularly examined the place of Supomu Island and modern-day Yarbiw town histories in the context of changing political relations in the region during the Atlantic slave trade. Henige’s work provides valuable insights into our knowledge of these two polities. However, there is a lack of detailed descriptions of the territories occupied by these polities and placing them in the historical landscape of the region remains incomplete. Shama, Elmina, and, to a limited extent, Komenda, Sekondi, and Takoradi were the most significant points of engagement of this area with Europeans on the coast. Fort St. Sebastian, one of three major early trading posts built by the

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5 Initial survey of these sites was supported by the National Science Foundation grant received by Christopher R. DeCorse.
6 Note the distinction between the present-town of Yarbiw and the historic Yarbiw polity during the seventeenth century. In the discussion, Yarbiw will be prefixed or suffixed “state” and will retain “Yarbiw” for the present town.
Portuguese *circa* mid-sixteenth century at Shama, was significant for provisioning for European ships along the coast (DeCorse 2010; Lawrence 1963:274-280; van Dantzig 1980:7-8; Varley 1952).

![Map of southern Ghana showing Shama hinterland. The dotted line represents the approximate edge of the forest (drawing by Samuel Amartey)](image)

Most of the historical research that has been undertaken on the historically known polities of coastal Ghana has focused on the eastern area notably Elmina, Mankessim, Anomabo, Fetu and Cape Coast (Adjaye 2018; Feinberg 1970, 1989; Fynn 1974, 1975, 1976; Shumway 2004, 2011, 2014; Sparks 2013, 2014; Yarak 1990, 2003). Generally, the focus
on these settlements has been dictated by their significance as religious, political, and commercial centers of the Fante people, as well as the availability of documentary sources (Chouin 1998; Fynn 1974, 1975, 1976; McCaskie 1990; Sparks 2014). Ray Kea’s (1982) and Kwame Daaku’s (1970) works are notably comprehensive and holistic syntheses of the history of southern Ghana (also see Porter 1974), yet they do not provide an in-depth discussion of Ghana’s western coast, the Pra River basin or Shama hinterland. Kea (1982) makes sparse references to settlement systems along the Pra River during the early contact period. Further to the west of the Pra River, Pierluigi Valsecchi has examined the region of Appolonia centered at Axim (Valsecchi 2011). No historical work on the sociopolitical history has been done on the neighboring states of Wassa and Ahanta to the north and west of this area (cf. Crowther 1926; Dumett 1987). These limited historical studies underscore the paucity of documentary sources available for the Shama hinterland. The current study aims to utilize archaeology and the sparse documentary sources available to situate the region’s history in the deep past and highlight the Atlantic transformations that took place in the settlement geographies of the area.

While this study aims to document the long-term settlement histories of Wawase and Supomu, the broader objective is to evaluate the impact of the Atlantic trade in this particular locality using these two communities as case studies. Spatial and temporal examination of artifact distributions and densities within and between Supomu and Wawase are used to evaluate transformations in the settlements’ organization and pattern. The following questions are examined in this study. What was the nature of pre-European
contact settlements, and how did these relate to later sites? What artifactual materials set these pre-contact societies apart from the later Atlantic period? What transformations can be identified in terms of settlement sizes, artifact densities, and the economic and socio-cultural changes they represent in the archaeological record? How do these elements speak to the processes of settlement formation, growth, and abandonment in the area? These questions provide the framework for this project. Pedestrian surveys were used to assess surface materials distribution. A 10-meter grid was used to map both sites. Surface collections, shovel test pits, and test excavations were used to collect stratigraphic and chronological data. The specific field techniques employed are discussed in Chapters 4 and 5.

Setting the stage: The environment and socio-historical context
The natural landscape and the Pra River system were important in shaping the social and cultural interactions in the region. The Shama hinterland area forms part of the forest region of Ghana. The forest consists of primary and secondary forests. The density of the forest increases from the north towards the south, becoming thicker at the southwestern corner of the country (Boateng 1966:47). The savanna consists of grassland with interspersed short trees and occupies the entire northern half of Ghana and includes a small stretch of the southeastern corner of the country (Boateng 1966:52). On the Accra

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7 Two broad ecological zones—forest and savanna—characterize Ghana (Boateng 1966:51-53). The current discussion arbitrarily focuses on the southern half of the country, which mainly constitutes the forest region. Except for the Accra Plains, which extends to the east on the coast, the forest region occupies the entire southern half of the country.
Plains and Akwapim Ridge, the coastal hinterland of Ghana consists of an undulating landscape with few isolated hills and inselbergs, none of which exceeds 600 meters above sea level (Boateng 1966). The immediate hinterland of the coastline consists of isolated lagoons with mangrove vegetation. The shoreline consists of sandy beaches with interspersed rock formations. Several rivers drain the region’s landscape, the largest of which are the Volta in the east and the Pra in the west. These broad ecological zones provide the context of human occupation of southern Ghana from the first millennium BC to the postcolonial period.

The Shama hinterland is drained by the Pra River. River Pra is variously referred to in European documentary sources as the Bosempra, Bosumpra, Bossumprah, and Prah (Bosman 1705:21-22). Among the Akan, the prefix of Bosum (or Bosem) accords a deity status to the river. Today, the local folks refer to the river as “Bosum”, a deity. The people of Shama commemorate the vital role of the river in their social life through a festival referred to as “Pra Nyeyi,” which translates as “Pra commemoration.” The Pra River, with its adjoining floodplains and isolated low-rises, constitutes the most conspicuous geographical features of this locality. The River and its major tributaries, the Birim and Ofin, are part of the most extensive and longest drainage system in the southern forest of Ghana (Boateng 1966:42). The Pra River flows from Kwahu Scarp in the Eastern Region through the auriferous region of the forest region of Ghana and empties into the Atlantic Ocean at Shama. At its lower reaches, there are isolated islands and islets, of which Supomu appears to be the most significant in terms of the sociopolitical history of the region.
The Pra River is not navigable by canoes for long stretches due to the intermittent presence of cataracts or rapids. It is, at most, navigable up to just north of Daboase, about 35 kilometers from its mouth at Shama (see Figure 1.2). Goods transported up the Pra from the coast would have had to be done in relays to afford movement around cataracts. Ray Kea (1982:65) notes that during the sixteenth and seventeenth centuries, bulking stations were established at these nodes where goods were transferred to head-loads for overland transportation (also see Daaku 1970:79). The formative years of Supomu and Wawase were likely intricately connected to the accessibility and economic opportunities afforded by the Pra River. The Supomu and Wawase vicinity is conveniently accessible by canoe as the surrounding landscape is covered by swamps and marshes.

It is not surprising that people along the Pra River were noted for canoe making during the Atlantic trade (Henige 1975a:34; Kea 1982:65; van Dantzig 1980:19). Canoe making continues to be an important economic activity for the people living along the lower reaches of the Pra River. Today, the people of the village of Krobo on the east bank just south of Wawase are noted for their expertise in canoe building. It is noteworthy, however, that these people are recent immigrants from the Volta Region on the eastern border of Ghana, and their arrival in the area dates to the mid-twentieth century. No studies have been undertaken to document and understand how this immigrant population tapped into the historical and economic significance of canoe construction in this area.
Oral traditions and the available documentary sources present a precarious and ambiguous sociopolitical history that has implications for contemporary ethnic identity politics and historical memory of the descendant communities along the lower reaches of the Pra River. Traditionally, the towns of Shama and its sub-stools of Supomu Dunkwa and Yarbiw claim that they belong to the Fante ethnolinguistic group (see Figure 1.3). Therefore, like all Fante people who occupy central-southern Ghana, the communities under these stools trace their origins from Tekyiman in northwest central Ghana, the
supposed cradle of all Akan people of Ghana. However, a review of the documentary sources and “ambiguous” traditions suggest that such claim to ‘Fanteness’ may have no historical basis and may be related to relatively recent identity politics of central coastal Ghana. This caveat highlights the ambiguities in the ethnolinguistic ascriptions and geopolitical units in the sociopolitical history of southern Akan groups of Ghana (Chouin 2009:82-112; Kiyaga-Mulindwa 1980; Labi 2002; Valsecchi 1999; Valsecchi and Viti 1999; van Dantzig 1990). As will be established, this wider area along the Pra River was known to have been under the domain of Adom and Yarbiw polities during the seventeenth and eighteenth centuries. Notably, however, these references relate to sociopolitical and territorial or geopolitical units rather than ethnolinguistic ones. The area straddling the lower reaches of the Pra River may have been a relatively porous ethnolinguistic domain between Ahanta to the west, Wassa to the north, and Fanti to the east, presenting variable ethnolinguistic identities. The area may also have had a volatile political landscape, as will be discussed in Chapter 3.

Today, the modern communities of Supomu Dunkwa, Yarbiw, and Shama lack any historical memory of the ancestral polities of Yarbiw and Adom, which flourished

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8 Today, the Akan people constitute the largest ethnolinguistic group in Ghana, while Fante is the second largest sub-group within Akan. The Akan people occupy the entire forest region of west-central Ghana. They are classified based on homogeneous sociocultural, linguistic, and political organizations. Within this larger group are several divisions including Fante, Asante, Denkyira, Agona, and Wassa. The identification or denotation of the Akan ethnolinguistic group in the historical records is not clear. Several scholars have attempted to identify the specific contemporary ethnic group with the known historic group variously referred to as Akanny, Akannistes, Accanny etc. (e.g., see Boahen 1973a; Daaku 1970; Kiyaga-Mulindwa 1980).

9 Ahanta and Wassa are subdivisional Akan ethnolinguistic groups who share borders with this region to the west and northwest of Shama Traditional Area.
during the Atlantic slave trade (Meyerowitz 1952, 1975). Even though Yarbiw history has become the dominant oral narrative intricately linked to that of Eguaso and the Fante polities to the east, the history of its political importance, and particularly its relationship to the historically known Adom and Yarbiw polities is not captured in oral accounts of the current inhabitants. The relationship between the Supomu and Wawase settlements and the Adom and Yarbiw polities also remains sketchy (compare Henige 1973b). The people of Supomu Dunkwa, the traditional custodians of Supomu and Wawase, provide limited accounts of the nature of the Supomu and Wawase settlements and their place in the history of the political geography of the area.

However, based on documentary sources, the Adom polity was the sociopolitical, historic center of this region, from at least the beginning of the seventeenth century to the end of the Atlantic slave trade (Henige 1975a). It is difficult to reconcile these apparently contradictory historical renditions. Furthermore, the paucity of historical memory makes this phenomenon particularly ambiguous. This pattern of a fragmentary, subverted historical memory of Adom and Yarbiw in contemporary traditions of the area speaks to the broader theme of the intersection of oral traditions and documentary records in ethnic identity construction in southern Ghana (see Chouin 1998; 2009:111; DeCorse 2008; Henige 1973a, 1973b, 1974a, 1974b, 1975a, 1982). It also speaks to the notion that the

10 These historic polities are not mentioned in the traditions discussed by Eva Meyerowitz (1952; 1975) or David Henige (1975). During fieldwork, interviews conducted in Supomu Dunkwa and Yarbiw towns indicated no knowledge of historic Adom or Yarbiw polities. For instance, Nana Kwamina Wienu II, Chief of Yarbiw town, was emphatic that he had no knowledge of the Adom polity and that Yarbiw has always been the hinterland capital of Shama until the late nineteenth century (interview conducted in June 2, 2017). But it is worthwhile to note that the available traditions need to be critically evaluated (Chouin 2009; Henige 1973).
area along the Pra River has a precarious and politically fragmented history that is manifested in quite varied cultural traditions and sociopolitical organizations among the Akan of southern Ghana in general (e.g., Ayesu 2013; Crowther 1926; Dumett 1998:Chapter 2; Kwamena-Poh 1973; Labi 2002; Welman 1969; Yarak 2003). This phenomenon may generally be reflective of the disruptive and transformative nature of sociopolitical demands during the Atlantic era, particularly in the western parts of Ghana (Boni 2001; Valsecchi 1999, 2011; Yarak 2003).

There is a seeming dearth of European documentary sources for Shama and, especially, its wider hinterland. This observation may derive from comparatively limited commercial importance of European ship-borne trade at Shama during the Atlantic period. This limitation, however, needs assessment in light of future archival research. The Pra River and its hinterland communities undoubtedly have a long history of interactions with Europeans. Fort St. Sebastian, one of the earliest European forts on the West African coast constructed at the mouth of the Pra River, was a facilitating medium of these interactions.
Scholars have mainly invoked defense from other European interlopers as the reason for the Portuguese construction of Fort St. Sebastian. However, provisioning, canoe construction, and ship repairs, which historical sources suggest were the economic mainstay throughout the Ghanaian coast, were likely also part of the European trade during the Atlantic periods (Chouin and DeCorse 2010:221; Feinberg 1989:65-71; Gutkind 1985; Lawrence 1963:280; van Dantzig 1980:19). Shama, and its hinterland, was particularly noted for the above-mentioned aspects of the Atlantic trade. The quantity and

Figure 1.3 Some ethnolinguistic groups of southern Ghana forest (drawing by Samuel Amartey). Apart from the Ga, all these groups consider themselves as part of the Akan stock.
variety of European trade items recovered from Wawase and Supomu is a testament to these communities’ commercial and sociopolitical importance during the Atlantic trade.

The key highlights of the traditions of people under the Shama stool—namely Supomu Dunkwa, Yarbiw, Shama—include references to successive waves of migrations from Takyiman; the fact that their ancestors were warriors; and the relocation from Supomu to Wawase and thence to Supomu Dunkwa. It is noteworthy that a part of these accounts (namely, migration from Takyiman or Bono Manso in the north) is pervasive among Fante oral traditions as is all Akan people of Ghana (Fynn 1974, 1975, 1976; McCaskie 2015:182-283; Meyerowitz 1952, 1975; Sanders 1980; Sanders 1979; Shumway 2004, 2011, 2014; van Dantzig 1990).  

The study area falls under the traditional paramount stool of Shama, which has three divisional sub-stools. Of these, Yarbiw and Supomu Dunkwa are of particular interest here. Yarbiw forms the Benkum (Left-wing) division while Supomu Dunkwa represents the Nifa (Right-wing) division of the Shama paramountcy. These stool divisions were laid down in the late nineteenth or early twentieth century, during the colonial period (Henige 1975a:29; Welman 1969:12). The people under these stool divisions claim to be Fante speaking people and hence part of the broader stock of the

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11 These traditions cannot be accepted uncritically (see Chouin 2009:107). Although efforts were made to conduct interviews and engage with oral sources, the collection of oral traditions was not a major focus of the current study and more research needs to be undertaken.

12 The Adonten (Center Wing) division is occupied by Nchaban which located further to the west of the study area in Ahanta territory. These stool divisions are associated with flanked military formations, which are said to have been laid down by the Akwamu and Denkyira in the seventeenth and eighteenth centuries and adopted by several Akan groups in their political formations (Kea 1982:156).
Akan ethnolinguistic group of Ghana (see in-depth discussion of the place of the Akan in European documentary sources in Boahen 1966; Boahen 1973a; Effah-Gyamfi 1979; Kiyaga-Mulindwa 1980). This claim to Fante ethnolinguistic identity is muddled by the present regional geographical and local political divisions. For instance, while the area west of the Pra River is considered being in the Western Region and therefore, typically in Ahanta territory, the people in this area nonetheless consider themselves as Fante and do speak the Fante language. If Hair (1967) is correct in claiming ethnolinguistic continuity along the Lower Guinea Coast from the seventeenth century, then the region west of the Pra should rightly be categorized under Ahanta. Charles Welman (1969:8), however, notes that even though the region to the west of the Pra River is included in the Ahanta native state during the colonial period, the area or stools of Yarbiw, Shama, Nchaban, and Supomu Dunkwa were part or fall under Fante stool divisions. Logically, this observation by Charles Welman requires that these ethnolinguistic categories be subjected to historical and ethnographic scrutiny and analysis as the territorial continuities are vague and problematic (Chouin 2009:87-95; Hair 1968).

It will be interesting to determine if these past socio-cultural and political transformations are related to the loss of historical memory among contemporary populations and their relationship to the historic Adom and Yarbiw polities noted above. As will be discussed in Chapter 3, Adom was known in documentary records as the most dominant political territory in the hinterland of Shama during the seventeenth and eighteenth centuries, but by the beginning of the nineteenth century, it faded from documentary records and the memory of the modern inhabitants of this area.
With this preamble in mind, the research at Wawase and Supomu sites aims to contribute to our understanding of the long-term human occupation and settlement transformations in this locality. Broadly, this agenda will contribute to our understanding of human occupation and settlement dynamics in the southern Ghana forest from the first millennium BC to the mid-twentieth century. This observation has wider implications for Atlantic historiography and archaeology that, over the past decades, have been advocating for longitudinal temporal studies across different localities (DeCorse 2013, 2016b; Kelly 2004; Monroe and Ogundiran 2012b; Schmidt 2006; Stahl 2001). This emergent historiographical agenda is further elaborated on in the next section.

What is noteworthy here is the fact that the agenda for reconstructing the long-term history of the southern Ghana forest region is limited by the lack of well-stratified archaeological deposits that span several millennia (McIntosh 2006:31; Stahl 1994:92-93; 1999). For instance, our knowledge of the so-called Later Stone Age and transition to the Iron Age in this region is particularly sparse. Archaeological data from Wawase, even though preliminary, adds to our knowledge of the cultural history of this wider area along the coast and southern forest region. A corollary to this epistemological dimension of the archaeology and history of southern Ghana is that archaeologists working in this region have not paid particular attention to the twentieth century (compare Carr 2001), a period marked by substantial changes in the colonial infrastructure and associated political economic changes (Agbodeka 1972; Boahen 1975; Dumett 2013). Just as the Atlantic slave trade and post-Abolition periods transformed the settlement landscapes of this region, the first half of the twentieth century is also marked by variable changes in the
settlements landscape as borne out by the archaeological data from Wawase. These transformations in the settlements landscape of this region are discussed in the penultimate chapter of this discussion.

**Archaeological historiography—West African archaeology and Atlantic studies**
Archaeology remains the critical source of information for understanding the deep past of the West African forest. In the Pra River basin, the pre-European contact period is particularly poorly known. The archaeology of this region is poorly known compared to other parts of coastal Ghana. This study attempts to fill this gap in the history and archaeology of this part of coastal Ghana. The recent emerging literature on the archaeology of West Africa speaks to the increasing emphasis on the archaeology of Europe’s intersection with Africa during the last 500 years or so (Casey 2013:604; DeCorse 2013:22; Holl 2009:140). This phenomenon has epistemological and theoretical implications for the types of datasets employed and archaeological sites examined (Stahl 1999:39-40).

Atlantic studies have become an analytic label for historical studies that seek to address the emerging global cultural and economic interconnectedness of people bordering the Atlantic trade since the fifteenth century when Europeans started exploring these areas (Armitage and Braddick 2002; Armitage 2002; Bailyn 1996, 2005; Benjamin 2009; Falola and Roberts 2008a; Gilroy 1993; Thornton 1998, 2012; Tomich 2004; Walvin 2016). According to Christopher DeCorse (2013:10), the utility of the Atlantic may be related to the growth of historical archaeology in North America and popular
history (also see Falola and Roberts 2008b:xiii). While its initial application was connected political alliance of the United States and Northern Europeans in the maiden work of Bernard Bailyn (1996), Atlantic studies “involves the conscious decision to examine one's specialized topic—however, defined it is geographically, topically, or temporally—and connect it to the broader themes in Atlantic history.” (Falola and Roberts 2008b:xiii). Dale Tomich (2004:116) reminds us of the historicity of the Atlantic seaboard that stimulated social, cultural, political, economic exchanges across different zones since the fifteenth century. This analytic framework advocate for the evaluation of the history of local zones bordering the broader regional history of the Atlantic economy. Within this framework, the settlement histories in the locality of Supomu and Wawase cannot be understood apart from the wider processes of the Atlantic economy.

It is noteworthy that the term “historical archaeology”, which is popularly used in North American archaeology (DeCorse 2014b:139; Orser 1994, 2001, 2008, 2010; Posnansky and DeCorse 1986), has sometimes been used in West Africa and Ghana to address the impact of European exploration of the continent during the last 500 years (e.g., Anquandah 2006; Wesler 1998). However, the term has proven to have a limited conceptual and theoretical applicability in Africa in general (Connah 2007; DeCorse 2014b; Posnansky and DeCorse 1986; Schmidt 1978, 2006; Schmidt and Walz 2007). It is not the intent of this discussion to delve into the conceptual and theoretical caveats of the historical archaeology label. These theoretical and conceptual issues have been explored in several publications across the African continent (e.g., Andah 1995; Hall and Silliman 2009; Posnansky and DeCorse 1986; Reid and Lane 2004; Schmidt 1978, 2006;
Schmidt and Mrozowski 2013; Schmidt and Walz 2007). It is notable, however, to consider the Atlantic studies label as a viable alternative due to the analytic limitations of historical archaeology in Africa (DeCorse 2019a:3). This section explores the theoretical and epistemological threads that underpin Atlantic studies in West Africa and its archaeological implications for a deep-time perspective of West Africa’s past. These theoretical underpinnings of the archaeology and historical agenda of Atlantic world studies set the sites of Supomu and Wawase apart in addressing long-term social transformations that span over two millennia.

In African studies, the program of exploring the Atlantic interconnection is aimed at understanding the impact of the Atlantic trade on the West African social, cultural, and political landscape (see examples in Inikori 1982). However, a glance at the publications on the Atlantic trade indicates that the economic aspects of the Atlantic interactions—namely the terms of trade, human and material capital flow, between West Africa and Europe—have received much attention across the continent (a few examples include Austen 1987; Curtin 1975; Eltis 2001; Eltis et al. 1999; Eltis and Jennings 1988; Gemery and Hogendorn 1979; Hopkins 2020). Monroe and Ogundiran (2012a:8-9) refers to these approaches as volumetric-valumetric approaches and contend that these have animated world systems and dependency perspectives and debates in Africa’s economic development (Austen 1987; Fage 1969; Falola and Achberger 2013; Rodney 1982; Wallerstein 1974). According to Christopher DeCorse (2016a:7), these economic approaches to Atlantic studies is not surprising, since trade was the primary stimulus for Africans and Europeans interactions. The aim is to assess the socio-cultural and political
context of the Atlantic economic processes and the changes it engendered in variable settings of African societies (DeCorse 2016b, 2019b; Falola and Ogundiran 2007; Monroe and Ogundiran 2012b). This agenda underscores the need for a contextual understanding of how different regions and locales experienced and were affected by the Atlantic world in particular historical moments in order not to assume a monolithic effect of the Atlantic economy in these specific societies (Falola and Roberts 2008b; Inikori 1982:51-52; Lovejoy 2012:xix). Thus the need to examine long-term temporal changes in different locales and regions in West Africa to understand the varied experiences of the Atlantic trade cannot be overemphasized (DeCorse 2016a:10-11; Kelly 2004:224).

Given the fact that in West Africa, in particular, documentary sources only date back 500 years, archaeology remains the crucial epistemological tool for evaluating the long-term historical perspective advocated for in the Atlantic program. Archaeology’s strength lies in how to document changes in subsistence practices, technology, and settlement patterns (DeCorse 2008:86-90; DeCorse and Chouin 2003:7-8; Vansina 1995:396-397). Increasingly, regional surveys are being undertaken in various localities in West Africa to provide an understanding of regional cultural landscapes from a long-term historical perspective (DeCorse 2016b; Falola and Ogundiran 2007; Monroe and Ogundiran 2012b). A few examples will suffice here. The Bassar regional survey undertaken by Phil de Barros in northern Togo examined the impact of the Atlantic trade on iron production in the interior region of Togo (de Barros 1986, 1988, 2012, 2016). In the Senegambian Region, François Richard, Ibrahima Thiaw, and Susan McIntosh have undertaken a large-scale regional survey to understand the changing settlement pattern in
response to the changing economic phases of the Atlantic trade (McIntosh 2016; Richard 2007, 2010, 2012; Thiaw 2012). Similar studies have been undertaken in the Cameroons and southern Lake Chad Basin by Augustin Holl and Scott MacEachern (Holl 2016; MacEachern 1993, 2016; MacEachern and David 2012). These works are indicative of the dramatic changes in settlements organization and technology during the Atlantic slave trade.

In Ghana, Leith Smith’s (2008) work in Banda, west-central Ghana, and the Central Region Project (Amartey 2017; Cook and Spiers 2004; DeCorse 2005; DeCorse et al. 2000; Reid 2020; Reid and Amartey 2019; Spiers 2007a) remain the most comprehensive regional survey projects that situate local histories into the broader landscape and deep past. Detailed settlement survey will complement such regional studies by providing the fine-grained nature of settlements in the wider landscape. Detailed archaeological survey of Wawase and Supomu will enhance our knowledge of these sites and will add to the existing survey data available for the Central Region of Ghana. Notably, in the southern Ghana forest, deeply stratified sites with multi-component horizons that span several millennia, like the site of Wawase, are lacking. This limitation, however, should not be a surprising expectation since the settlements landscape of most parts of the West African littoral underwent different processes of formation, abandonment, and expansion in the course of the Atlantic trade, after the abolition of the slave trade, and during the formal colonial period. The economic opportunities afforded by European trade and the dangers associated with the slave trade meant that both push and pull factors played out in different localities, as illustrated by
various researchers across West Africa (e.g., Adams 1822; DeCorse 2019b; Falola and Ogundiran 2007; Monroe and Ogundiran 2012b). The push factors may likely include the movement away from localities that are prone to slave raiding, while pull factors refer to the aggregation of people in localities that offer economic opportunities emerging from Atlantic economic processes.

While it is equally important to evaluate formative, growth, and abandonment processes before the arrival of Europeans, archaeologists have been limited by the availability of sites dating to the millennia pre-dating the opening of the Atlantic era. What was the nature of the settlements landscape in southern Ghana before the Europeans arrived on the coast? Archaeologists working in southern Ghana have made progress in addressing this question in some parts of the forest region of southern Ghana (Chouin 2009; Chouin and DeCorse 2010; Spiers 2007b). However, until the last couple of decades, the interpretation of the archaeological data was challenged due to the paucity and ambiguity of the archaeological evidence (Wilks 1993:71-72). It is as a result of this limitation that historians like Ivor Wilks claimed that the foundation of social complexity in southern Ghana forest dates back to the fifteenth century when the region was brought into the world gold bullion market (Wilks 1982, 1993). This claim is reiterated by, for example, Tom McCaskie (2003). This notion has been sustainably challenged by anthropological historians and archaeologists, particularly over the last decade (Chouin 2009, 2012; Chouin and DeCorse 2010; Klein 1996; Pavanello 2011; Shinnie 1996, 2005). Increasingly, archaeological data from the southern Ghana forest region is
contribute to the bigger picture of the settlement landscapes and histories of the pre-European contact period of the region.

These theoretical and epistemological implications—or apparent disjuncture—in the archaeological historiography, in part, derive from the challenge of archaeological visibility and intellectual or institutional history of the archaeological discipline in Ghana and West Africa, broadly. Emanating from the privileging of documentary sources and oral traditions, Africanist archaeologists have tended to focus on known political and economic centers afforded by these documentary and oral sources (Posnansky and DeCorse 1986:10; Stahl 1999:43-44). Yet, the transformations in African settlements and societies cannot be understood entirely by examining these economic and political centers during the Atlantic trade without situating them within the broader settlements landscape (Monroe and Ogundiran 2012a:12). This limitation or caveat requires the need to be attentive to the hinterlands areas that may potentially be locations for attracting displaced people during the Atlantic slave trade. Hinterland settlements of economic centers are potential sites of pre-Atlantic inhabitants. However, considering the West Africa’s forest vegetation and the limited surface visibility, it is not surprising that hinterland settlements have received little attention. These sites have potentially been masked in the forest zones of southern Ghana (Casey 2003:35; 2013:604).
In contrast to the challenge of archaeological visibility in the forest, emerging archaeological data marked by earthworks\textsuperscript{13} dating to the first and early second millennium AD in south-central Ghana is indicative of the settlement histories of the region (Boachie-Ansah 2008, 2010, 2014; Chouin 2009; Chouin and DeCorse 2010; Kiyaga-Mulindwa 1979, 1982). Additionally, large settlement sites scattered on hilltops and around lagoons and ravines have been identified through an intensive survey of the forest region of Ghana, courtesy of the Central Region Project (Amartey 2017; Cook and Spiers 2004; DeCorse 2005; DeCorse et al. 2000; Reid 2020; Reid and Amartey 2019; Spiers 2007a), and the works of Oliver Davies in the 1950s (Davies 1961, 1964, 1967, 1976). The Wawase site, which dates to the first millennium BC, came to light through the survey work of the Central Region Project. These indications suggest that contrary to the widespread conviction that the forest was a barrier to human habitation, human ingenuity harnessed and adapted to forest environments since the mid-Holocene (e.g., Mercader 2002, 2003). The lack of sustained research in the hinterland undoubtedly has contributed to the lack of our knowledge in the early human occupation of the forest region.

A second derivative of the theoretical implications of the Atlantic studies agenda relates to the development of archaeology as a discipline from the pre-colonial through to post-colonial period (Anquandah 1982b; Anquandah et al. 2014; DeCorse 2013; Kense

\textsuperscript{13} Earthworks are elliptical embankments, ditches or fosse that surround a settlement. Approximately 15 of these have been documented in the hinterland forest of southern Ghana. Their use and nature of these ditches are unclear. None of these have been documented from the area west of the Pra River or the immediate vicinity of it.
A brief outline of Ghana’s case regarding the disciplinary history of archaeology illustrates this point. There was no professionalization of archaeology in West Africa until the mid-twentieth century. Archaeology in Ghana, like that of other parts of sub-Saharan Africa, began with colonial administrators who were mainly collectors entrenched in nineteenth-century European antiquarian tradition. The European colonial administrators collected stone objects and ancient pottery, which were deemed as illuminating not only the past of West Africans but also Europeans through the means of cross-dating (Stahl 2001:12). These objects of antiquity were used to justify the diffusion of ideas, cultural developments, and technology from outside of the continent: these were the hay days of diffusionism. In Ghana, these beginnings were epitomized in the works of collectors and geologists such as Hermann Braunholtz (1936), Albert Kitson (1916), and Robert Wild (1934, 1937a, 1937b). A notable exception of this period is the work of the architectural historian and the first chair of the Cambridge Department of Archaeology, Arnold W. Lawrence, who sought to document the forts and castles dotted along the coastline of West Africa (1963). His work remains one of the most cited published references on the forts and castles of West Africa.

Post-independence African scholars promoted new historiography, focusing on demonstrating that African societies before Europeans exhibited a degree of sociopolitical complexity (Posnansky 1982; Stahl 1999:43-44; 2001:13-14; 2005:11). Attention was thus diverted to examining the more recent past, particularly the so-called Iron Age. Also, concerns with origins—of agriculture, metallurgy, and complex societies—
became integral to the archaeology in Ghana (Anquandah 1982b; Boachie-Ansah 1986; Effah-Gyamfi 1979, 1985, 1987; Posnansky 1973, 1977). This research agenda was appealing to local Ghanaian archaeologists as it allowed for the incorporation of oral traditions, in particular, into the historiography of Ghana (Boachie-Ansah 1986; Effah-Gyamfi 1979, 1985, 1987).

In fact, until the beginning of the 1990s, the archaeology of West Africa’s intersection with the Atlantic world was not overtly captured as a research program. DeCorse (2013:17-18) notes that attempts were made to incorporate the Atlantic period into African archaeology, even though these approaches were not “contextualized with an Atlantic perspective in mind.” These were the heydays of African oral traditions and revisionist history (Daaku 1969; Fynn 1974; Henige 1973b, 1974a, 1974b; Schmidt 1990; Vansina 1985). Oral and documentary records played a significant role in site selection for archaeological research. Systematic surveys to locate sites did not feature in the archaeology of southern Ghana. Sites selected for the study were identified through either oral traditions or documentary sources (Stahl 2005:11). Until fairly recently, one of the prime epistemological ramifications of this academic development is that researchers who are working within the respective archaeological components studying these components, do so in isolation. The praxis of archaeological knowledge makes research into the more recent past seem appealing, and as a result, the archaeology of the past 500 years in West Africa has increasingly taken precedence to the detriment of Stone Age studies (Casey 2013:603-604; DeCorse 2013:22; Holl 2009:130). Despite the key program of Atlantic studies to situate the impact of the modern world in the long-term
historical dynamics of a given locality, very few sites have produced long-sequences of
occupation dating from the pre-contact period through to the beginning of the twentieth
century (Shinnie and Kense 1989; Watson 2008, 2017). In the Central Region of Ghana,
recent studies are just beginning to shape our understanding of the transformations in
settlements pattern and organization across the forest landscape over the *longue durée*
(Carr 2001; Chouin 2009; Spiers 2007b). These transformations are discussed in Chapter
2. The archaeological research at Wawase and Supomu is significant in examining these
long-term settlement histories and has broader implications for the sociopolitical history
of southern Ghana.

**Organization of the dissertation**
This dissertation is organized into seven chapters. The background to the research area
and study’s objectives introduced in this chapter is followed, in Chapter 2, by a
discussion of the current state of archaeological knowledge in southern Ghana from early
times to the mid-twentieth century. In Chapter 3, a historical overview of Supomu and
Wawase is presented. This chapter reviews what is known about these abandoned sites
from published documentary sources and chart their place in the sociopolitical
developments in the region from the first millennium AD to the mid-twentieth century.
The discussion in the third chapter is framed within the broader economic interactions
between the European node of entrée at Shama on the coast and Pra River hinterland.
Chapters 4 and 5 examine and discuss the current archaeological research undertaken at
the Wawase and Supomu sites. These chapters examine the local ceramics from each site
and evaluate them based on our archaeological knowledge of the wider southern forest
region. In Chapter 6, Wawase and Supomu settlement histories are compared and contrasted using artifact assemblages represented across the two sites and published literature. This penultimate chapter mainly addresses the ramifications of both local and global economic processes on the settlements landscape of the area. The concluding chapter (Chapter 7) is a theoretical reflection on the current research within the broader scope of the archaeology of coastal Ghana and West Africa within the context of Stone Age and Atlantic studies of West Africa, archaeology of smuggling, and the emerging field of island archaeology.
CHAPTER TWO. SETTLEMENTS IN SOUTHERN GHANA

This review considers the archaeology of settlements and human occupation in the southern half of Ghana from the earliest times to the twentieth century. The archaeology of the Accra Plains is briefly explored even though it lies beyond the scope of the forest region. This consideration of the Accra Plains is because the region marks one of the leading centers of development of archaeology in Ghana and has ambiguous evidence for the human occupation of southern Ghana (see Figure 2.1). The archaeology of the southern forest and coastal hinterlands have direct implications for the interpretation of the Wawase and Supomu sites. Although these sites are, in many ways, distinct and present their unique settlement histories, they nevertheless also are indicative of wider regional transformations and sociopolitical developments.

A look at the archaeological research landscape of southern Ghana showed a bias toward the eastern part of the country centered on the Accra plains, at least until the 1990s when the Central Region Project was initiated (Stahl 1994:61). Areas to the west, north, and northwest have received more limited attention except for the Brong Ahafo Region, which lies on the northern frontier of the forest region of Ghana. Here, on the forest-savannah ecotone, a rich archaeological database has accrued from the mid-Holocene through to the nineteenth century (Boachie-Ansah 1986; Crossland 1989; Dombrowski 1976; Effah-Gyamfi 1985, 1987; Flight 1976; Posnansky 1973; Stahl 1985b, 1986, 2001; Watson and Woodhouse 2001). A combination of factors explains the bias towards the archaeology of the Brong Ahafo. One of the fundamental factors that
may have contributed to such an extensive archaeological database in the area is the
initiation of the West African Trade Project at Begho under the auspices of Professor
Merrick Posnansky, the head of the department of archaeology at the University of Ghana
Walz 2010). This project saw the development of several students who examined varied
aspects of the project (Anquandah 1975, 1981; Crossland 1989; McIntosh 1974, 1976,
1977). Additionally, the issues of archaeological visibility and the role of oral traditions
can be noted. Most of the sites in the region were discovered through oral traditions and
present substantial archaeological footprints (Boachie-Ansah 1986; Effah-Gyamfi 1974,
1979, 1985, 1987; Posnansky 1973, 1975, 1977, 1987). The Begho site, for example, is
very substantial, with large mounds scattered across the landscape. This latter factor may
also have been derived from the notion that the region was the cradle of all Akan people
of southern Ghana, making the area viable for understanding Akan origin (Effah-Gyamfi
been done at the northern fringes and middle belt of the forest zone notably on the Kwahu
Scarp and Kumasi vicinity (Anquandah 1976a, 1976b, 2008; Oas et al. 2015; Shaw 1944;
2008, 2017). However, these sites are sparingly discussed because of practical reasons.

Along the southern littoral, the Accra Plains has historically been the primary
focus of archaeological research. Naturally so, due to the proximity to the center of
research at the University of Ghana, Legon. Early works on the Accra Plains were not

On the central and western coast, several studies had been undertaken in the Central Region before the start of the Central Region Project in the 1990s (Agorsah 1993; Agorsah 1975; Bellis 1976a, 1976b, 1987; Davies 1956, 1976; Kiyaga-Mulindwa 1979, 1982; Nunoo 1948, 1957). These studies laid the foundation for our current understanding of the transformation in societies in southern Ghana. However, it is fair to say that these early works mainly focused on chronological questions and were not particularly attentive to global processes and their impacts on local ones (DeCorse 2013:18; also see Kense 1990). To the west of the Pra River, only small-scale archaeological surveys were conducted before the 1990s (Nunoo 1948; Posnansky and van Dantzig 1976).

To date, our archaeological (and historical) knowledge of the region within the Pra and Ankobra river drainages is even more limited. However, these river basins contributed a significant proportion of the gold that fed the West African Atlantic trade exports. The Central Region Project (Amartey 2017; Cook and Spiers 2004; DeCorse 2005; DeCorse et al. 2000; DeCorse et al. 2009; Reid 2020; Reid and Amartey 2019), which is discussed in other sections of the dissertation remains the most substantive research undertaken in this broader area. It was not until the beginning of the present
century that a few small-scale projects have been initiated, yet these projects have been inadequately reported (Biveridge 2013, 2014, 2019; Doortmont et al. 2013; Kumah 2013a, 2013b; Nyarko 2013). The Central Region Survey Project is beginning to add to our archaeological and historical knowledge of this area, particularly along the Pra River (Reid 2020; Reid and Amartey 2019). The present study explicitly examines the area along the banks of the Pra River just north of Shama due to the historical importance of the river in the sociopolitical, cultural, and ecological landscape of this area.

**Periodization and implications for historical inferences**

Chronological sequences of techno/behavioral complexes have been part of archaeology since the emergence of the discipline. The implications of these schematics for sociopolitical and historical inferences have been grim. Temporal sequences in the archaeology and culture history of Ghana have broadly followed the technological/behavioral phases of the European Three Age System in European archaeology (Posnansky 1982; Shaw 1976:60; Stahl 1994:59; 2005:7).

Based on this scheme, the Stone Age is chronologically succeeded by the Iron Age (Andah and Okpoko 1987:vii-viii; McIntosh and McIntosh 1988:89-90; Stahl 1994:59). West Africanist archaeologists tend to agree that there is a great deal of regional variation in the timing, chronology, and transformations within these sequences across the sub-region, particularly between and within the varied ecological zones (Casey 2013:605; Spiers 2007b:313; Stahl 2005:7; Sutton 1982:293). The timing and chronological frameworks have mostly been derived from radiocarbon dates, however
problematic these radiocarbon dates may be. Characterizing these apparent temporal frameworks as techno/behavioral complexes seems appropriate since they remove the apparent chronological sequential baggage that comes with these terms. There are no fine chronological sequences between these phases across West Africa. Also, these techno/behavioral schemes are theoretically problematic as they assume that certain socio-cultural behaviors are associated with certain technologies or vice versa. For instance, there is the tendency to, *a priori*, associate iron using societies with food production and social complexity.

Considering each respective techno/behavioral complex, the Sahel and Savannah regions of West Africa seem to have produce early dates, and the evidence for lithic and iron technologies manifest in fully developed states compared to the southern part of the region. These observations have, for a long time, been invoked for the north-south diffusion of these techno/behavior complexes (Davies 1960, 1966, 1968; Watson 2005). Within the forest region, for instance, while the Early Iron Age dates to the early first millennium BC at Taruga (Tylecote 1975a, 1975b) and Nsukka (Okafor and Phillips 1992) in Nigeria, in Ghana early evidence of iron from radiocarbon dates tend to cluster around the first millennium AD in the central and northern portions of the country (Stahl 1994:63). Iron seems to appear later in the first millennium AD on the coast with more limited evidence of production (DeCorse 2005:49). It should, however, be underscored that the advent of iron technology in the West African sub-region as a whole is far from

While the phases outlined above provide a convenient framework for tracing human history on the West African landscape, they are inherently detrimental to understanding the transformational processes that occurred between and within these time frameworks (Andah 1995; Andah and Okpoko 1987; Casey 2013:603-604; Stahl 1999; Sutton 1982; Sutton 1981). A corollary to the use of these sequential frameworks and the noted limitation is the use of labels to describe technological and behavioral traits in the archaeological record. One of such distinctive designation is the Kintampo tradition, which is the best documented Later Stone Age culture in the Ghanaian archaeological record (Agorsah 1986; Anquandah 1976a, 2008; Brempong 1992; Carter and Flight 1972; Casey 1993, 2000; Casey and Sawatsky 1997; D'Andrea and Casey 2002; Dombrowski 1976, 1980; Flight 1976; Logan and D’Andrea 2012; Stahl 1985a, 1985b, 1986; Watson 2005, 2010; Watson and Woodhouse 2001). This tradition, which is dated to between the third or fourth millennium and the second millennium B. C. has mainly been defined by trait lists of technology and associated socio-economic implications, including microlithic tools, polished stone axes or celts, ornately decorated ceramic, enigmatic rasps or cigars and evidence of house construction and figurative artworks. Due to the overemphasis on these traditions, and technological trait lists, the relationship between the Kintampo culture and contemporaneous sites, and the transition from the Kintampo to the succeeding Iron Age are poorly understood.
While our understanding of the transition from the Late Stone Age to the Iron Age (that is the period from about 1000BC to AD500) is limited, the emerging trend in the archaeology of southern Ghana forest, notably the Central Region, is illuminating regarding the transformations during the first millennium BC and first millennium AD. In southern Ghana, the first millennium BC and AD are of critical importance to the forest region of Ghana since this period appears to mark the clear indications, if not the beginning, of the human occupation in the southern Ghanaian forest. The archaeological evidence indicates that by the first millennium, these societies had knowledge of iron and were using microlithic tools and were also responsible for the construction of earthworks. These transformations are further explored in the following discussion.

**The Stone Age and Iron Age: The first millennium AD in Ghana’s forest region**

The emerging archaeological data in the southwestern forest of Ghana demonstrate that settled agricultural communities occupied this area by the first millennium BC. The archaeological assemblages represented blur the trait list characterization of the Stone Age and the Iron Age techno/behavioral scheme generally employed. There is a cluster of several calibrated radiocarbon dates around the first millennium AD (Boachie-Ansah 2008, 2010, 2014; Chouin 2009; Kiyaga-Mulindwa 1979). No Stone Age site with the trait lists comparable to those of Kintampo outlined above is known in the southern Ghana forest. Archaeological sites from the Kwahu Scarp, such as Bosumpa Cave, may represent the southern terminus where Kintampo culture has been documented (Oas et al. 2015; Shaw 1944; Smith 1975; Watson 2008, 2017).
Oliver Davies made substantial surface collections of lithic material across coastal Ghana, which, he indicates, belong to the Early and Middle Stone Ages and its associated labels such as the “Sangoan” and “Kalinian-Lupemban” (Davies 1964, 1967, 1976). Davies’s Early and Middle Stone Age attributions were, however, based on stylistic grounds and not stratigraphic contexts. They have, for this reason, been deemed suspect (Allsworth-Jones 1987:118; MacDonald and Allsworth-Jones 1994:92; Nygaard and Talbot 1984; Sutton 1981; Swartz 1980; Wai-Ogosu 1973). Nygaard and Talbot’s (1976, 1984) work at Asokrochona, a possible raised beach (an emergent coastal landform left by retreating ocean) at Tema west of Accra, is regarded as the best documented MSA site is located in the Accra Plains of the southeastern corner of Ghana (also see Allsworth-Jones 1987:118). At Tema West, Asokrochona, and Nungua, Nygaard and Talbot document pebbles tools characteristic of the Middle Stone Age, which is predominated by core tools. They suggested that these sites were both workshop and living areas and tentatively dated to between 12,000 and 2000 b. p. though this attribution is unsupported by numerical dates (see Allsworth-Jones 1987:109). There is no indication of the transition from MSA to the Late Stone Age at these sites. The basis for interpreting these sites as habitation sites should be evaluated with caution as we lack detailed knowledge of habitation patterns during the MSA. Also, without additional archaeological evidence like fauna and flora, further inferences on the socio-economic basis of the Asokrochona site become challenging.
At the nearby site of Kpone, east of Tema, Joanne Dombrowski excavated a shell midden with a lithic and ceramic component that is indicative of intensification in subsistence practices during the Late Stone Age (Dombrowski 1977). Two radiocarbon dates from Kpone indicate a third millennium B.C. occupation date (Talbot 1981:207). The Kpone site is poorly reported. Ceramics and other materials recovered have not been described or analyzed. However, the presence of shells and pottery are indicative of the culinary and subsistence practices that occurred at the site. Although the available dates for Kpone suggest that the site was contemporaneous with the Kintampo culture which is mainly known from the middle belt of Ghana, the researcher did not draw a parallel or make a relation to the Kintampo, ostensibly because the distinctive trait list associated with the Kintampo complex was not evident at Kpone. Both sites also lie outside of the forest region.

While no definitive Kintampo sites have yet been found in the southern forest, there are indications of Later Stone Age and Iron Age populations in the south of the country (Chouin 2009; Davies 1967; DeCorse 2005; Nunoo 1948; Spiers 2007b). Data emerging from the south-central forest region of Ghana indicate that at least by the first millennium AD or late first millennium BC there was stone- and iron-using populations inhabiting variable localities and ecological enclaves across the region. Grinding marks in rock outcrops, presumably, for sharpening stone axes, _nyame akuma_, have been documented across this region. However, the lack of stratigraphic excavations with associated radiocarbon dates has limited our interpretation of these localities. It is unclear
if these grinding localities were discrete work areas or are associated with habitation areas. Quartz flakes, stone beads, ornately decorated friable paste pottery, and ground celts (*nyame akuma*) characteristic of the Later Stone Age constitute the assemblage from these sites. Iron, and in one case, cold hammered gold was part of the first millennium AD assemblage. The appearance of iron and gold during the first millennium in the archaeology of southern Ghana is a peculiar feature of southern Ghana’s archaeological landscape. While there appears to be a broad homogeneity in the archaeological assemblage during the first millennium AD, it is apparently inappropriate to ascribe distinctive labels such as the Late Stone Age or Iron Age in southern Ghana forest of the basis of our archaeological knowledge of this region. The lack of detailed description and analysis of the lithic assemblage and evidence of iron is also slight.

**Settlement dynamics during the first and second millennia**

Our understanding of the settlements landscape and settlement formation processes of southern Ghana during the first millennium AD has improved over the last few decades, even though there are areas that have not been explored archaeologically. In the southern Ghana forest, the chronology and organization of settlements in the region indicate broad similarities in pattern from the first millennium AD to the beginning of the Atlantic trade. Large settlements were founded on hilltops or low-rises. Earthworks surrounded some of the large settlements that were founded on either on lower grounds or low-rises. Equally important and substantial settlements were founded along and around floodplains and

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14 Sean Reid has excavated at one such site within the Central Region Project survey area. However, the stratigraphy of the site was highly disturbed, and excavations yielded no materials that can be clearly associated with the grinding features (Reid, personal communication).

At least by the middle of the first millennium AD, archaeological data suggest that particular localities were preferred and were occupied by iron and stone using societies in southern Ghana. Their technologies included quartz microliths, polished stone celts, and elaborately decorated pottery and iron objects. Formal or utilized lithic tools are few, as is the case of Wawase and other sites such as Coconut Grove and Brenu Akyinimiu (DeCorse 2001:18; 2005:45), Dumpow (Spiers 2007b, 2012), and Akrokrowa, Abripow, and Nana Asaba (Chouin 2009:502-514). Also, among the artifacts assemblage of these societies are polished beads made out of shells, clay, and a variety of stones or rocks. These artifacts collections have been documented from varied localities in the region and are mainly dated to the first millennium and early second millennium AD.

Of these settlements’ localities, low-rises appear to have been the most significant, well documented, and most common (Chouin 2009; Chouin and DeCorse 2010:129; Davies 1967:283-284; DeCorse 2005:45; Nunoo 1948; Spiers 2007b, 2012).
However, there were other equally significant localities such as banks of lagoons, rivers, and beaches as borne out by archaeological data from the Central Region survey (DeCorse 2001:18; Spiers 2007b). It is unclear why hilltop localities appear dominant in the distribution of settlements during the pre-Atlantic period in the south-central forest of Ghana. While the apparent reason for choosing hilltops for habitation would have been for defensive purposes, it is also likely that this observed distribution of settlements may be related to archaeological visibility. For instance, hilltops are weathered and relatively well-exposed.

In the south-central Ghana forest region, archaeological data suggest that some first millennium and second-millennium occupants of the forest constructed entrenchments and embankments around certain settlements. These earthworks, as they are popularly called, are usually circular or elliptical ditches or fosse built around a settlement. The diameter of these entrenchments can extend up to about 900 meters (Davies 1961; 1967:288), while the trench or ditch may be as wide as three meters deep. Approximately 30 of these earthworks have been reported in the south-central forest region of Ghana. David Kiyaga-Mulindwa (1979) noted 21 of these clustered in the Birim River Basin (see Figure 2.1) some of which are within a few kilometers apart (see Davies 1961; Junner 1934/5).15 James Boachie-Ansah (2008, 2010, 2014) has reported an additional five earthworks to the south of the Birim River basin while in the Eguafu and

15 The number noted by Kiyaga-Mulindwa includes those that have been documented by N. R. Juner (1935) and Oliver Davies (1961).
Abrem vicinity to the further west, two earthworks have been reported (Chouin 2009; Spiers 2007a, 2007b).

Archaeological research on these entrenchment settlements has focused on documentation and timing of construction and occupation. The earthworks have been interpreted variously as defensive mechanisms, social and ritual spatial markers, and forced labor (mining) camps (Boachie-Ansah 2008:15; Chouin 2009:584-592; Chouin and DeCorse 2010:138-142; Davies 1967:287-292; Kiyaga-Mulindwa 1979; Wilks 1957:28; 1982:239-240). However, the function of these earthwork settlements remains inconclusive. They nevertheless demonstrate settled communities capable of organizing such large scale constructions (e.g., Boachie-Ansah 2014:38; Chouin and DeCorse 2010:129). The lack of conclusive explanation for the organization of these settlements derives from the paucity of archaeological surveys and detailed excavations of the inner portions of the enclosures. The ditches have been mainly excavated to understand the nature and timing of the constructions themselves. Moreover, the question still remains as to how these societies might have been connected to other contemporaneous ones in the forest landscape. Do they represent the pre-eminent expression of a cultural tradition, or are they unique, distinctive sociopolitical features on the landscape?
Archaeological data indicate that many of these earthwork settlements were abandoned in the mid-fourteenth century, with some occupations or reoccupations continuing after the fifteenth century (Chouin 2009:561-563; Chouin and DeCorse 2010:142). This interpretation of abandonment must be made cautiously as very few earthwork sites have been investigated. The crucial question here is that what
sociopolitical, economic, or ecological factors may have accounted for such broad processes of abandonment during the fourteenth century? The processes that led to this apparent large-scale abandonment of these settlements are poorly understood. Chouin and DeCorse (2010:143) have posited that considering the world history during this period, “only one event can explain such a large-scale phenomenon: the occurrence of the Black Death or Great Plague.” This hypothesis needs to be further explored, considering additional evidence from the earthwork settlements and related sites.

In addition to the low-rise and earthwork habitations, shorelines and banks of lagoons were also inhabited during the first and early second millennium AD. Sites along the coastline are also represented at Coconut Grove, Benu-Akyinimu, Asaba, Abaka, and Bosumtwi (Chouin 2009:612; DeCorse 2001:18 n.34; 2005:44-45) dated to the same period as the earthwork and hilltop sites. There are indications that the settlements along the immediate coastline were smaller compared to the hinterland ones during the eve of the Atlantic trade. According to Christopher DeCorse, the settlements along the coast may have been more temporary habitation camps with intermittent exploitation of marine and freshwater resources (DeCorse 2001:18; 2005:45). Shells and shell beads are documented from these coastal sites that are indicative of the economic value of this resource. Other faunal and floral evidence is limited. Gérard Chouin has further suggested that shell middens associated with early settlements were scattered along the Ghanaian coast but were utilized by Europeans for the construction of their forts and castles during the Atlantic period (Chouin 2009:611).
It is worthwhile to comment on the relationships between the varied settlement ecologies inhabited by these first and second millennia occupants. The substantial and significant settlements on low-rises and within the earthworks may have been flanked by satellite settlements (Davies 1967:287). The smaller settlements around lagoons, rivers, and the shoreline may have been resource exploitation or production zones connected to these larger settlements. This broad structural interconnection of settlements was a persistent feature in the West African settlements landscape (Kea 1982:12-16; 2000:520; McIntosh 2005; McIntosh and McIntosh 1984). However, estimates of settlements sizes and population sizes are difficult to establish from the limited archaeological data available. Earthwork settlements sizes could be inferred from the estimated circumference of the ditches with the assumption that the interior of these embankments represents habitation areas. Similarly, it should be assumed that the fairly level surface on the hilltops could have been the habitation loci. Local and probably, trans-Saharan regional trading networks may have been part of the socio-economic processes, yet there is a paucity of archaeological data in this regard. Although there are limited exotic artifacts in the materials assemblage, the broad regional homogeneity in the archaeological assemblage dated to the pre-Atlantic period provides some indication of more extensive networks of interactions between these communities, possibly spanning a wider region of southern Ghana forest (Watson 2017:497).

Such was the nature of the settlements landscape across the broader region as known from the archaeology of southern Ghana. There are several radiocarbon dates
from various sites in southern Ghana, particularly from the central forest region, to support the settlement chronology of these sites. Calibrated dates for hilltops sites at Dumpow and Abripow are provided by Gérard Chouin and Sam Spiers, which cluster around the second half of the first millennium AD (Chouin 2009:602; Spiers 2007b:138; 2012:125-128). Coastal sites like Benu Akyinimu and Coconut Grove have also produced dates clustering around the first millennium AD (DeCorse 2001:199; 2005:43-45). Contrary to the earlier chronology provided by Kiyaga-Mulindwa for earthwork sites in the Birim Valley area, Chouin has dated the earthwork sites to the contemporaneous period of occupation (from seventh through to the fourteenth century) of the hilltop sites (Chouin 2009:600). These dates are further supported by dates from the earthwork site at Asaman and Nyeduem (Boachie-Ansah 2008, 2010, 2014), some 50 kilometers to the east of Dumpow and Akrokrowa sites. Calibrated dates by Boachie-Ansah all fall within the first millennium through to the opening of the Atlantic period (Boachie-Ansah 2014:36-37). The local ceramics that were anchored with these chronometric dates are further explored later in the discussion regarding their implications for cultural change and continuity.

The Atlantic trade and settlements transformations

From the fifteenth century onward, our archaeological and historical knowledge of settlements improves dramatically in southern Ghana due to a better understanding of the archaeological record resulting from the dramatic appearance of European material inventory. Our understanding of this period is further enhanced by the utilization of varied sources of data, including oral traditions, ethnography, and documentary sources.
These recent histories have somewhat overshadowed our understanding of the preceding period, although regional surveys are beginning to alter this trend (see Holl 2009).

During the sixteenth and seventeenth centuries, larger settlements may have been concentrated in the hinterlands, and with the opening of the Atlantic, there was an increasing reorientation of settlements towards the coast due to opportunities afforded by the Atlantic trade (Daaku 1970:20; DeCorse 2001:18; Henige 1974a:163; 1975a:39; Kea 1982:37). This settlement pattern is supported by observations provided by contemporary Europeans (e.g., Bosman 1705; de Marees 1987). There is a lack of detailed understanding of the formation and evolution of these settlements from the preceding period of European’s arrival on the coast of West Africa. While it has been noted that the earthwork settlements seem to have been abandoned in the fourteenth century and probably, later occupied during the Atlantic period, it is not clear whether contemporaneous sites were similarly abandoned and re-occupied. For instance, were the hilltop and other lowland sites abandoned during the same period? This question, among other questions, would have to be answered in light of further archaeological studies, although increasingly, the data seem to suggest that there were some continuously occupied sites across the region. Christopher DeCorse (2001:118) and others have noted that it is unlikely that all of these localities were abandoned as the local ceramics seem to exhibit some degree of continuity from the first millennium through to the mid-seventeenth century (Bellis 1987:47; Boachie-Ansah 2010).
A pervasive trend in the settlements landscape in coastal Ghana during the early contact period is that at key nodes of trade along the coast, there were contiguous large political and commercial centers in the immediate hinterland until the eighteenth century when the export slave trade peaked. By the nineteenth century, new political and economic centers characterized by large towns have emerged along the coast. Elmina, for instance, was said to have been under the suzerainty of or subservient to the town of Eguafo until the arrival of the Europeans (DeCorse 2001:39-43; DeCorse and Spiers 2009:37; Feinberg 1989:99; Spiers 2012). Shama was said to have been subservient to the inland polity of Yarbiw (and also Adom) state prior to the nineteenth century (Henige 1975a:30; Porter 1974:40). Unlike Eguafo and Elmina, which are direct references to settlement localities, it is unclear whether Yarbiw was in reference to a settlement unit or geopolitical territory. It should be noted that there is a persistent puzzle in the political geography of the Gold Coast during the early contact period regarding the intersection of settlements and geopolitical territories. This issue is further explored in the next chapter. Shama and its contiguous settlements of Supomu and Wawase were part of such contemporaneous trends in the settlement hierarchies on this part of the Ghanaian coast during the Atlantic trade, as shall be deduced in this discussion.

In the late seventeenth and eighteenth centuries, economic and derived political changes occurred in Ghana’s participation in the Atlantic trade that potentially resulted in the transformations in settlements organization and settlements pattern in southern Ghana. From the late seventeenth century to the eighteenth century, Ghana’s participation
in the Atlantic trade switched from gold export as the main commodity of trade to slaves. Before the 1700s, after which the export slave trade superseded all exports from the Gold Coast, the main export was gold, and to a limited extent, ivory, and kola (da Mota and Hair 1988:35; Daaku 1970:26; 1972:235; Reynolds 1974:7-8). Before the 1700s, the Gold Coast received slaves from other regions of West Africa (see discussion below). These imported slaves presumably worked the gold mines of the auriferous regions and till arable land to support a growing population in the Ghana forest (Kea 1982:197-201; Lovejoy 2012:116; Wilks 1993:23-24). The received enslaved population may have contributed to the expansion of hinterland settlements during the sixteenth and seventeenth centuries. By the mid-eighteenth century, the export slave trade had surpassed all exports from the Gold Coast (Daaku 1970:28; Hargrove 2015:73; Reynolds 1974:9). This period coincided with a dramatic increase in warfare, territorial expansion, and increase in firearms importation into the Gold Coast (Daaku 1970:19; Inikori 1977:353; Kea 1971; Law 2012, 2013a; Richards 1980; Sanders 1979). These political changes may have resulted in the depopulation of hinterland localities and the expansion of other political and commercial centers. However, particularly among the coastal Fante, it is unclear whether the expansion of the slave trade was a necessary and sufficient condition for the expansion in political disruptions or vice versa (Law 2012:72-75).

From the beginning of the eighteenth century, Asante emerged as the most dominant political unit in Ghana, and as Larry Yarak (1990:4-5) notes, the political consolidation of Asante was a major stimulus to urbanization in the Ghanaian hinterland.
A corollary to the consolidation of the political power of the Asante kingdom was increased warfare and political disruptions connected with the acquisition of slaves and to gain direct access to the European coastal trade (Lovejoy 2012:57; Maier 1990; Reynolds 1987; Yarak 1996). Settlement’s formation, abandonment, and aggregation of preexisting settlements were dramatic aspects of the emergence of Asante in the eighteenth century.

According to James Anquandah (1982b:73), the eighteenth century represents the high-water mark of the sociopolitical landscape of Ghana (also see Anquandah 1994; DeCorse 2001:31; Kea 2000:520). Increasing urbanization and the associated sociopolitical transformation were central to the transformations in the societies of southern Ghana during the Atlantic slave trade. Archaeological evidence is rife regarding this sociopolitical process. At Elmina, archaeological and historical data suggest that the town grew from a small fishing community at the tip of the peninsula to a large urban center covering a substantial portion of the peninsula (DeCorse 2001:47-56). Similarly, several hinterland towns such as Efutu (Agorsah 1975), Eguafo (Spiers 2007b, 2012), Asebu (Nunoo 1957), and Twifo-Hemang (Bellis 1976a, 1976b) may have reached urban proportions during the Atlantic slave trade (also see Kea 2000:11-50). Except for Elmina, where sustained archaeological and historical research has been undertaken, estimates on settlements sizes and demography are limited, particularly before the late nineteenth century (DeCorse 2001:52-54). However, artifacts assemblages, densities, and

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16 The Asante Kingdom is one of the best studied of polities in West Africa (e.g., Fynn 1971; McCaskie 2015, 2003; Wilks 1989).
Variabilities provide indications of the intensity of occupation and local and global socio-economic interactions.

While it is essential to underscore the importance of the preceding phase of these processes, the arrival of Europeans with the associated economic opportunities seems to have heightened these sociopolitical processes. Populations were drawn from the hinterland areas towards the coast to take advantage of emerging economic opportunities afforded by the European trade. Access to European goods may have been deployed to negotiate this sociopolitical process of aggregations. Additionally, the introduction of new domesticates from the Americas may have resulted in an increased population (Alpern 1992, 2008). Several forts and lodges constructed during this period is a testimony to the critical role of the slave trade in the Atlantic economy. These forts that became trading entrepôts attracted populations to the adjacent enclaves (Lawrence 1963; van Dantzig 1980).

It was not only economic opportunities that contributed to the transformation in the settlements system on the Gold Coast during the seventeenth and eighteenth centuries. Warfare and slave raiding from expansionist polities like Asante were equally crucial considerations in settlements reorganization during the eighteenth century. However, these expansionist and slave raiding activities are poorly documented and understood in the coastal hinterland compared to the northern part of the country (Swanepoel 2004, 2009). This lack of research into the role of slave raiding and expansionist activities in the reorganization of settlements in the south is because slave-
raiding within the coastal Fante towns may have been insignificant consideration in the sociopolitical development and history of southern Ghana. Randy Sparks’ (2014) work at Anomabo, a coastal port which became one of leading embarkation point on the Gold Coast in the eighteenth century, provides insights into the origins of slaves from that port. According to Sparks (2014:123), the vast majority of slaves who embarked from the Anomabo port came from the northern hinterland (also see Lovejoy 2012:57).

There is a lack of detailed study on the processes of enslavement and organization of the slave trade in the Shama hinterland. Although the Shama port is not known to have exported a considerable number of slaves, as the Pra River formed one of the main trade routes from the hinterland (Reynolds 1974:26), some slaves likely passed through this region to the port towns of Komenda, Elmina, and Shama. While pawning and criminal prosecutions appear to have been the major source of enslavement among the Fante on the coast, it is not unreasonable to associate the incessant hostilities on the Gold Coast from the seventeenth to the nineteenth century with the acquisition of slaves (Adjaye 2018:34-35; Getz 2003; Lovejoy 2012:78; Reynolds 1987; Sparks 2013; 2014:122-123; Thornton 1998:307-309).

Unlike the so-called slave-raiding frontiers of predatory states like Asante that have been relatively well documented, the coastal states and settlements have not been examined from the perspective of the receiving end of slave raiding. In contrast to other predatory zones of West Africa where fortified and protected towns of varied nature emerged in response to slave-raiding (e.g., DeCorse 1983, 2012; Hawthorne 2003; Klein
2003; Siddle 1968; Soumonni 2003), along the southern forest of Ghana, assuming some of these southern forest settlement became slave raiding frontiers, the defensive response was an agglomeration of people in the towns. The result is the growth of towns and urban places in the coastal littoral and immediate hinterland of the Gold Coast. There is limited evidence for defensive considerations in settlement (re)organization during the Atlantic trade in the coastal hinterland. Instead, what is evident in the region is the growth and expansion of existing political and commercial centers in the eighteenth and nineteenth centuries. The lack of defensive consideration in settlement organization during the slave trade contrasts with the hilltop and earthwork settlements of the preceding period. Since defensive consideration was a likely factor for the hilltop and earthwork settlements, it is ironic that these presumably fortified sites were abandoned during the Atlantic slave trade, a period characterized by political disruptions in the region.

As shall be demonstrated, in the nineteenth century, after the abolition of the slave trade, settlements proliferated the landscape. In the later nineteenth century, with the advent of the colonial period, infrastructural developments and reorganization of the Gold Coast economy shall continue to transform the region’s political economy and shape settlements to their current form.

**Nineteenth and twentieth centuries settlements**

The nineteenth century was a period of economic and political turmoil in West African history. The turmoil was caused by a combination of factors, including the abolition of the slave trade, institution of the so-called legitimate commerce, and the ushering in of
formal colonialism (Austen 1987:100-102; Hopkins 2020:23-27). The so-called ‘crisis of adaptation’ as the emerging peasant production regimes contested the preexisting mercantile order based on external slave trade is a major theme in nineteenth-century West African historical scholarship (Austen 1987:100-102; Hopkins 2020:23-27). This ‘crisis of adaptation’ was a response to abolition of the slave trade in the early nineteenth century as there was the need “to shift indigenous subsistence production into production for exchange” (Reynolds 1974:51). Historians disagree on the entailment and timing of this crisis in various regions across the African Atlantic world (e.g., Austen 1970; Lovejoy 1995). In West Africa, the main commodities that steered this initial ‘crisis of adaptation’ were groundnut, oil palm, and rubber. On the Gold Coast, it was palm oil, rubber, and later in the century, cocoa and gold that saw the transition from the slave trade to legitimate commerce (Dumett 2013).

The Asante kingdom, which emerged in the eighteenth century and peaked in the nineteenth century, was not in favor of the abolition of the slave trade as it sought to extend its dominance in the coastal region. Throughout the nineteenth century, the Asantes fought several wars against its coastal neighbors to gain access to the coast (Reynolds 1987). Also, from the mid-nineteenth century, Britain started negotiating to institute formal control of the Gold Coast through the infamous “Bond of 1844” (Danquah 1957; Metcalfe 1955). These Asante wars to gain access to the coast and Britain’s effort to institute formal colonialism on the Gold Coast were critical in shaping
the political economic landscape of southern Ghana from the nineteenth century to independence in 1957.

Regarding the legitimate commerce in Ghana, in the second half of the nineteenth century and early twentieth century, there was an expansion of rubber, kola, cocoa, palm kernel, timber, and gold production in Ghana (Abaka 2005:48; Boahen 1975:91-96; Dickson 1969:143-171; Dumett 2013; Hill 1959, 1997). This expansion in production of these commodities stems from the diversification of the Ghanaian economy after the abolition of the slave trade. Regional centers of specialization of production of these primary commodities emerged, and they became centers of attraction for wage workers from marginal areas of the country. The regional productive hubs attracted population from the other non-specialized centers of production of these commodities. Timber and mechanized mining were centered in Ahanta and Wassa countries to the western end of the Akan forest (Dumett 1987, 1998; 2013:chapters 1 and 2). Cocoa and palm kernel production were popular in the Akwapim and Akyem areas to the east of the Ghanaian forest region (Hill 1959, 1997). The marginal areas became economically unattractive.

For instance, Kwamina Dickson (1969:255) notes that several port towns, including Shama, lost their trade by 1920 due to the expansion of cocoa production around the Akwapim area (also see Dumett 2001:90). This trend likely resulted in shifts in settlements configurations across the region as people abandoned the marginal zones to the emerging productive centers (see detailed discussion about this phenomenon regarding the Shama hinterland in the next chapter).
A related development to the expansion of these productive regions was an expansion of infrastructure, particularly the expansion of the road networks and the institution of railways in the Gold Coast. The resulting introduction of railways and the development of road networks culminated with the foundation of new settlements along these emerging routes, while some locations were abandoned. Ed Carr has documented such transformation in the settlement pattern at Yesunkwa, just north of Elmina (Carr 2001). Yesunkwa, located on the main highway from Cape-Coast to Takoradi, was founded by migrants from neighboring communities like Dominase and Ponkrom after the construction of the Cape Coast-Takoradi Highway in the 1950s. Carr’s work demonstrates how material culture and household space was conceptualized and appropriated by these migrants at Yesunkwa and explore this difference in light of the emerging capitalist ideology. James Sanders (1985:77) has noted that the settlement histories and pattern village distribution around the coastal port town of Anomabo have been influenced by the expansion of road networks in the areas during the early twentieth century.

The settlement histories–growth and abandonment processes–of Supomu and Wawase can be appreciated within these wider political economic dynamics in Ghana in the late nineteenth and twentieth centuries. The foundation of modern-day Supomu Dunkwa that succeeded Wawase and Supomu can similarly be understood in this vein. Supomu Dunkwa may have been founded in the second quarter of the twentieth century as a satellite village of Wawase (or Supomu) and that it was not until the 1940s that
Supomu Dunkwa was mentioned as major town in the Shama hinterland (Henige 1975a:45 n.79). Because the twentieth century archaeological record of Ghana is not well-known, the archaeology of Wawase affords a unique opportunity to explore this period in Ghanaian archaeology (see historical details below).
CHAPTER THREE.  SHAMA HINTERLAND’S HISTORY

This chapter examines the state of archaeological and historical knowledge of the Shama\(^{17}\) hinterland, particularly Supomu, for which documentary references are available. Our historical knowledge of Supomu and Wawase is intricately connected to the better historically known polities such as Eguafo, Yarbiw, Adom, Wass, and Ahanta. These polities emerged around the Pra and Ankobra river basins. The Yarbiw and Adom states are particularly significant for the current discussion. These polities, including Wassa and Ahanta, have not been thoroughly studied, particularly in comparison to the Eguafo state. Today, the study area falls within the Shama District, in which the town of Shama is the political-administrative center. The Shama District extends from Komenda Edina Abrem District in the east to Sekondi-Takoradi Municipality in the west. To the north, the Shama District is bordered by Wassa East District. Wawase and Supomu are within this wider geopolitical and socio-historical landscape. The first part of this section discusses some ambiguities in the historical and oral traditions of the area and its implications to the wider geopolitical history of coastal Ghana. This assessment derives from the geopolitical labels that early European explorers and traders used regarding specific territories or ethnolinguistic groups on the coast of Ghana during the Atlantic period. The second part considers the place of Supomu and Wawase within the historic geopolitical landscape of Adom and Yarbiw. The last section focuses explicitly on the

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\(^{17}\) Shama is spelt variously in early documentary sources as Cama (da Mota and Hair, 1988; Henige 1975:30), Chamah (Meredith 1812:77), Cama (de Marees 1602:90), and Chama (van Dantzig 1987:5). The etymology of the toponym is not discussed in any of the literature and its origin is unknown.
settlement histories of Wawase and Supomu. This discussion mainly draws on limited
documentary sources and oral traditions. The limited systematic archaeological and
historical research in this locality makes it difficult to draw substantive conclusions on
the historical reconstruction of the locations and nature of settlements and societies in this
region before the Atlantic period.

**Geopolitics and toponym in the Shama hinterland**

When Europeans encountered the West African coast, they employed geopolitical or
ethnolinguistic labels to denote or delineate territories or groups, presumably based on
cultural, sociopolitical, and economic organization. These geopolitical or ethnolinguistic
labels pose challenges in aspects of historical reconstruction in West Africa. In southern
Ghana, until the nineteenth century, our knowledge of these geopolitical labels and
political organization is challenging to interpret. For Shama and its hinterland, in
particular, there is a dearth of historical studies making this interpretive challenge more
peculiar. Cartographic data and travel accounts that serve as the sources for charting the
geopolitical history of the Ghanaian coast lack detailed markers and actual names and
locations of settlements for these territorial divisions (e.g., Baesjou 1988). It is
challenging to associate particular communities with a historically known geopolitical
division. Also, while some settlement names denote specific settlement locations and
their relationship to a geopolitical division, in other cases, a geopolitical group is
provided without indication of its associated settlements. For instance, while Adom is
mentioned as a polity during the eighteenth century, no specific settlements were
provided that could be associated with it. This observation has direct implications for
charting political geographies and settlement histories of Wawase and Supomu during the
seventeenth and eighteenth centuries. These challenges have a bearing on the history of
ethnolinguistic identity and identity formation in coastal Ghana. This phenomenon is
explored in the next section.

Before the seventeenth century, we know little about the geopolitical divisions on
the coast of Ghana. The Dutch map of 1629 supposed to have been drawn at Mouri, just
to the east of Cape Coast, provides seminal cartographical information for delving into
the region's geopolitical history (Daaku and van Dantzig 1966). Using GIS, Gérard
Chouin (2009:62) superimposed the map on the modern stool paramountcies of Ghana, to
relate these to currently known places and polities. The map delineates what Europeans
referred to as states, kingdoms, or countries which imply territories under discrete
political authorities (see Figure 3.1) However, these characterizations need to be
considered within the historical context in which the map was produced (Chouin
2009:380-382). The political characterizations shown may have been misrepresented, as
centralized authority was loosely defined. It was settlements–central towns and satellite
villages–that were the focus of sociopolitical organization (DeCorse 2001:38; Field
1970:15; Kea 1982:13). While there has been a degree of territorial continuity among
states like Abrem and Eguafo on the seventeenth-century map (Chouin 2009:99; Henige
1973a:2), the same cannot necessarily be said of the Adom and Yarbiw polities.

The 1629 map does not indicate specific settlement locations and their
relationship to the geopolitical units. The map does not indicate the relationship between
geopolitical units and ethnolinguistic divisions (this issue is explored in the next section). Indeed, these designations are often confused, ambiguous, or absent in the early records. For instance, on the 1629 Dutch map, Fante was used to refer to a territory or a town, but it is not clear how this characterization intersects with its ethnolinguistic connotation during the succeeding period. While, sometimes, the names of these territories are also the name of particular settlements, supposedly territorial capitals, others refer to generic names for the geopolitical unit. For example, the town of Eguafo is indicated as the Eguafo state, and the capital of Asebu State is shown as Asebu. In contrast to the Asebu and Eguafo states, polities like Akwamu, Denkyira, Wass, Fante denoted territorial divisions, and there were central places or capitals associated with these territories. The enigmatic Nyanaoase settlement was, for example, said to have been the capital of the Akwamu state until the mid-eighteenth century when the Akwamu was annexed by Asante (Amartey 2013; Keteku 1981; Wilks 1957). Abankeseeso was said to have been the seat of the Denkyira government during the seventeenth century (McCaskie 2007). The locations of these settlements are unknown or have not been identified archaeologically. In the Shama hinterland, European documentary references to settlement beyond the coast are non-existent until the eighteenth century, when references to the settlement of Supomu started to appear, presumably because of its sociopolitical and commercial significance in the area.
In the fifteenth and sixteenth centuries, Portuguese records provided little detail on Shama and its hinterland settlements, even though this region was one of the important docking and trading places along the Lower Guinea Coast during the period (Crone 1937; da Mota and Hair 1988; van Dantzig 1980). The European records provided limited details of exchanges that were undertaken between them and their African counterparts. Shama was the place that the Portuguese and later English traders obtained much of their gold during the fifteenth and sixteenth centuries (Blake 1977:27-28; de Marees 1987:79 n.74; Vogt 1979:8).
The 1629 Dutch map did indicate that, at the time, there were two main polities that dominated the Shama hinterland. These were known as Yarbiw (Sabue) and Adom\(^{18}\) (respectively shown on the 1629 Dutch map as numbers 10 and 11, see Figure 3.1). Yarbiw was located along the coast and was depicted as very small compared to the contiguous Adom polity in the hinterland. Yarbiw polity appears to be situated on the left bank of the Pra river while Adom straddled the river. Based on this map, it is unclear where Supomu or Wawase settlements were situated within these contiguous geopolitical divisions during the seventeenth and eighteenth centuries. However, David Henige is emphatic that by the eighteenth century, the island settlement of Supomu was under the political domain of Adom territory (Henige 1975a:32). In the absence of further collaborative evidence, particularly from oral traditions, the association of Supomu and Wawase to either the Yarbiw or Adom polities in the seventeenth and eighteenth centuries needs to be made cautiously. If indeed, Supomu was one of the settlements of the Adom polity during the seventeenth century, the Wawase settlements may have been its satellite settlement and, therefore, part of the Adom polity. However, this depiction is ambiguous and challenging to interpret based on the paucity of historical evidence. It is noteworthy that the territory of Eguafo state seems to have extended to the eastern banks of the Pra river (Bosman 1705:27; Ogilby 1670:422), and this further complicates the

\(^{18}\) Yarbiw is the current spelling of the settlement located to the southwest of Supomu. In the historical records, several spellings are used including Sabue, Iabbe, Dyabi, Yabi, Yabew, Tabue, Jabi, Jaby, and Jabish (e.g. van Dantzig 1978; de Mares 1602) These spellings may have been corrupted versions of respective European languages of the writers. Similarly, Adom is spelt as Adoom, Adoome, Edom, and Edum. Contemporary spellings are used here.
association of the Wawase settlement in particular to Adom or Yarbiw polities during the seventeenth century.

Based on the seventeenth-century Dutch map, Yarbiw was shown to have been a small polity that stretched some few kilometers beyond Shama and borders with Mompa\(^\text{19}\) (in Wassa country) and Ahanta to the west and Adom and Eguafo to the north and east, respectively. In fact, as David Henige points out, during the sixteenth and seventeenth centuries, Shama was not independent of the king of Yarbiw (Henige 1974a:158; 1975a:30). It is important to note that Yarbiw was never mentioned in any record as being a vast territory compared to that of Adom. As noted, today, Yarbiw, located five kilometers to the west of Supomu, is a small village whose chief commands a vital wing of the Shama paramountcy. While it is likely that the town of Yarbiw may be a vestige of historic Yarbiw state, their traditions do not recount this political lineage. Their traditions rather recount their close affinity to and common origin with the Eguafo people to the east in a distant past (Chouin 2009:95-100; Spiers 2007b:59-61). The notion of Yarbiw, however, has been relatively well-preserved in contemporary traditions of the current inhabitants of the area compared to that of Adom, which appears unrepresented in oral traditions of the area. This suppressed historical memory is explored in the next section.

By the late seventeenth century, the Adom polity was described as one of the powerful nations on the Gold Coast (Claridge 1964:156; Law 2006:2; Porter 1974:40).

\(^{19}\) Mompa is identified with the modern Wassa stool of Mporho which lies about 30 kilometers to the northwest of Shama (Henige 1975:43 n. 47).
There are indications that the Adom polity may have extended its dominance into Ahanta and Egyira (in the Nzema area) countries to the west and south during the 1690s by taking advantage of more extensive political disruptions in the region. In the second half of the seventeenth century Willem Bosman, the Dutch factor and writer, described the Adom country as very large and “extended along both the Rivers Chama (Pra) and Ankober (Ankobra)” (Bosman 1705:22; van Dantzig 1975:198). There are indications that the Adom state may have conquered Yarbiw and part of Ahanta territories during the last quarter of the seventeenth century (Law 2006:90 n.94; Porter 1974:40). Several reports from the resident Dutch Director on the Gold Coast suggest an invasion of Ahanta and Yarbiw by Adom during the 1680s and 1690s (van Dantzig 1978:9). For instance, on August 3, 1684, the Dutch Director-General reported that the “Adom were marching down with their entire army intending to attack the state of Ahanta and Chama.” (van Dantzig 1978:40).

By the first half of the eighteenth century, the Adom people seem to have successfully extended their authority on to their Ahanta neighbors to the western coast. Describing the political landscape of the region in 1679, the Dutch Director-General of the Gold Coast, Heerman Abramsz, referred to Ahanta and Yarbiw towns, not geopolitical territories, while he maintained territorial geopolitical status for “Adom, Wassaw, and Tjuffer” (van Dantzig 1978:13). This depiction is significant as it further illustrates the importance of the Adom polity during the late seventeenth century when Adom was extending its authority on its neighbors. David Henige also notes this
territorial evolution or expansion of Adom territory during the eighteenth century, suggesting that Adom may have extended beyond the east bank of the Pra River (Henige 1975a:32). The 1729 d’Anville map (Figure 3.2) shows this territorial evolution of Adom country from its seventeenth-century beginnings to its pinnacle in the eighteenth century (Daaku 1970:202).

By the close of the eighteenth century20, the Adom state must have lost its dominion, probably due to other emerging powers along the coast and hinterland, including the Fante, Wassa, and Ashanti. By the mid-nineteenth century, Adom, in particular, had lost its place on the geopolitical map and history of Ghana. The preceding discussion portrays how little we know of the geopolitical and settlement histories along the Pra River during the Atlantic trade. If contemporary traditions are anything to go by, it will be right to claim that if Adom or Yarbiw polity, as described by contemporary European observers during the seventeenth and eighteenth centuries existed, it did so in the eyes of Europeans and not the local African folks. If Adom and Yarbiw states commandeered the sociopolitical landscape of the Shama hinterland, they left no residues of valor and glory for its descendants in the region to celebrate as often portrayed in the traditions of other states in Ghana.

20 Albert van Dantzig (de Marees 1602 [1978]:80 see note 8) situates the fall of the Adom state in the seventeenth century. However, this date for the fall of Adom is highly unlikely. Throughout the eighteenth century there are references to the power of the Adom state in the political landscape of the Shama hinterland.
Figure 3.2 The 1729 map of d’Anville (adapted from Daaku 1970:202).

It is difficult to explain this lack of memory of Adom and Yarbiw based on our current knowledge of the region. The next section explores some epistemological issues highlighted by the documented traditions of Shama and Yarbiw and their socio-cultural
and historical implications for this region. The history of Adom and Yarbiw states remains precarious, incomplete, and ambiguous until detailed work is undertaken in this region.

**Ethnolinguistic ambiguities and historical memory**

The intersection of the oral traditions of Shama hinterland and the documentary records of the sociopolitical and cultural landscapes portray a precarious and fragmentary picture of the region's past. These traditions are drawn from the works of Eva Meyerowitz (1952:70-75; 1975:83-85), David Henige (1973a, 1973b; 1974a:158-165; 1975a, 1975b), and an unpublished manuscript cited by Gérard Chouin (2009:751-753). Isolated unstructured interviews were also undertaken to gain insights into these traditions during fieldwork, particularly concerning their origins, memory, and knowledge of the Adom and Yarbiw polities noted in the documentary sources.

The oral traditions of this region highlight the issues of historical memory as embedded in migration history and group identity formation and the intersection of competing epistemologies of oral traditions and documentary sources. The challenge of epistemological reconciliation between oral traditions and documentary sources has implications for the reconstruction and articulation of modern identity politics of the Shama Traditional Area. In the current discussion, a focus is on the place of historical narratives of origins and the nature of the socio-politics and culture of contemporary people under the Shama traditional area within their Fante ethnolinguistic identity.
Some caveats need to be kept in mind regarding the place of the oral traditions and European documentary sources as competing (or complementary), additive or supplementary (in the sense of Stahl 2001:15-18) epistemologies for the historical reconstruction of the sociopolitical history of this area. There is the need to appreciate the political underpinnings of oral tradition as a medium of reconstruction of history, particularly when juxtaposed with documentary records (DeCorse and Chouin 2003; Jewsiewicki and Mudimbe 1993:3; Schmidt 1990; 2006:195-199; Schmidt and Walz 2007; Stahl 2001:16-18). While there is an inherent tendency of traditions to be used to glorify and valorize a group’s past, they can nevertheless provide useful clues to the past and drawn upon to negotiate group identity. Among the coastal Fante polities, David Henige (1973a, 1973b, 1974b, 1982) has drawn attention to the problem of “feedback” in oral traditions where “extraneous material, usually printed sources, is incorporated into the tradition.” (Henige 1973b:223). The incorporation of these documentary sources into the traditions is usually done to legitimize the political status of the paramountcies created by the colonial government during the twentieth century. The case of Shama and its hinterland is quite interesting and unique. As noted earlier, even though Shama was not an independent polity until the late eighteenth century and may have been under the suzerainty of Adom or Yarbiw, Shama traditions do not recount this relationship between these apparent historic polities in the seventeenth and eighteenth centuries (Henige 1974a:159).
Given the prominent political position, which the Adom and to a limited extent, Yarbiw polities are accorded in documentary sources of the sixteenth through eighteenth centuries, the omission of these polities in the oral traditions is surprising. The exploration of this inconsistency between the oral traditions and documentary sources underscores the problematic claim by the people of the Shama hinterland that they are part of the Fante ethnolinguistic stock. In exploring this issue, it is not the intent of the current discussion to corroborate or reject the claims of the oral or documentary sources, but to highlight some fundamental challenges in the reconstruction of the sociopolitical history of this broader region.

Before proceeding, it is essential to summarize the broad threads of Shama and Yarbiw traditions as regarding origins and ethnic identities in the distant past. The people under the Shama Traditional Area claim to be part of the Fante ethnolinguistic group. Like all Fante people, they claim to have migrated from Tekyiman or Bono Manso, the supposed cradle of the Akan people of southern Ghana (Effah-Gyamfi 1974, 1979; Posnansky 1987:21). Together with Eguafo people, they claim to have founded a settlement called Amanfokesedo (Chouin 2009:752-754; Meyerowitz 1952:74). The exact location of this settlement is unknown, but it was supposedly located to the west of the Pra River. Amanfokesedo is said to have been a substantial settlement spreading from modern-day Supomu Dunkwa to the lower reaches of the Pra River or Shama (Awortwi n.d. cited in Chouin 2009:752). This rendition can only be interpreted as clusters of settlements as borne out by archaeological data, which do not represent such a large
settlement site. Traditions from the modern town of Yarbiw make no mention of the settlement’s historical relationship to the historic Yarbiw polity or state. Neither is there any allusion to a relationship to a powerful historic polity like Adom in these Yarbiw traditions. Yet, as noted by Willem Bosma (1705:22), the Adom polity extended from the Pra River in the east to the Ankobra River in the west by the late seventeenth century.

A variant of Yarbiw traditions, as well as some Eguafo accounts, claim that the Yarbiw people are Guan and, therefore, have inhabited this region for a very long period. However, no Guan ethnolinguistic group has been documented in the Western Region of Ghana (Fynn 1975:19). The claim of the Eguafo people to be Guans is also poorly supported and considered to be highly problematic (Chouin 2009:103-107; Stewart 1972:81). There are no means to verify the timing of these characterizations, and archaeological data is deficient in extrapolating ethnic groups in the past (DeCorse 1996).

It is clear from the preceding comments that the oral traditions, documentary records, and contemporary socio-cultural setting of the region are inconsistent and ambiguous. This inconsistency makes it difficult to reconstruct ethnolinguistic identities of Supomu Dunkwa and Yarbiw stools. This epistemological inconsistency underscores the limit to which we can associate the relic settlements of Supomu and Wawase to past

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21 The Guans have been interpreted as an indigenous Akan group who today, constitute a minority of the people of the Akwapim Ridge and neighboring areas in the Eastern and Central Regions. Their language is considered to be one of the oldest among the Akan of southern Ghana. It is stipulated that the Guan language diverged from other Akan languages by the middle of the first millennium AD (Stewart 1972:81). It should be pointed out that the Guan concept is problematic and limited research is available regarding their ethnolinguistic situation in Ghana’s history (Chouin 2009:103-107).
geopolitical identities. It has been noted that although the people of Supomu Dunkwa who claim that their ancestors migrated from Supomu to Wawase have no historical connection to the historic polities of Adom or Yarbiw of the seventeenth and eighteenth centuries. There is a disconnection of the documentary records and oral traditions. This is a unique phenomenon in the traditions of contemporary Akan societies of Ghana. Considering the place Adom and Yarbiw hold in the geopolitical landscape of the seventeenth and eighteenth centuries in the documentary records, it is surprising that they could pass into historical oblivion among contemporary people of the Shama hinterland.

Typically, descendants of historically powerful polities tend to celebrate and valorize their ancestors, as is the case of the Akwamu and Denkyira. Akwamu and Denkyira traditions, for instance, highlight their power and wars of conquest from their respective capitals at Nyanaoase and Abankeseeso, and these themes are perpetuated among contemporary communities in the respective regions that these polities flourished (e.g., McCaskie 2007; Wilks 1957). The lack of reference to Adom in particularly in the traditions of the contemporary inhabitants of this area, raises the fundamental question of why the memory of these polities has not survived in the cultural fabric of the present inhabitants. Although we may not be able to understand the processes that led to this lost memory based on our current historical and ethnographic knowledge, it is reasonable to associate these processes to the incorporation of the region into the large emerging polities such as Wassa and Fante which required the forging of new ethnic identities (Boahen 1973b; Henige 1975a; Yarak 2003). The emergence of Asante power in the
hinterland contributed to the formation and consolidation of these alliances (Fynn 1971; Sanders 1979:137). Rebecca Shumway (2004:167-170), for instance, has noted that the establishment of the Fante Confederacy in 1871 consolidated in and culminated with the creation of modern Fante identity. Detailed historical research needs to be undertaken in this region in order to address the precarious historical landscape of the Shama hinterland.

The traditional claim of Shama, Supomu Dunkwa, and Yarbiw people that they belong to the Fante ethnolinguistic group may be questioned on several grounds borne out of both historical data and contemporary socio-cultural milieus. The core Fante people known as the Borbor Fante do not include the people of Shama and its subsidiary stools (Fynn 1975; Porter 1974:73-79; Sanders 1980:139; Shumway 2004:19-22). Fante traditions indicate that when they arrived on the coast, they met the indigenous Esti, Eguafo, Asebu, Efutu, and Abrem people who have now been absorbed by the Fante people (Fynn 1975:21). The timing of this supposed Fante migration to the coast is unclear. Rebecca Shumway (2004:19) situates the timing of this migration between 1300 and 1600 AD. However, it is unclear how she arrived at this conclusion. The archaeological evidence indicates no dramatic changes in ceramic styles that one would expect with a substantial influx of northern migrants. The distinctive carinated ware associated with Asante do not appear on the coast until the late eighteenth and nineteenth centuries (compare Boachie-Ansah 2009b).
Paul Hair (1967:258-260) has demonstrated that in the broader region referred to as the Gold Coast in early documentary records, between Cape Three Points in the west and Beraku, in the east, the people spoke a mutually intelligible Akan language at least by the close of the seventeenth century. It is not clear, however, what variations in ethnicity may have been represented since this characterization was in reference to the language spoken. This caveat underscores the ambiguity in the intersection of ethnolinguistic designation and geopolitical territories on the Gold Coast before the 1900s and requires the historical reconstruction (or deconstruction) of Fante ethnicity from the early contact period into the twentieth century.

The Fante, as an ethnolinguistic characterization, may have only come into being in the nineteenth or twentieth century (Sanders 1980:139; Shumway 2014:153). In the sixteenth and seventeenth centuries, the place or people referred to as “Fante” in European documentary sources appears to have been in the vicinity of Mankessim and Anomabo (Law 2012:41; Sanders 1980:76; Shumway 2004:20-21). During the sixteenth and seventeenth centuries the Fante designation may have been used for either a small geopolitical territory or settlement in the area. From this locality, the so-called “original” Borbor Fante gradually expanded towards the Pra River. The initial process was through wars of conquest of Etsi, Abora, Fetu, and Efutu in the Cape Coast hinterland during the late seventeenth and early eighteenth centuries (Boahen 1973b:35; Law 2012:64-70; Sanders 1980:109-110). From the eighteenth century onward, probably due to the emergence of Asante, the Fante people embarked on several diplomatic efforts to forge
alliances with neighboring states such as Wassa, Agona, and Akyem to consolidate their middleman role along the coastal seaboard (Boahen 1973b; Sanders 1980; Yarak 2003).

It is unclear how and when this transition from a geopolitical distinction to ethnolinguistic (and cultural) designation occurred. Undoubtedly, the political turmoil instigated by the slave trade that culminated with the expansionist agenda of the emerging Asante Empire during the eighteenth century may have been significant for the dissolution of the smaller polities along the coast in favor of what has been referred to as a coalition of states (Shumway 2014:70-71). The process of this transition to Fante ethnolinguistic and cultural whole was achieved through the institution of a decentralized form of government, backed by the asafo companies, the use of the Fante language, and allegiance to the shrine of Nananompow of Mankesim, the supposed religious capital of the Fante people (Arhin 1983, 1988; Christensen 1954; Shumway 2014:132-152).

It appears that in the Shama hinterland, these Fante political and cultural traits are not fully developed or not present in the socio-cultural fabric of this area. Do this presence or absence of these traits provide clues to the apparently disjointed sociopolitical history of this area regarding the oral traditions and documentary sources? While this may indeed be the case, the present state of historical and ethnographic knowledge of this area limits the claim we can make about the historical situation of the Shama hinterland during the Atlantic trade. The succeeding discussion of this section explores some Fante political and cultural traits within the context of contemporary
Shama, Supomu Dunkwa, and Yarbiw sociopolitical organization and culture. This exploration is derived from documentary knowledge and personal observations.

The institution of “asafo,” which is a classic element in Fante sociopolitical fabric, is not well-developed in Shama, or the Ahanta areas to the west of the Pra River. This observation contrasts with other core Fante towns like Anomabo, Mankessim, Cape Coast, Ekumfi, and Elmina to the east (Christensen 1954:107-126; Chukwukere 1980; Datta 1972; Datta and Porter 1971; DeCorse 2001:40-41) The “asafo” is a para-military organization found originally among the Fante. While the concept of asafo as a paramilitary political institution is shared among the Akan broadly (Chukwukere 1980:39), it is among the Fante that the institution appears unique in nature and outlook. To date, it is a very significant wing in the political organization of the Fante, particularly in the installation of chiefs. In the coastal Fante towns, the asafo shrines that dot the landscape are elaborately portrayed with distinctive flags. The companies are associated with town quarters. Some towns may have as many as ten asafo companies at a time, as is the case of Elmina (DeCorse 2001:41). This institution is believed to have been founded in the seventeenth-century (Datta and Porter 1971:288; DeCorse 2001:41; Kea 1982:131). In the traditional Fante towns, the organization of the asafo companies exhibits a degree of complexity that is not seen at Shama or neighboring towns. For instance, the ward system–where each suburb of a town has its own asafo company–which is so prevalent in traditional Fante towns like Anomabo, is not developed at Shama. Charles Welman (1969:13), who documented native institutions in Ahanta (and
included Shama, although he noted that Shama is Fante) notes that in this area, it is not uncommon to assign a village to an Asafohene (asafo Chief). This claim may suggest that the asafo system, which is essentially town-ward (political center) phenomenon, is restricted to peripheral settlements in the Shama and eastern Ahanta area. Asafohene is a standard political office or title for the head of town militia among the Akan in general, but not the Fante, where the head of an asafo is known as Tufohene, or Supi may be used to characterize the head of all the companies in a given town (Datta 1972:306). Notably, Charles Welman (1969) did not use Supi and Tufohene (plural) to characterize asafo leaders in the Shama and Ahanta area.

In addition to the distinctive nature of the asafo institution in the Shama area, there are other significant differences between the cultural practices of this region that set them apart from the mainstream Fante group. Patrilineal descent of stool inheritance, which is a distinctive feature of Fante (and other Akan) social organization, is not practiced in the Shama traditional area. Among the people of Shama, a patrilineal system of succession is practiced (Henige 1974a:159; Welman 1969:13). The Fante people are known to practice what has been characterized as double descent, where “the individual is simultaneously a member of two distinct exogamous lineages” (Christensen 1954:3). The matrilineal system of social organization is counterpoised by patrilineal one. Such a mode of social organization is quite unique from other Akan groups of southern Ghana. The people of Shama and its hinterland lacks this system of sociopolitical organization.
The aim of the preceding discussion is to call for historical scrutiny to the claim that Shama and its subsidiary stools were and are part of the Fante ethnolinguistic group. There is a potential for such historical investigations to shed light on the relationship of Adom and Yarbiw polities during the seventeenth and eighteenth centuries and contemporary inhabitants of this area. These investigations may have broader implications for the historical consciousness of the descendant communities of Supomu Island. Could these unique historical and ethnographic features of this area have any bearing on the political and ethnic historical reconstruction of the region? It is clear that this group is historically and ethnographically situated in an ambiguous and precarious position to give us contemplations of the history of the region. Larry Yarak (2003:142) has raised similar concerns regarding the fragmented sociopolitical history of the Wassan people who share a boundary with the Shama people to the north. Unfortunately, archaeology has a limited contribution to make in isolating and reconstructing discrete ethnolinguistic groups in history, particularly in Africa (e.g., Lentz 2006; Richard and MacDonald 2016).

**Pre-Atlantic settlements and economy**
Archaeological survey data emerging from the Central Region Project and systematic survey of Wawase and Supomu provide indications of settlements distribution and organization along the lower reaches of the Pra River before Europeans’ first contact on the coast. In many ways, the nature of settlements pattern noted in the Pra River hinterland parallels the broad distribution of settlements pointed out by several scholars for the Gold Coast hinterland. That is before the Atlantic trade, the large political and
economic centers were located in the hinterland (DeCorse and Spiers 2009; Henige 1974a:173; 1975a:39; Kea 1982:60). It was after the export slave trade had been duly established that we see the emergence of new urban nodes along the coastline.

Along the Pra River, archeological research is just beginning to take shape, and we are beginning to understand the nature of settlements and the economy of this part of Ghana. From the early 2000s, archaeological survey work of the Central Region has aimed at documenting the distribution of settlements and situate these settlements within their temporal scope on the basis of surface material distribution. The central theme of the survey work is to understand the nature and organization of settlements and settlement patterns from the earliest times to the present, focusing particularly on how these landscapes changed during and after the Atlantic trade and colonial and postcolonial periods. The survey work has focused on the region from the Sweet River in Elmina to the east to the immediate west bank of the Pra River to the west. The northern frontier of the survey area extends 20 kilometers inland from the coast. The survey data shows that large pre-Atlantic settlements mainly located on low-rises are prevalent in the Central Region hinterland. Other settlement localities are found around the banks of lagoons and rivers. The surface manifestations of these pre-Atlantic settlements are scattered remains of a distinctive friable paste and eroded ceramics dated to the first to early second millennium AD along the coast (e.g., Chouin 2009; DeCorse 2001:118; 2005; Spiers 2007b, 2012). Since the 2000s, several sites in the Elmina and Komenda hinterland have been the focus of larger-scale excavation as part of the broader focus of
the Central Region Project to understand the history of these hinterland communities (Chouin 2009; Spiers 2007b). Since 2015 the current research, and that of Sean Reid’s, have focused on the region along both banks of the Pra River from Supomu in the south to Adiembra in the north, approximately 20 kilometers from Supomu (Amartey 2017, forthcoming; Reid 2020; Reid and Amartey 2019).

These works along the Pra River complement those that have been undertaken to the eastern part of the survey area. Also, of the survey area, the area along the Pra River has received limited historical and archaeological studies. Sean Reid’s work aims to document the wider regional landscapes and settlement distributions along the Pra River. He is incorporating satellite imagery, and test excavations from two sites to understand the correlation between vegetation and relief signatures and archaeological sites in the area (Amartey 2017, forthcoming; Reid 2020; Reid and Amartey 2019). This study has the potential to help in future identification sites through aerial photos.

Archaeological investigations at Wawase and Reid’s excavations at a grinding slick and iron slag sites in the area provide indications of human occupation along the Pra River. These data, in conjunction with data from other pre-Atlantic sites, situate the beginning of human occupation in the central region forest in the first millennium BC. Two calibrated radiocarbon dates from lower levels of Wawase place the occupation of the floodplain in the first millennium BC (see dates in Table 6.1). While these dates may be the earliest reported dates, their use may be limited by the associated materials that were recovered with them. The associated ceramics from the basal levels of the unit were
too crumbly, and the lithic assemblage was small in the sample. Also, the two dates, which all came from the same test unit, are simply not enough for adequate chronological assessment of the site and the broader region. Nevertheless, these dates afford a starting point for evaluating human beginnings along the Pra River.

By the first millennium AD, the evidence of the occupation of the Wawase site and the outlying landscapes parallels that of contemporaneous sites in the south-central forest region. The significance of the floodplains of the Pra River in the human occupation of the region in prehistoric times cannot be underestimated. The exploitation of riverine and probably marine resources is evident in the form of different varieties of shells. Charred remains of palm kernels have been documented from the Wawase site. This evidence suggests the increasing reliance on oil palm. The popularity of oil palm in the prehistoric subsistence and economy of Ghana and other parts of West Africa is well-documented (D'Andrea and Casey 2002; D'Andrea et al. 2006; Logan and D’Andrea 2012; Sowunmi 1999; Stahl 1986). Wawase and contemporary communities were both iron and stone using communities. Direct evidence of iron implements is uncommon. However, pieces of iron slag and unidentified pieces of metal objects have been found in pre-Atlantic context. The lack of direct evidence of iron implements may be due to preservation concerns and the fact that iron may have been scarce and prized at the time. The lithic assemblage dating to the first millennium AD mainly comprises quartz microliths. The sample from the Wawase site is, however, small to derive typological sequences. Formal lithic tools are few compared to the debitage and occasional utilized
flakes (see Figure 5.5). There is evidence from these sites of objects of bodily adornments in the form of beads made from shells, stone, and probably clay. Evidence of localized exchange may be inferred from non-localized lithic objects from the stone beads.

The distribution of slag mounds and grinding marks on granite outcrops provide indications of the organization's settlements. While these grinding grooves appear to concentrate around rivers and streams, they seem to have a wider geographical distribution that includes hilltops such as Dumpow at Eguafo and Abirpow at Komenda (Chouin 2009:609; Cook and Spiers 2004:21; Davies 1964:246-247; Spiers 2007b:96). During the survey of the Wawase area, Oliver Davies noted some grinding marks in the vicinity (Davies 1964:246-247). Sam Spiers (Spiers 2007a:60) also reported a grinding slick site near the village of Bosomdo, south of Wawase. Besides the grinding marks localities, there were isolated loci of iron slag heaps, which are indicative of iron working activities in prehistoric times. Although research has just begun to examine these localities, it appears that these localities were exploited as production zones associated with particular communities. The two sites—a grinding marks and an iron slag mounds sites—investigated by Sean Reid may shed light on this hypothesis. Wawase and other sites from the banks of the Pra River discovered during the archaeological survey may have been part of this broader settlement system.

Before Europeans arrived on the coast, knowledge about trade and exchange patterns in this region is limited. Archaeological evidence of long-distance and localized trade and exchange before the Atlantic period are limited and only circumstantial.
Nevertheless, local exchange was likely practiced on the coast before the Europeans arrived, as indicated by some European observers on the coast during the fifteenth and sixteenth centuries.

**European Atlantic trade**
The European trade in what became coastal Ghana (or formerly the Gold Coast) began with the Portuguese in the fifteenth century, but the French, Dutch, and English interlopers soon joined the trade (Blake 1942:19; 1977:57-78; Elbl 1986:245-247; 1997; Rodney 1965). Trade was the main impetus for the Portuguese exploration of West Africa during the fifteenth century. The process was motivated by an attempt to offset the middleman role played by the Arab traders in the Mediterranean to gain direct access to the sources of gold-bearing regions of sub-Saharan West Africa (Benjamin 2009; Thornton 1998).

From the beginning of the seventeenth century, among the European nations who traded on the Ghanaian coast, the Dutch became the most successful and dominated the trade until the nineteenth century when they exchanged their possessions in Ghana with the English in 1872 (Doortmont 2002; Porter 1974:vii; van Dantzig 1978:1). Harvey Feinberg notes that unlike the Portuguese trade, which was a monopoly of the Crown (see, for example, Vogt 1974), the Dutch relied on private stock companies for their operations in the Atlantic trade (Feinberg 1989:4-5). The principal company or agent of the Dutch trading operations in West Africa from 1621 to 1791 was the Dutch First and Second West India Companies (WIC). While the WIC strived to gain exclusive rights to
trade in West Africa, private interlopers from both the Netherlands and other European nations took part in the trade. Notably, after 1791, when the second chartered company was dissolved, the Dutch encouraged free private trade in West Africa. In 1637, the headquarters of Dutch operations moved from Mouri just east of Cape Coast, where the Dutch had stationed since 1611, to Elmina (Doortmont 2002:21-22; Feinberg 1989:30-31; Postma 1972:237-238). The headquarters at Elmina remained until 1872 when the Dutch left the Ghanaian coast.

The company headquarters at Elmina was headed by a Director-General, who, according to Albert van Dantzig (1978:3), “fulfilled the role of a Governor” of the company operations of the entire West African coast (also Postma 1990:61-62). From Elmina, all reports, accounts, and trade goods were collected, collated, distributed, and sent to the Netherlands, Americas, or other parts of the West African region. Much of what we know from archival sources on Ghana during the seventeenth and eighteenth centuries can be credited to the records of the Dutch WIC (e.g., Doortmont and Smit 2007; van Dantzig 1978). These records include letters written to and by the directors, accounts, bills of lading, ships manifests, instructions, circulars, and journals of meetings. These records mainly point to the companies trading activities and interests but do not directly provide indications of West African sociopolitical and cultural developments (DeCorse 1996; van Dantzig 1978:4). Because of this structure and organization of the trade, in most cases, details of the volume and value of particular transactions at a given port or geopolitical areas are not noted. As noted by Harvey Feinberg (1989:64), the
Dutch WIC company trade records omit specifics, making it difficult to identify particular locations with particular trade items. In the slave trade, the specificity of the volume of the slave trade is only available at the major ports of embarkation, such as Elmina, Kormanshin, Accra, Axim, and Anomabo.

Fort St. Sebastian at Shama, which was the main node of European activities in the hinterland of this part of the coast, was built by the Portuguese in the 1550s. The Dutch occupied the fort from 1639 onwards with a brief occupation by the British in 1664-1665 until it was finally transferred to the British in 1872 (DeCorse 2010:223-224; Varley 1952:9-10). Regarding the Atlantic trade, the Shama fort may have contributed a marginal percentage of volume of trade to the Europeans, although it must be pointed out that the specific volume of trade from the Shama port is lacking. For instance, the information provided by Johannes Postma (1990:122) on the specific ports of slave purchases between 1741 and 1782 shows that only 30 slaves (representing 0.2% of the total volume of trade during the period) were purchased at Shama. Nevertheless, Shama and its hinterland, particularly along the Pra River, was important for provisioning and canoe construction in the Atlantic trade (see below). The Dutch were aware of the potential of the fertile floodplains of the Pra River to agriculture and since the mid-seventeenth century toyed with the idea of plantation for export in this region (see below).

Much of what we of the volume and value of trade comes from ship manifests, bills of lading, invoices, orders, logbooks, and trading accounts. Historians have
attempted to provide estimations of the volume and values of trade in particular regions and periods (e.g., Alpern 1995; Behrendt 1997; Elbl 1986, 1997; Eltis 2001; Inikori 1977; Lovejoy 1982; Vogt 1979). But, as hinted earlier, generally, Europeans had the tendency to treat Africa as a single unit rather than heterogenous sociopolitical units, and this characterization has made geopolitical, or port specificity of the trade estimates problematic (Eltis and Jennings 1988:938). Also notable is the debate about comparative value as opposed to the volume of trade exports and imports. This debate derives from relative prices of commodities at the port of purchase and port of sale. There is a lack of specificity in price valuation at the African ports because commodities were valued by barter. So, for instance, Richard Bean (1974) and Ernst van den Boogaart (van Den Boogaart 1992) have argued about the relative volume and value of the slave and gold exports from West Africa before 1650.22

Broad historical and regional trends in the pattern of demand and supply of the Atlantic trade can be delineated across the West African coast. In the nineteenth century, John Adams (1822:104, 109, 113, 115-117) noted the various items worthy of barter in different regions of the West African coast. Similarly, Stanley Alpern (1995:6) indicates that the categories of trade items brought to the West African coast increased overtime during the Atlantic slave trade (also see Kea 1982:211-212). In terms of exports, particular regions along the West African coast were noted for particular commodities for

22 Richard Bean had maintained that up to the 1650s the value of gold in the Atlantic trade was much higher than slaves. Ernst van den Boogaart contended that because slaves’ prices were higher in the 1600s, slaves contributed a higher value than the gold trade between West African and European Atlantic world.
exchange. In some cases, these exports and imports change over time, as was the case of slave imports and exports in Ghana during the period of the Atlantic trade (see below).

Regarding the items in demand on the Ghanaian coast during the Portuguese period, David Birmingham (1970) lists five major categories of items that were in higher demand. His assessment of these imported items was derived from the *Regimento da Mina*, which is likened to a constitution drafted in 1529 by the Crown that governed the Portuguese trade at Elmina. The *Regimento* lists the categories of European commodities in the order of importance as cloth and clothing, slaves, beads and shells, wine, and metalware. Within each of these generic categories, there were several specific items. For instance, Stanley Alpern (1995) notes over thirty varieties of cloth and clothing items of both European and Indian origin that were traded on the West African coast. In the bead category, the *Regimento* lists two types of beads, *Coris* and *Contas Pardas*, that were prized on the Ghanaian coast (Birmingham 1970:5). These early beads hold an enigmatic place in the history of material culture in Ghana and West Africa during the fifteenth and sixteenth centuries (see Cardinall 1925; DeCorse 1989; Fage 1980:70-71; 1981; Jeffreys 1961; Mauny 1958).

Some historians employ specific generic terminologies for the group of imports into West Africa. Ray Kea (1982:207) distinguishes two broad categories, personal (clothing and producer goods). Harvey Feinberg (1989:49) prefers to distinguish between manufactured goods (e.g., clothing, brass plates, jewelry, etc.) and raw materials (e.g., iron bars, tobacco, *manillas*, etc.). Harvey Fienberg (1989:50) points out that in the
eighteenth century, the “large number of commodities can be reduced to a few broad categories: cloth, military supplies, alcohol, tobacco, and metalware.” Even though in the Regimento metalware, particularly iron bars and brass bracelet called manillas, brass and pewter plates, and copper vessels were ranked low, metalware undoubtedly made up a significant percentage of European imports into Ghana until the nineteenth century. According to one estimate, between 1494 and 1497, about 71,000 manillas were shipped to West Africa, of which 80 percent was bound for Elmina (Vogt 1979:76). Timothy Garrard (1979:38) estimates that 25 tons of metal were shipped annually to Elmina by the Portuguese. This vast quantity of metal may have been required to work the gold mines and agriculture that fed the European trade.

Slaves were a significant part of European trading cargo from other regions of the West African coast bound for the Ghanaian coast during the sixteenth and seventeenth centuries (Daaku 1972:239; Kea 1982:197; Rodney 1969; Wilks 1993:77). As early as 1497, it was reported that the Portuguese bought slaves on the Grain Coast (in modern-day Liberia) and sold them at Shama (Birmingham 1970:4; Blake 1942:240). The Portuguese Regimento is emphatic on the importation of slaves to Elmina, noting that it was a well-organized trade (Birmingham 1970:4; Vogt 1973). On the Gold Coast, Europeans themselves found it difficult to obtain enslaved labor for their ventures such that they resorted to importing slaves from the Slave Coast (modern-day Benin Republic). This was the case when the Dutch considered the idea of plantation in the Shama hinterland during the second half of the seventeenth century (see discussion on
plantations below). It was not until the beginning of the eighteenth century that slave exports became important on the Gold Coast.

The top of the list of exports from the Ghanaian coast until the close of the seventeenth century was gold (da Mota and Hair 1988:28-35; Daaku 1970:26; 1972). It was because of the abundance of gold in this part of the West African coastline that the Portuguese referred to the region as the “Mine,” Mina Coast or Gold Coast (Blake 1977:10; Hair 1994; Vogt 1979:8). Until the construction of the Castelo de São Jorge da Mina (Elmina Castle) in 1482, Shama was the center of the gold trade on the Mina Coast (Blake 1977:80; Crone 1937:109; Vogt 1979:21). The main gold-rich producing areas were in the Wassa and Denkyira countries to the north, in the Pra and Ankobra River basins. After the construction of the Portuguese trading base at Elmina, Shama continued to contribute a significant amount of gold to the European trade. It was because of the strategic role of Shama during the early centuries of the gold trade that the English voyager, William Towerson, made several incursions into the Pra River during the mid-sixteenth century (da Mota and Hair 1988; Vogt 1979:101-102). It is estimated that about a ton of gold was exported from the Gold Coast during the first couple of centuries or so (da Mota and Hair 1988:27; Vogt 1979). Even though these figures were mainly recorded at Elmina, a significant proportion of the trade likely came through Shama.

In addition to gold and slaves, ivory was also a significant part of European shipments from coastal Ghana. Marion Johnson and Harvey Feinberg (1982:439) have estimated that “more than 1,500,000 Dutch pounds of ivory were exported by the West
India Company from the Gold Coast between 1699 and 1725.” In the early eighteenth century, ivory exports from Elmina are estimated to represent between 0.6% and 26.8% of all exports from Elmina, and a major part of this trade came from the region West of the Pra River (Feinberg and Johnson 1982:440-442). Kola, which was also one of the major export in the Ghanaian region was traded to the interior and sent northward rather than to the coast during the first few centuries of the Atlantic period (Abaka 2005:44-45; Daaku 1970:33). The kola trade only became popular on the coast after 1800.

It is not known how far south the interior gold mines extended before the nineteenth century. It is, however, likely that portions of the banks of the Pra River may have been exploited for gold. The gold that went through the Shama trading port was obtained from the hinterland, particularly from Wassa, Adom, and Aowin countries (Daaku 1970:68; 1972:237). According to Raymond Dumett (1998:44), the town of Daboase that lays about 15 kilometers north of Supomu on the west bank, became one of the power centers of the Wassa state and that these states grew and prospered around gold mines. In the late seventeenth century, Jean Barbot reported that, “not far from the promontory Aldea de Torres, there is a very rich gold mine” (Barbot 1992:349; also see Fage 1980:55). As noted, the Pra River flows through the auriferous region of southern Ghana forest, and the gold in this area may have contributed significantly to the exports of the Gold Coast during the first centuries of the Atlantic trade (Dumett 2013:130). To date, small-scale mining operations are practiced in these rivers and their banks as far

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23 This settlement may have been in the vicinity of Komenda, just east of Shama. Its exact location between Elmina and Shama is in dispute. It is sometimes referred to as Aldea de Torto (see de Marees 1987[1602]:90; Fage 1980:56-57).
south as Supomu. The island has been subjected to such small-scale mining operations during the last ten years or so (refer to the discussion on small-scale mining in Chapter 4).

Before the mid-seventeenth century, the Ghanaian coast was not a significant exporter of slaves compared to other ports along the West African coast. It was after the plantation economies of the Americas took hold, culminating with the substantial demand for enslaved labor that slaves became the leading export (Lovejoy 2012:56-57; Reynolds 1974:9; Shumway 2014:71; Thornton 1998:116-117). The eighteenth-century is a significant period of the Atlantic period of West Africa. The institution of the export slave trade coincided with the expansionist policies of emerging kingdoms like the Asante and Akwamu in the interior. The expansion of the Fante also had direct implications for the export slave trade. Several port towns developed along the coast to compete with other ports for trade, which until then was centered on gold. It is unclear whether there is a causal correlation between the local wars and Atlantic economic demands, particularly the slave trade (Law 2012:72-75; van Dantzig 1975:254-255).

Figures for the commodities and slave trade at Shama are scanty, but the Shama port played a significant role in the trade, particularly during the Portuguese period. The accounts of the English voyager, Towerson, who made three successive trading visits in the 1550s, provide some insight into the gold trade at Shama (da Mota and Hair 1988). Towerson and his entourage were said to have traded cloth and metalware for quantities of gold (da Mota and Hair 1988:27). Later, in 1688, a French estimate states that 1,075,
200 dambas worth of gold (equivalent to approximately 6,000 ounces) were exported from Shama (Kea 1982:195). On the slave trade, the known figure for the Shama port is a total of 30 slaves known from free traders between 1741 and 1792 (Postma 1990:373-376). However, specific trade figures for Shama by the Dutch WIC are not available. Also, as discussed in the next section, it seems likely that during the nineteenth century, after the abolition of the slave trade, the Shama port was active in the illegal slave trade.

Beyond Shama and Yarbiw, an area that is known during the seventeenth and eighteenth centuries as Adom territory, the inhabitants were known as traders and merchants. On the 1629 Dutch map, Adom people were described as merchants. This reference to traders is not surprising. The Adom people were well situated to control the flow of gold and probably slaves from the interior of Wassa and Denkyira countries. The Pra River was an essential conduit for the transport of people and cargo down to the coast, at least for the 30-kilometers inland stretch from Shama. An 1873-report of a survey along the Pra River did indicate that between Daboase and Shama, there were no tracks or paths, the river is used instead (Africa 1887:129). Gold, and also slaves, likely plied this route (Kea 1982:192; Reynolds 1974:7). Settlements like Supomu and Wawase along the Pra River may have served as bulking stations and relay nodes for traders on this route (Kea 1982:65). In 1726, for instance, it was reported that there was an African ruler at Supomu, Cobbena Apo, who was an agent of the Dutch WIC and received monthly payments from the company (Postma 1990:88).
Provisioning for European ships and the provision of services was an equally important component of the Atlantic trade. Food and water supply, canoe repairs, and the provision of canoe men were a very significant part of the Atlantic trade. Among historians of the Atlantic trade in Ghana, only Harvey Feinberg (1989:65-71) has discussed the provisioning aspect of the European trade in Ghana. For the Shama port and its hinterland, activities relating to provisioning may have been the most significant aspect of African-European interactions. In the 1550s or 1560s, the Portuguese built a fort (more likely a lodge) at Shama called Fort St. Sebastian (DeCorse 2010:222; Lawrence 1963:274; van Dantzig 1980:7-8). This lodge, which was later reinforced into a fort, remained one of the three major Portuguese outposts before the mid-seventeenth century when other European nations began to gain a foothold on the Gold Coast. Shama and its hinterland may have been peripheral to the Portuguese trading stronghold of Elmina and Axim throughout the period of the Atlantic trade. Scholars have suggested that the lodge at Shama was built to ward off other European interlopers, mainly the English and the French (DeCorse 2010:223-224; Lawrence 1963:274).

The significance of the Shama fort to the European trade may have been understated. Provisioning, canoe production, and canoe services were very significant trading dimensions of people living along the Pra River and at Shama (Priestley 1969:78; van Dantzig 1980:19). Up to the 1700s, it was common practice for all European ships to stop at Shama to obtain freshwater from the Pra River for their onward journey to other parts of the West African coast (Feinberg 1989:70; Postma 1990:157-158). This water
was transported from farther upriver to the coast in small canoes. Canoes could have gone as far as Supomu to obtain freshwater depending on the level of the tide.

Food supply for trading ships was also an integral part of Shama region’s participation in the European trade. The fertile and well-watered floodplains of the Pra River afforded an abundance of cultivable lands in this area. During his second voyage to Guinea, Towerson noted that the Shama area produced a significant quantity of “wheate” and “another sort of corne which is called mill” (cited in Blake 1942:406). The exact grains that Towerson was referring to is uncertain, but this reference indicates the importance of provisioning for the Atlantic trade regarding the Shama hinterland. As Harvey Feinberg (1989:66) notes, millet was the most important grain for the Atlantic slave trade, and Europeans may have loaded enormous quantities on the slave ships (also see Postma 1990:158).

The scale of timber exploitation on the Gold Coast is not well-documented until the late nineteenth century (Dunnett 2013:49). Even though direct archaeological evidence from Supomu or Wawase is lacking, documentary and ethnographic sources point to the crucial role of the Shama area regarding the canoe industry during the Atlantic trade. The etiology of the toponyms Wawase and Supomu Dunkwa may be significant for providing indications of the role of timber and the canoe trade in this area. Wawase translates as “under the Wawa tree.” Wawa (Triplochiton scleroxylon) is a timber that is used today for building in Ghana. It is possible that in the distant past, the

24 This may be referring to millet. However, millet is not grown in this area today.
settlement and its vicinity were important in providing wood for canoes and other purposes. Supomu, on the other hand, translates as a “forested island” while Dunkwa translates as “tree stump.” These toponymic etiological indications are significant for charting the historical ecology of the region and its implications for canoe production and services during the Atlantic trade.

Given the limited navigability of the Pra River, canoes may have been essential for transporting both provisions and trade goods. Documentary sources indicate that the people the Mina coast knew the use of the canoe for sea and river fishing, transport, and trade (DeCorse 2001:108; Feinberg 1989:68; Gutkind 1985; Reynolds 1971:121-122). Samuel Brun, the German voyager who visited the Mina coast in the seventeenth century, noted that “for the people are mostly fishermen” (cited in Jones 1983:84). The vivid description of fishing seasons and taboos associated with fishing recorded by Pieter de Marees in the seventeenth century is indicative of the amount of maritime knowledge the people on the Mina coast in the sixteenth century (de Marees 1987:21-22). In the Pra River, the canoe industry seems to have been very popular. Henry Meredith, who was the English Governor at Winneba port in the eastern coast of Ghana, noted that during the French trading activities at Shama, French ships bound for “Whidah” on the Slave Coast were supplied with canoes and canoe men from this part of the Gold Coast (Meredith 1812:78). He particularly noted an island in the Pra River, which has been an object of jealousy due to its economic importance for the canoe trade (op. cit.).
Pieter de Marees similarly noted the importance of the Shama hinterland in the provisions of canoes and canoe men in the sixteenth century (de Marees 1987:204). The prosperous canoe industry thrived on the abundance of trees in the Wawase vicinity. Direct evidence of the canoe industry at Supomu or Wawase is unlikely to come by, as wood does not preserve well in the tropical climate. However, the recovery of quantities of land snail shells may suggest that a verdant landscape had once existed in the area. These gastropods thrive in lush forest landscapes. Today, the grove of *Apontuado*\(^{25}\) that lies just to the north of Wawase may be a remnant of a wooded landscape, at least during the pre-Atlantic period (Chouin 2002, 2009; Reid 2016, 2020; Reid and Amartey 2019). A limited walk survey conducted in the grove noted a few pieces of eroded, non-diagnostic ceramic sherds.

The foundation and success of the Supomu enclave may have been part of these local and global economic processes along the Ghanaian coast. Local and intercontinental trade seem to have been a significant driver in the sociopolitical development of this seemingly sequestered vicinity in the Shama hinterland. Several categories of imported European trade items were recovered from Supomu and Wawase that date to between the eighteenth and nineteenth centuries. These include glass beads, metal objects, and European ceramics.

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\(^{25}\) See Chouin (2002) for a discussion of these landscapes as historical palimpsest of coastal Ghana. Further work needs to be undertaken in this grove to establish its place in the historical ecology of the region.
Reflections on the European trade and the archaeological record

The supply and demand sides of the European sea-borne trade have implications for the archaeology of the West African coast. The materials represented afford a lens through which to examine sociopolitical and cultural processes over the last 500 years. The presence or absence of European trade items, changes in settlements organization and pattern, and associated behavioral and technological changes provide archaeological and historical clues to the past landscape (DeCorse 2016a:10-11). These trends illustrate the variable economic, political, and cultural dimensions and transformations across space and time (DeCorse 2016b, 2019b; Falola and Ogundiran 2007; Monroe and Ogundiran 2012b). Archaeologists have noted the strength of European trade items in providing a firm chronological context of a given archaeological site (e.g., DeCorse 2001:149; Michael 2000; Noël Hume 1969; South 1977). The presence or absence and comparative quantities of European trade items in a given archaeological locale provide clues to dating, socio-cultural trends, and political developments.

While the quantity and variety of European trade items at a site indicate little about the volume of the trade, they provide clues to the sociopolitical and commercial significance of given settlements. At prominent hinterland political centers like Eguado (DeCorse and Spiers 2009; Spiers 2007b, 2012), Efutu (Agorsah 1975), Asebu (Nunoo 1957), Ayawaso (Bredwa-Mensah 1990; Ozanne 1962), and Nyanaoase (Amartey 2013; Keteku 1978, 1981), recovered European trade items made up a small percentage of the artifact's assemblage. In this regard, the variety of European trade items recovered from Wawase, and Supomu, in particular, are telling of the sociopolitical and commercial
significance of this locality. The maintenance of the toponymic prefix, Supomu, to the successor town, modern-day Supomu-Dunkwa, is also a significant indicator of the island’s sociopolitical and commercial importance in the Shama hinterland. The following discussion, among other issues, illustrates this dimension of the archaeological record of Supomu and Wawase.

It is worth noting that some trade items preserve poorly and leave limited archaeological signatures. Similarly, some of these items were re-fabricated and used continually or culturally re-contextualized for generations and leave limited traces in the archaeological record. For example, to date, the best indication of the volume of European trade in metalware in Ghana comes from the Elmina shipwreck of the Dutch West India Company vessel, *Groeningen*. The vessel that sunk off the Elmina coast in 1647 contained, among other items, numerous pewter and brass plates, lead rolls, and brass *manillas* (Cook 2012; Hamann 2007). Clothing, which was one of the major products imported by the Portuguese into West Africa, rarely occurs in the archaeological record. The vast number of iron bangles and bars and brassware that were imported into the then Mina Coast during the Portuguese period has rarely been recovered archaeologically. This indication is not surprising because these iron bars were modified and reused continually by local blacksmiths (e.g., see Alpern 1995:13; DeCorse 2001:147-148).

The majority of the brassware were also re-fabricated into gold weights and ritual vessels such as *forowa* and *kuduo* (DeCorse 2001:131-134; Garrard 1980; Herbert 1973).
Forowa and kudou are small (up to 30cm high) cylindrical brass sheet or cast containers that sit on a grillwork; they are "fastened together with rivets and decorated with poussé and punch-work designs of animals and geometric form" (DeCorse 2001:133). Their forms and functions seem to have been associated with rituals and prestige among the Akan of Ghana (see discussion in Garrard 1979; Ross 1974; Silverman 1983a, 1983b). The forowa has a utilitarian function—for the storage of shea butter and gold—while the kuduo is used mainly in spiritual contexts (also see Rattray 1927). Due to the high economic and ritual significance attached to the forowa and kuduo, they are rarely recovered from archeological context (Hamann 2007:76; Herbert 1973:187-188). Glass was also re-fabricated for the local production of beads. This technique likely dates to the eighteenth century and continued today (DeCorse 2001:136; Shaw 1945; Wild 1937a; Wilson 2003). The limited number of pre-nineteenth century glass beads in the archaeology of Ghana may be linked to and the reuse of glass in local bead manufacture. At Supomu and Wawase, very few glass fragments that predate1800 were recovered. A few of the glass beads from Wawase may have been locally made.

Considering the archaeology of European trade items in Ghana, Elmina, the Dutch headquarters' adjoining settlement, has produced an unparalleled quantity and variety of European trade items, and they provide comparative data for other sites in the region (see DeCorse 2001:145-147). Notably, the majority of the European trade items reported in the archaeology of Ghana were concentrated along the coast in the adjacent African settlements of the European forts. The quantity and variety of the European trade
items reduce as one moves from the coast towards the hinterland (Calvocoressi 1975a:195; DeCorse 2001:149). In the hinterlands, the trade items are found in political and commercial centers as well as along major trade routes. Given these indications, the quantity and variety of European trade items found at Wawase and Supomu are indicative of the sociopolitical and commercial significance of the vicinity in the Shama hinterland. In some cases, locally made products became skeuomorphs of European trade items (Boachie-Ansah 2009b; Ozanne 1960, 1962), and both serve as chronological markers and provide insights into the socio-cultural dimensions of European trade in Ghana. These skeuomorphic variants of the European trade goods have been noted in artifacts such as flat-based local ceramics and locally made smoking pipes (see below).

While it is difficult to associate specific European nations with specific trade items, in some cases, the origin of some trade items is discernable. A good example is the European smoking pipes. The majority of the seventeenth- and eighteenth-century pipes found in Ghana were likely made in the Netherlands (Atkinson and Oswald 1972; Calvocoressi 1975a:195; Oswald 1961; Walker 1975). David Calvocoressi (1975a:195-197) has noted that English pipes only became common in the nineteenth century, and most of the pipes with maker’s mark found in Ghana are of Dutch origin, made in Gouda. Although the sample size is small, the larger bore-diameters of 9/64” and 5/64” of some pipe stems suggest seventeenth century dates (DeCorse 2001:163-164). A total of 22 fragments of bowl and stem fragments of European pipes were recovered from Supomu and Wawase (see Table 3.1). Stem fragments with a bore diameter ranging from 9/64” to
4/64" are represented. All of the bowl fragments were recovered from Supomu; none were recovered from Wawase. One of the bowl fragments has the distinctive Gouda marks and a few of the stems have the Dutch roulette decorations suggesting eighteenth century (or seventeenth century) products. Interestingly, in contrast, only one almost complete locally made pipe came from Wawase. The other four pieces of local pipes recovered were very fragmentary and provided limited information. Trade pipes recovered at Supomu lend credence to the seventeenth-century beginnings of the site's occupation, as well as the Dutch trading activities at the site and in the wider Pra basin. The old Portuguese fort of São Sabastião at Shama, which was occupied by the Dutch by 1639, was likely the source of these trade goods (DeCorse 2001:223-224).

A general trend in Ghanaian archaeology regarding the European trade is the paucity of European imports dated to the first two centuries of the apparent Portuguese monopoly in the region. As noted, manillas and cloth are rarely recovered in archaeological excavations. Portuguese-period ceramics, brass, and copper objects are also not common in the archaeological record of Ghana. At Elmina, for instance, Portuguese-period ceramics represented only six percent of the total imported materials (DeCorse 2001:156; 2020). Notably, imported European ceramics did not become common in much of Ghana until the nineteenth century. Most European ceramics recovered from Wawase and Supomu date to the nineteenth century.
Metal objects found in the archaeological record is an ambiguous determinant of the European trade, as most metalware were modified and used locally; nonetheless, some cuprous items may have been original European imports (DeCorse 2001:134-135). In the current research, seven brass objects were recovered from Supomu. These include fragments of bangles, trinket, nails, furniture tack, and gun parts (Figure 3.3). Two pieces of a lead musket ball and a fragment of an ambiguous lead object were also recovered from Supomu. These metal objects are European imports to the island and speak to the sociopolitical preeminence of the island during its occupational history. The brass furniture tack (Figure 3.3), for instance, is associated with elite stools found in palaces in southern Ghana (DeCorse, personal communication).
<table>
<thead>
<tr>
<th>SITE/CONTEXT</th>
<th>COUNT</th>
<th>DESCRIPTION</th>
<th>BORE DIAMETER</th>
<th>MAX DIAMETER</th>
<th>MAX LENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>WA/L2.STP.F270.1</td>
<td>1</td>
<td>Stem fragment</td>
<td>5/64&quot; (0.2cm)</td>
<td>0.85cm</td>
<td>3.62cm</td>
</tr>
<tr>
<td>WA/L2.STP.R210.2</td>
<td>1</td>
<td>Stem fragment</td>
<td>9/64&quot;(0.25cm)</td>
<td>0.83cm</td>
<td>6.83cm</td>
</tr>
<tr>
<td>WA/L2.STP.N300.5</td>
<td>1</td>
<td>Stem fragment with an inscription of 21/241</td>
<td>9/64&quot;(0.25cm)</td>
<td>0.95cm</td>
<td>7.88cm</td>
</tr>
<tr>
<td>WA/L2.STP.E170.5</td>
<td>1</td>
<td>stem fragment</td>
<td>9/64&quot;(0.25cm)</td>
<td>0.66cm</td>
<td>4.23cm</td>
</tr>
<tr>
<td>WA/L2.STP.J210.2</td>
<td>1</td>
<td>Stem fragment</td>
<td>9/64&quot;(0.25cm)</td>
<td>0.19cm</td>
<td>3.67cm</td>
</tr>
<tr>
<td>WA/L2.STP.C170.3</td>
<td>1</td>
<td>Stem fragment</td>
<td>5/64&quot; (0.2cm)</td>
<td>0.67cm</td>
<td>2.82cm</td>
</tr>
<tr>
<td>WA/L2.STP.T200.8</td>
<td>1</td>
<td>Pipe Stem fragment</td>
<td>5/64&quot; (0.2cm)</td>
<td>0.7cm</td>
<td>0.72cm</td>
</tr>
<tr>
<td>WA/L2.STP.R210.1</td>
<td>1</td>
<td>Pipe Stem fragment</td>
<td>9/64&quot;(0.25cm)</td>
<td>0.65cm</td>
<td>3.98cm</td>
</tr>
<tr>
<td>WA/L2.STP.N300.6</td>
<td>1</td>
<td>Stem fragment</td>
<td>4/64&quot;(0.15cm)</td>
<td>0.89cm</td>
<td>9.95cm</td>
</tr>
<tr>
<td>SU/North Side.surface</td>
<td>1</td>
<td>Fragment of bowl</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SU/U3.5</td>
<td>1</td>
<td>Stem fragment</td>
<td>5/64&quot; (0.2cm)</td>
<td>0.75cm</td>
<td>5.92cm</td>
</tr>
<tr>
<td>SU/STP.8(NCT39).2</td>
<td>2</td>
<td>Bowl Fragments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SU/U3.7</td>
<td>1</td>
<td>Bowl Fragments</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SU/U3.3</td>
<td>1</td>
<td>Stem fragment</td>
<td>9/64&quot;(0.25cm)</td>
<td>0.69cm</td>
<td>6.83cm</td>
</tr>
<tr>
<td>SU/STP.11(NCT41).7</td>
<td>1</td>
<td>Fragment of bowl with circular stamps along the lip</td>
<td>2cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SU/U1.9</td>
<td>1</td>
<td>Stem fragment; very eroded</td>
<td>5/64&quot; (0.2cm)</td>
<td>0.65cm</td>
<td>2.8cm</td>
</tr>
<tr>
<td>SU/U3.2</td>
<td>1</td>
<td>Stem fragment roulette occur at one end of the stem</td>
<td>5/64&quot; (0.2cm)</td>
<td>0.83cm</td>
<td>7.15cm</td>
</tr>
<tr>
<td>SU/T1.U1.10</td>
<td>1</td>
<td>Almost complete bowl, heel M with crown on top; m-gekroond; roulette along the lip</td>
<td>5/64&quot; (0.2cm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SU/North side.surface</td>
<td>1</td>
<td>Bowl Fragments, wall is 0.3cm thick with rectangular stamps along the lip</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SU</td>
<td>1</td>
<td>Stem fragment</td>
<td>5/64&quot; (0.2cm)</td>
<td>0.76</td>
<td>2.35</td>
</tr>
<tr>
<td>SU/T1.U1.10</td>
<td>1</td>
<td>Almost complete bowl, No heel obtuse angle with bowl diameter of 2cm</td>
<td>9/64&quot;(0.25cm)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3.1 Summary of imported pipes N=22. Site/Context. WA-Wawase; SU-Supomu; L-Locus; U-Unit; T-Trench; STP-Shovel Test Pit. The rest of the codes are alphanumeric designations

Regarding the African supply side of the Atlantic trade, gold and ivory are rarely recovered from the archaeological record. A few gold pieces and ivory objects have been reported at Elmina (DeCorse 2001:126, 138). Excavations at Asebu uncovered a
fragment of an ivory bracelet (Nunoo 1957:14). The brass gold weights of distinctive geometric designs that provide some indications of the gold trade have also been rarely reported. These objects are interpreted from the perspective of African craftsmanship and art, although they provide indications to the European trade. The paucity of these items in the archaeological record is likely due to their prized elements in Ghanaian culture.

Regarding provisioning for Europeans, the archaeology of Ghana has contributed little to our understanding of how Africans engaged with the Atlantic world through food provisioning and services procurements. This information is currently better viewed through documentary sources that attest to the importance of provisioning for Europeans on the coast. The examination of changing foodways and dietary practices in the archaeological record of Ghana does not directly address how the coastal people provisioned the European ships and traders (but see, for example, Biveridge 2019). In this regard, the documentary record remains the major source of inspiration to the archaeologist. Direct archaeological evidence of the slave trade is very limited. Slave barracoons, shackles, and spikes that are direct archaeological indications of the slave trade have never been uncovered in Ghana (e.g., see DeCorse 1991).

Changes in settlement organization and patterns over the last 500 years are historical and archaeological clues to the changing supply trends in Ghana's involvement in the Atlantic trade. Generally, there was a trend of population movement from the hinterland towards the coast from the sixteenth century onwards. It has been noted that at the time of European contact, population density in the hinterland was higher than on the
coast. These hinterland areas were the gold and ivory-producing localities that fed the first two centuries of European demand. The succeeding period after the beginning of the European trade is marked by the foundation of new settlements and the expansion and reorganization of existing ones. The foundation of Supomu can be understood and interpreted in this regard. The period of the slave trade, circa eighteenth to the nineteenth century, is marked by rapid expansion, caused by the agglomeration of populations from marginal localities to the political and commercial centers. In the nineteenth century, the dual settlements of Supomu and Wawase may have been the most prosperous locality in the Shama hinterland as borne out by the archaeological and documentary data. Because the Shama area has since the beginning of the Atlantic trade been an important food-producing area, in the third quarter of the nineteenth century, when the slave trade seems to have subsided, the Dutch unsuccessfully experimented with plantation agriculture in the area (see discussion of plantations below). By the late nineteenth century, the Supomu vicinity recorded the highest population density after Shama in the region (Census Report 1891:61-62). The archaeological record of the nineteenth century exhibits a higher percentage and variety of European trade goods.

During the first three-quarters of the nineteenth century, after European nations formally abolished the Atlantic slave trade, it appears that the Shama hinterland, particularly Supomu, may have engaged in the illegal trade. Direct documentary references to this trade at Shama are lacking. Different European nations enacted abolition laws at different times: Britain in 1807; Denmark in 1792; and the Netherlands in
1814. However, these national abolition legislations pertained to the wider trans-Atlantic export slave trade. The slave trade continued within respective colonies of these European nations until the late nineteenth century. In West Africa, slavery and the slave trade continued into the twentieth century. On the Ghanaian coast in the nineteenth century, three European nations, the Dutch, English, and Danes, dominated the Atlantic trade. The Dutch were dominant at Shama, Elmina, and Axim. Apart from the British who persistently enforced abolition laws in West Africa, none of the other European nations took steps to enforce the abolition regulation. Edward Reynolds (1971:106) has pointed out that "For the sixty years or so following Great Britain's abolition of the Atlantic slave trade, sustained attempts were carried out by way of diplomatic and naval pressure to induce other nations to renounce the slave trade and to maintain abolition." The Dutch were said to be notorious slave traders apparently because, by the nineteenth century, the Dutch trade was conducted by individual interlopers not operating directly under the Dutch government as had been the case during West India Company charter in the eighteenth century (Doortmont 2002:28-29; Postma 1972; Reynolds 1971:108).

The Dutch, who claimed unofficial authority in the Shama hinterland (see Baesjou 1979; Gramberg 1861:169-192), including Supomu and Wawase, did not enforce abolition law until after 1863 when slavery was abolished within their American colonies. In fact, the Dutch had limited authority over the wider hinterland and also had a reason to allow trade in enslaved Africans that provided labor for their American colonies. There are references to the clandestine slave trade among the Dutch and Danes,
particularly at Accra and Elmina during the first half of the nineteenth century (Reindorf 1895:144-145; Reynolds 1971:110-112). Edward Reynolds (1971:113-114) estimates that between 1815 and 1821, a total of 6,424 slaves were exported from the Ghanaian coast by the Dutch slave traders (compare Curtin 1969:234, 258). Aside from the fort at Dutch Accra, most of these slaves likely embarked at the ports of Elmina and Axim. The Dutch forts at Elmina and Axim remained the only operational forts of the Dutch trading outposts in Ghana after 1820 (Reynolds 1971:139). Although there are no documentary references to a nineteenth-century trade in slaves at the Shama port or hinterland, considering the vital role of canoes and canoemen in the transportation of slaves (Gutkind 1985; Reynolds 1971:121-122; Smith 1970:523), it is likely that the Supomu vicinity was active in the illegal slave trade. The acquisition of slaves and direct access to the coast were the main impetus for the Asante wars in the first half of the nineteenth century (Reynolds 1971). Two such Asante military expeditions to Wassa, just to the north of the Shama area, were carried out during the early nineteenth century (Maier 1990). These expeditions may have involved slave raiding and trading along the Pra River. James Brukum (2008:68-70) has noted that the Wassa-Ahanta alliance in the run-up to the Asante invasion of Ahanta in 1826 involved exchanges of slaves and gold. Shama was deeply involved in these diplomatic exchanges, and it should not be surprising to see the involvement of Supomu vicinity in these diplomatic and trading missions.

Given these indications in the early nineteenth century, Supomu would have been well-positioned to participate in, and likely did, in the then illegal trading activities in the
region. It is not surprising that the island settlement remained successful in the nineteenth century and was only abandoned when the prospects of the slave trade dwindled. Also notable is that the Supomu and Wawase locality's potential in illegal trading activities followed through into the second quarter of the twentieth century when Wawase likely became a hub for illegal liquor trade. Equally, it can be surmised that because the Shama hinterland region was active in the illegal trade in the first decades of the nineteenth century, the Dutch did not take steps to establish the production of the emerging alternative sources of supply commodities such as palm oil in the area until the illegal slave trade subsided in the mid-nineteenth century. Because the knowledge of the agriculture potential of the Shama area was well-established by the Dutch since the beginning of the Atlantic trade, it is surprising that the Dutch did not embrace plantation agriculture in their territories as quickly as the Danes did on the Accra Plains.

While our knowledge of the archaeological record in twentieth-century Ghana is limited, the comparative data from Wawase and Supomu highlights how the changing pattern of the European trade impacted on settlements organization and transformations. Although the comparative variety of artifacts from the twentieth-century context is relatively small, they provide indications of changing trade patterns and settlement reorganization in the Ghanaian hinterland during the expansion of the colonial infrastructure. The artifacts of the twentieth century include a preponderance of glass and metal objects. The transition to the legitimate trade in palm oil, timber, rubber, gold, and later cocoa in the nineteenth and twentieth centuries resulted in the reorganization of the
settlement geographies. New settlements were founded in newly discovered productive centers in the hinterland and newly developed trade routes. The economic viability of some ports and localities diminished as new centers of production emerged. By the beginning of the twentieth century, the port of Shama, which was used for the timber trade, had diminished in economic importance as gold mechanization and accompanied infrastructural developments took hold in its neighboring port at Sekondi and Tarkwa in the hinterland. Shama's population saw a gradual decline throughout the first decades of the twentieth century (e.g., Dumett 2013:61). Within this economic context, the expansion of the Wawase settlement in the twentieth with a good quantity of bottles likely indicate that during the 1930s, the locality was participating the illegal liquor trade (this is discussed in detail in Chapter Six).

**European Plantations**

Plantation agriculture became an integral part of Atlantic encounters on the Gold but not in the scale that occurred in other parts of the Atlantic world. It is unclear whether weather the term plantation as understood by Europeans during the seventeenth and nineteenth centuries connoted scale of cultivation. Robin Law (2013b:125) notes that plantations did not necessarily connote large-scale crop growing but any crop growing fields. Growing crops for the European export market was the underpinning factor that engendered the plantation concept. Despite the ambiguity in the connotation of plantation agriculture in West Africa in general, the term persists in the historical discourse of the Atlantic trade in the West African sub-region (e.g., see chapters in Law et al. 2013). In coastal Ghana, the Danish plantation in southeastern Ghana during the late eighteenth and
early nineteenth centuries epitomize the apparent transition from the slave trade to export-oriented agriculture. Several studies have been undertaken among the various Danish unsuccessful ventures to promote such export commodities (Abrampah 2018; Boachie-Ansah 2009a; Bredwa-Mensah 1999, 2002, 2004; Breuning-Madsen et al. 2002; DeCorse 1993; Kea 1995).

For the Dutch, the experimentation of plantation agriculture in Ghana for export to Europe was undertaken earlier than that of the Danes. Edward Reynolds (1974:63) has noted that as early as 1689, the Dutch attempted tobacco, indigo, and cotton plantation near Shama on the Pra River (also see Law 2013b:120-122). At Elmina and Moure to the east of Shama, the Dutch also instituted cotton and indigo plantations with the intent of exporting these commodities to the Netherland (Dickson 1969:76). These seventeenth century plantations were meant to supplement the diminishing existing trade in gold and ivory rather than replace the slave trade (Law 2013b:128-129). In 1702, for instance, the Dutch West India Company Director General at Elmina, W. de la Palma, reported: “In view of the poor condition of the trade, we have taken into consideration the planting of cotton and sugar cane.” (van Dantzig 1978:84). The Director General of the Dutch WIC at Elmina further noted that they were sending a ship to Fida (Whydah) on the slave coast (modern-day Benin Republic) to purchase 250 slaves to start cotton cultivation on the banks of the Pra River (Law 2013b:126; van Dantzig 1978:84). It is unclear whether these plantations were successful.
Generally, these early experiments and their succeeding ones failed on the Gold Coast (Breuning-Madsen et al. 2002; Hernæs 2013). Unlike the later Danish plantations in southeastern Ghana which failed due to poor planning and environmental factors (Breuning-Madsen et al. 2002), the seventeenth-century plantations likely failed because the Dutch were torn between the prospects of plantation agriculture on the Gold Coast and the more lucrative trade in slaves who were exported to the existing profitable plantations in Curaçao and Suriname. Robin Law (2013b:135) notes that due to the nature of the West African current it made sailing easier and economically prudent to sail with enslaved cargo to the Americas and carry cash crops from thence to Europe rather than carry cash crops from Africa through the middle passage to Europe.

In the nineteenth century, the Dutch revived their interest in plantation agriculture at Shama and attempted to establish plantations in the floodplains of the Pra River (see Figure 3.4). Unlike the Danish plantations in the southwest of the country, little is known about these plantations. Two plantations were established along the east bank of the river between Shama and Daboase, as shown on a nineteenth century map of Shama hinterland (Markham 1874:285). The aforementioned map of 1873 was drawn by a Royal Dutch Navy Lieutenant, C. A. Jeekel, and shows Dutch possession on the Ghanaian coast at the time from Elmina to Benyn in Apollonia (Jeekel 1873). The first of these plantations for which little is known about was located near Shama at the mouth of the Pra River on the east bank, probably established in the 1850s. This plantation was referred to as Schoonhoven. The second plantation which is well-documented was established near
Supomo by the Dutch planter, Jan Gramberg in the late 1850s (Henige 1975a:35). Plants that were found in these plantations include groundnut, coffee, flax, hemp, cotton, and tobacco (Markham 1874:285). These plants were likely intercropped. It is unclear why oil palm was not included in this plantation as the potential of oil palm as an alternative export crop had been established on the Ghanaian coast by the mid-nineteenth century.

Gramberg’s plantation may have been located south of Wawase, in the marshland between the Wawase settlement and Konduakrom. According to Jan Gramberg (1861:180), the plantation was located on the bank opposite the confluence of River Hwini that lies southwest of Supomo. On the 1873 map showing Dutch possessions on the Gold Coast, a village, depicted as Badukrom just south of Gramberg’s plantation, was noted. It is unlikely that the said Badukrom is the same as Wawase. It is also surprising that throughout Jan Gramberg’s description of the vicinity, Wawase was not referenced. This seems to suggest that that Supomo and Wawase were not known by separate names as they are today. Late nineteenth century references seem to confirm this supposition. The area to the south of Wawase across the ravine has not been thoroughly survey. In the 2007 field survey report, Sam Spiers (2007a:60, KR 67 (N65°63’46.69” W61°36’33”)) noted that the survey area between Wawase and Bosomdo, a small village to the south of Wawase, was marshy and could not be surveyed. Just to the north of Bosomdo, Sam Spiers (2007a:60, KR 67 (N65°63’46.69” W61°36’33”)) recorded a rock boulder with ground stone ax, nyame akuma, grinding marks. Future surveys should aim at locating and documenting the remains of Gramberg’s plantation in the vicinity of Supomo.
Figure 3.4 A map dated 1873 showing Dutch possessions in Ghana. Supomu and Gramberg’s plantation are shown in the hinterland of Shama - bottom left (source: Gale Nineteenth century Collections online and also published in Markham 1874:283-284).

It is unclear whether Gramberg’s plantation succeeded in the vicinity and how long Gramberg stayed near Supomu. It is clear that before 1867, Gramberg had left the coast by which time the two plantations were reported to have been deserted, as indicated on the 1873 map (Markham 1874:285). The reasons for the abandonment of the plantations are unclear. It is likely that the potential of these crops to the export market was not as viable as emerging cash crops like oil palm and rubber. Incessant flooding of the plantation, which was likely situated in the more floodable bank of the river, may
have inhibited good harvest. These attempts to establish plantations in the hinterland of Shama further illustrate the areas potential in agriculture and provisioning throughout the Atlantic slave trade.

**The Wawase and Supomu settlements from 1500 to 1900**
The previous section examined the nature of European trade and its local dynamics in the context of the Shama hinterland and the wider coast of Ghana. But what do we specifically know about Wawase and Supomu settlements during the Atlantic trade and after the abolition of the slave trade? European documentary reference to the Wawase and Supomu settlements is unknown until the late seventeenth century. There is no reference to Wawase until the second quarter of the twentieth century when Supomu had been abandoned. However, archaeological data indicates that both settlements were in existence during the seventeenth through to the eighteenth century. Although Supomu appears to have been the most prosperous of these settlements, the two settlements seem to have been composite and complementary, but the archaeological data cannot verify this supposition.

Supomu is known from direct and indirect documentary references dating to the second half of the seventeenth century. These sparse documentary sources, in conjunction with archaeological data, help us to reconstruct settlement histories and provide insights into the settlement organization of these two communities. They provide a framework for understanding the formative period of Supomu, its expansion, and abandonment at the close of the nineteenth century. The English voyager, William Towerson, who spent
more than 40 days in/or along the Pra River, mainly trading cloths for gold in his second voyage to Guinea (Blake 1942; Claridge 1964:64-73; da Mota and Hair 1988:15-25), made no mention of names towns and settlements in the river beyond Shama. Neither was there any mention of an island in the river at this time. We are not told how far upriver that the English traders went, but if they had encountered an inhabited island, there is no doubt that they would have mentioned it. As René Baesjou (1988:40-45) notes settlements or toponyms associated with topographical features like islands, rivers, and mountains rarely miss European observers, and these toponyms tend to remain consistent for over a long period of time. If Supomu had been in existence and Europeans had made incursions into the river, it would have been unlikely for them to mention it at the time.

By the second half of the seventeenth century, several small villages were noted to have been located along and in the Pra River. Wawase and Supomu may have been part of such settlement system. It is difficult to reconstruct the nature of the Wawasee settlement from the archaeological data during the sixteenth and early seventeenth centuries. Although Wawase was never explicitly mentioned during the seventeenth century, Bosman when describing Adom country in the second half of the eighteenth century, indicated that the banks of the Pra River were dotted “with fine towns and villages” (Bosman 1705:22). The archaeological data from Wawase suggests that the settlement may have been quite small during the sixteenth and seventeenth centuries. It was after Supomu had been abandoned by the beginning of the twentieth century that the Wawase settlement increased substantially in size and density in the Shama hinterland.
In contrast to Wawase, during the Atlantic slave trade, Supomu is quite known in European documentary sources dating to the eighteenth and nineteenth centuries. This is indicative of Supomu as a crucial political and economic center in the Pra River. The first undoubted references to Supomu dated to the late seventeenth century but may have been referred to as “Japho Ashreevey” or “Adoomes Sherrys” *Crom or Krom* (Kea 1982:65; Law 2006:117, 194). According to Robin Law, “Ashreevey” may have been a corrupted name for Asirifi who was, probably, the ruler or founder of the town on the island (Law 2006:117). This reference also represents the earliest direct evidence of an island settlement in the Pra River in the Shama hinterland. The said island is said to have been a commercial hub in the Pra River and that “Farming, fishing, canoe building, and woodcutting were some activities pursued” on the island (Kea 1982:65). This reference to the economic importance of the island may have been noted later and probably, and these commercial products may have been exploited from other outlying settlements on the banks of the river. Also, as noted earlier, the island was commercially so significant that the Dutch WIC found it convenient to station a factor on the island to run their operations during the eighteenth century (Postma 1990:87-88).

The island may have been settled for strategic economic reasons during the slave trade, although its foundation may have been slightly earlier. It may have been an ideal location for slave trading. It lies on one of the main trade routes that connect the ports of Shama, Komenda, and Elmina to the hinterland areas of Wassa, Aowin, and ultimately Asante. Supomu and its enclave may have afforded a secure environment for trading in
an otherwise volatile slave trading region. The timing of occupation and abandonment of the island and a few documentary references speak to this inference. No pre-Atlantic component has been uncovered at Supomu, and it is evident from documentary and archaeological data that by the beginning of the twentieth century, the island had been abandoned.

During the famous Komenda Wars of the 1690s (e.g., Law 2007; Law 2008), a said captain or chief took refuge on the island, and the invading forces laid siege for several days in the neighboring towns. Thomas Wilson, who was probably a British Captain based in Komenda reported that some local soldiers were attempting to go to

“Adoomes Sherreys croome, where there was a hundred gone before, that kept up along the count(r)eys, ..... so(e) they lay down(e) till eleven a clock att night, ..... but I can here of noe great exploits they have done their, only burnt one or two little adjacent croomes and brought away some corne, .....” (cited in Law 2006:194 n. 113).

He (Thomas Wilson) went on to indicate that “His croome is on an island and that they cannot get at itt without canoes, being very deep, so I suppose they may have belagured it” (op. cit.). This reference provides a clue to the strategic importance of the island during the slave trade.

The island itself is quite small, but the density of the occupation and the high proportion and variety of European trade items compared to that of Wawase are indicative of its economic and political importance. No subsistence activity could have been undertaken on the island per se. In addition to the riverine subsistent resource from
the river, the outlying floodplains would have served the subsistence needs of the island population. In 1816, when a Dutch expedition led by Colonel Starrenburg visited Supomu, it was said to have contained about 30 houses or huts (Hoogendijk 2013:168). It is challenging to extrapolate population density from such meager information; nevertheless, in the nineteenth century, this would have indicated quite a high population density for the island settlement of less than 2 hectares (about 0.02 km square). The area dimension of the settlement may have been about one-third of the total area of the island. Interestingly, in the first census undertaken in Ghana in 1891, Supomu recorded the highest population density of 577 inhabitants on an otherwise small island in the Pra River (Census Report 1891:62).

The broader locality and the nature of settlements distribution on the landscape further provide indications for why the island afforded a strategic foundation of Supomu as a center of commerce during the Atlantic slave trade. The settlement was flanked by outlying satellite communities like Wawase, which later succeeded Supomu in importance into the twentieth century. An archaeological survey of the adjacent west bank of the river suggests that other outlying settlements dated to the Atlantic period. These settlements may have been enmeshed in a network of mutual interdependence for the island community. The outlying landscape of the region consists of low-lying swamps and deciduous forest vegetation suitable for cultivation and canoe construction. It is not surprising that during the Atlantic trade, this region was noted for these economic activities. The island itself was noted for its green vegetation during the nineteenth
century. The Dutch planter, Jan Gramberg, indicated that the settlement was surrounded “with a lush verdancy” and could not be seen from a distance by an approaching visitor (cited in Henige 1975a:35).

**A reorientation towards Wawase in the twentieth century**
From the late nineteenth century onwards, the Ghanaian economy was ushered onto the threshold of modern economy (Reynolds 1974:174). By this period, formal colonialism had been established on the Ghanaian coast by the British. Primary commodities production for exports were promoted. Gold and other minerals’ extractions were mechanized during the twentieth century. These economic patterns outlined above had variable implications for settlement organization and settlement patterns in the hinterland of Shama. Shama and its immediate hinterland were unfortunate as these economic trends shall impact the region negatively. The Shama hinterland, which thrived and prospered under the gold and slave trade and the canoe industry until the close of the nineteenth century, saw its commercial prospects dwindle by the beginning of the twentieth century as new emerging productive and commercially viable centers based on gold, rubber, oil palm, and cocoa production flourished in other parts of the country.

After 200 years or so of its occupation, Supomu was abandoned. The settlement was likely abandoned because the slave trade declined during the late nineteenth century. It was after Supomu was abandoned that we have a direct reference to Wawase and present-day Supomu Dunkwa. Wawase then expanded during the first half of the twentieth century and was abandoned probably in the 1960s after the Cape Coast-
Takoradi Highway was constructed. Liquor bottles dominate the archaeological assemblage dated to the twentieth century. It appears that the Wawase settlement took advantage of its location to exploit the liquor trade regulations and prohibition laws of the early twentieth century to produce and distribute the then illicit akpeteshie, a local variant of gin. The implications of the economic and political situation during the colonial period for the historical dynamics of the Wawase settlement are explored thoroughly in Chapter 6.

**Wawase and Supomu-Dunkwa**

Documentary and cartographic sources, census data, and archaeological data show that the meaning of the Supomu toponym likely changed during the late nineteenth century and early twentieth century. This shift is likely connected to the foundation of the new settlement of modern town of Supomu Dunkwa, the expansion of Wawase on the adjacent bank, and diminished economic viability of Supomu island. While clearly, in the nineteenth century, Supomu referred to the island settlement, the same cannot be said in the beginning of the twentieth century when archaeological data suggest that the island settlement had been abandoned.

The toponyms Wawase and Supomu Dunkwa only appear in the twentieth century. Neither name is indicated on any map or census data along the Pra River in the Shama hinterland until the 1930s and 1940s. Yet, as David Henige (1975a:39 n. 78) points out, Supomu—however conceived—is consistently recorded as having had the highest population density in the Shama hinterland between 1891 and 1921. While
archaeological data suggest that Wawase was contemporaneous with Supomu throughout the nineteenth century, Wawase was not recorded as a separate settlement on maps or in census records until after the 1930s when the modern town of Supomu Dunkwa, located on the main coast road, seems to have been founded. It is unclear whether earlier references to Supomu in the census records was in reference to just the island settlement, the adjacent Wawase site, or both.

The likely interpretation of the changing toponym of Supomu, as David Henige (1975a:39) has suggested, is that in the late nineteenth century Supomu included both the island and Wawase settlements, and later, in beginning of the twentieth century when the island was abandoned, the toponym Supomu was applied to the newly founded Supomu Dunkwa. Once (Supomu) Dunkwa was founded around the 1930s or so, Wawase was adopted to delineate the historic Supomu from its paramount successor town while maintaining ancestral ties to the island settlement. Wawase and Supomu may have constituted a composite and complementary settlement throughout the Atlantic trade, and this may explain why Wawase was never referenced as a separate settlement until the island settlement had been abandoned.

In a report on a survey of the Pra River dated 1881 by Colonel Reginald Hart, an employee of the British colonial government, several towns were listed as follows (also see map below): “Bedamassi - small village; Egwa - small village; Akropon -12 rooms; Boposo - small village; Supomme - medium village, on an island; and Krobo - 25 rooms” (Africa 1887:129). The fact that Supomu was listed as a medium village, but not small, is
indicative of its size in relation to the other settlements along the Pra River (see Figure 3.5). It should be pointed out that population density in the Shama hinterland, particularly along the Pra River, may have been lower compared to other neighboring localities as it is today. It is noteworthy and interesting that Wawase was not shown on the map or mentioned in the report at this time; yet as archaeological data indicates, there was a contemporaneous settlement at Wawase during the nineteenth century.

Until 1948, the modern town of Supomu Dunkwa, the successor settlement of Supomu and Wawase, was not mentioned in the various censuses as a separate settlement from Beoso, the town noted in the 1881 report, which is today located on the adjacent bank of Supomu Dunkwa. Yet, the toponym Supomu continued to record the highest population density among the settlements along the Pra River between Shama and Daboase. In 1891, Supomu recorded 577 inhabitants (Census Report 1891:61-62), and in 1901, it recorded 283 inhabitants (Census Report 1901:31-32). It may not be coincidental that in 1911 Supomu was listed as a territory, including Wawase, Asipong, Yaremkenyie (Henige 1975a:45 n. 79). If this is the case, then the reference to Supomu in the first quarter of the twentieth century was likely to have been Wawase, not the island. Although David Henige (1975a:39-40) claims that he could not identify Asipong and Yaremkenyie, it is likely that the abandoned sites of Konduakrom, south of Wawase, and the adjacent left bank site noted during archaeological survey were part of the Supomu territory during early twentieth century. Archaeological data suggest that that Supomu, the island settlement, was likely abandoned by the close of the nineteenth century.
Figure 3.5 An 1881 map showing settlements along the Pra River (courtesy Gale nineteenth century primary sources collections Online: https://ink.gale.com/apps/doc/CMTSRA182941045/NCCO?u=nysl_ce_syr&sid=NCCO&xid=962755bb).

This interpretation suggests that Supomu may have been used to refer to both the island settlement and its Wawase appendage in the preceding late nineteenth century, and that may explain why no separate toponym was recorded for the adjacent settlement. The
enduring toponym, Supomu that is prefixed to the modern town of Supomu Dunkwa, is a testament to the ancestral connection to the historic island. John Sutton (1998:117) has noted similar toponymic transformation on the East African Coast, where he suggests that the Swahili settlement of Kilwa Kivinje that emerged on the mainland maintained its ancestral connection to the prosperous historic settlement of Kilwa. Similar toponymic shifts likely played out in the transition from Supomu to Wawase to Supomu Dunkwa.
CHAPTER FOUR. ARCHAEOLOGICAL RESEARCH

The deserted settlement sites of Wawase and Supomu are located three kilometers south of modern settlements of Supomu Dunkwa and eight kilometers northeast of Shama on the Pra River. Supomu is an island in the Pra River that covers a 60,000-square-meter area. Two small islets flank it to the north. It is possible that these islets were part of Supomu island but have been separated from the main island because of erosion. The Wawase site is located just to the northeast of Supomu on the left bank of the river. It extends from the edge of the river across a narrow floodplain, 50 meters towards a small crescent-shaped ridge to the northeast (see Figure 4.1). The archaeological potential of Wawase and Supomu was indicated by Oliver Davies (1976) and, more recently, by Sam Spiers as part of the Central Region Project survey (DeCorse 2009; Spiers 2007a). Oliver Davies’ “Southern Ghana Survey” notes compiled during fieldwork in the 1950s and 1960s, indicated that a section of the island had been buried with shells and ceramics by a silt layer, while at Wawase, he noted modern glass, local ceramics, and gin bottles (Davies 1976:226). Wawase was at the final state of abandonment when Davies did his survey. He provided no details on the Wawase settlement, but he described it as a village during his visit. The cocoa farm, which is on a part of the site today, is estimated to be around 50 years, providing 1960s *terminus ante quem* date for the Wawase settlement.26

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26 According to Francis Saigho (*interviewed, November 13, 2016*), one of the elders of the Chief’s Palace, the abandonment of Wawase cannot be later than 1968.
Both Wawase and Supomu were re-identified and surveyed during the Central Region Project survey in 2007.\textsuperscript{27} Traditional archaeological survey projects like the one undertaken in the Central Region Project is a first step in documenting the spatial distribution of sites on the landscape (McIntosh 2005; McIntosh and McIntosh 1984). Sites distributions across a region represent the first step for understanding the settlement landscape and pattern, which informs the sociopolitical and cultural development in the given area. This initial step is limited in providing a holistic assessment of a given archaeological site (Bower 1986; Kintigh and Ammerman 1982; Redman 1973). There is always the need to follow-up with detailed assessments. The Central Region Project aimed to gather data on site locations and place them within their wider archaeo-chronological context (e.g., the settlement patterns represented; the cultural materials present; density of archaeological deposits; and estimated occupation periods). The preliminary assessments provided by the survey data informed future decisions regarding further investigation and interpretation of particular sites. Sam Spiers, who led the Central Region Project survey in 2007, noted a few ceramics at Wawase (Spiers 2007a). Spiers indicated that surface visibility was poor due to fallen cocoa leaves that covered cultural materials. He stated that the cultural materials, including mounds, were located in a cocoa farm on the edge of the floodplain. At Supomu, Spiers lamented on the extent of archaeological destruction by small-scale mining operations on the island. Because of poor surface visibility, the potential of the Wawase site was underestimated by these

\textsuperscript{27} The 2006-2010 Central Region Project survey work was supported by NSF grant under the auspices of Christopher DeCorse.
preliminary field surveys. This limitation or challenge underscores the need to complement pedestrian surveys with sub-surface testing noted by archaeologists (e.g., Bower 1986; Connah 2008; Lightfoot 1989; Redman 1973). In addition to mapping archaeological features and collecting surface materials, shovel testing and test excavations were employed to collect subsurface archaeological data.

The incorporation of shovel testing into the research methods at Supomu and Wawase is unique in the context of the archaeological survey in southern Ghana. Archaeological methods for documenting settlements histories and delineating site boundaries have been limited to surface surveys and collections with isolated test excavations. While these methods have contributed to our understanding of the culture history of the forest region, they are limiting in terms of providing detailed intra-site variability, which forms the basis for a better understanding of the settlements' histories. Several scholars have underscored the utility and practicality of shovel testing in archaeological data recovery, particularly under limited surface visibility conditions (Connah 2008:235-236; Lightfoot 1989; Shott 1989). However, shovel testing has been rarely used in Ghana for archaeological data recovery from settlement sites. The use of shovel testing to delineate site boundaries and document intra-site variability at Wawase, in particular, represents a significant contribution to research methods in southern Ghana.
Figure 4.1 Map of Shama hinterland showing Wawase and Supomu sites and modern villages and towns.

The current study was undertaken between October 2015 and December 2017. The sites were visited multiple times in-between farming seasons. These repeated, seasonal visits to conduct fieldwork were particularly ideal for the work at Wawase to offset the challenge of limited surface visibility due to seasonal cropping. Portions of the
hill and slope to the north were covered in thick vegetation when the first excavation units began in 2016. By the beginning of the farming season in January 2017, these portions had been cleared, affording much better surface visibility. Additionally, seasonal visitation helped to control the potential of crop destruction, since walking in the field may trample crops. For instance, in 2016, a part of the floodplain to the southwest had a potato farm, for which reason the farmer did not allow excavations to be conducted at this locus due to potential damage to his crops.

The rationale for selecting Supomu and Wawase for this research derives from several interrelated factors. Wawase was selected to offer comparative data for Supomu. Supomu is partially known in European written sources, and surface indications from the site suggest intensive trade during the eighteenth and nineteenth centuries. The archaeological survey identified the Wawase site and another site on the west bank of the Pra River to the southwest of the island. Both sites consist of low-rises surrounded by swamps and ravines. The site to the southwest of Supomu was surveyed by the author and Sean Reid, a colleague from Syracuse University in 2017. The site sits in a small grove on a tapered hill with a surface scatter of local ceramics and a cache of glass fragments. The stash of bottles at the site may suggest an area of spiritual significance. This preliminary interpretation of this locus is based on ethnographic observations and documented archaeological cases (e.g., see Apoh and Gavua 2010). However, the local people claim that no shrine is located in this grove. The density of surface scatter was localized in the grove on top of the hill and potentially suggests limited habitation. The
ceramics are reminiscent of the seventeenth through to twentieth centuries, dates that are contemporaneous with the Supomu settlement. It is also possible, based on the preponderance of glass bottles, the cache is a manifestation of smuggling activities in the area during the twentieth century, as discussed in the final chapter.

In contrast to the site on the west bank, Wawase is well represented in the oral histories of the people of Supomu Dunkwa, who claim that their ancestors migrated from Wawase to Supomu Dunkwa due to flooding in the 1960s. In the early twentieth century, Wawase was recorded in census accounts (Henige 1975a:89 n. 82). It was, therefore, significant to situate the region’s archaeology within the oral and documentary references. As it turned out, the site has been continuously occupied from the first millennium BC until the twentieth century. The surface scatter of cultural materials at Wawase was quite extensive, extending from the river’s edge in the south to the top of the low-rise to the north (see Figure 4.2). The surface material assemblage across the Wawase site indicates two overlapping loci. The pre-Atlantic to early Atlantic period assemblage was restricted to the immediate floodplains and the northern edge of the ridge. This locus is designated Locus 1. This locus may have been coterminous and contemporary to the site located in a grove, Apontuado (discussed below), just to the north of the Wawase site. The southern portion of the site on the floodplain produced late nineteenth and early twentieth centuries assemblages. This locus is designated Locus 2. At Wawase, mounds were the most conspicuous feature of the abandoned settlement’s landscape. Surface scatters of artifacts were limited to a few isolated spots within cleared
loci on the crest of the ridge and the southern slope. The Wawase surface manifestations indicates a site that will provide good comparative data to that of Supomu.

Notably, the accessibility of the sites is significant for understanding their histories. At Wawase, except for a footpath that runs along the Pra River towards the north, the site is surrounded by swamps and ravines to the south and east, respectively. A canoe is the only means to access Supomu and offer a convenient and expedient means of access for Wawase. The Pra River is a natural highway to accessing this locality and critical to the economic and sociopolitical history of the broader region. The significance of these geographical dimensions of the area at particular historical moments in the histories of Wawase and Supomu is underscored throughout the discussion.

Mapping, systematic surface collection, shovel testing, and test excavations constitute the sets of techniques used to gather archaeological data for this research. Preliminary assessment of the sites was undertaken to evaluate the nature of surface indications and note archaeological features on the landscape before proceeding to find the ideal ways for recording and mapping the sites. Diagnostic surface materials were flagged for subsequent collection within the appropriate grid when necessary. A 10-meter grid was established to serve as the basis of all recordings at both sites by using a compass and levelling instrument. This technique was ideal as there were no structures to which to align data recording. Each grid was assigned either an alphabetical or alphanumeric grid using the left corner or southwestern point of the grid. A base map of the sites was generated on which to plot units and features. The intersections of the grid
were the spots where shovel test excavations were placed where appropriate. Test unit locations were selected on the basis of surface indications and results of shovel testing. Since each of these sites was unique in its way, the techniques were varied slightly to accommodate this trend. For instance, the Wawase site's extent was relatively more substantial than that of Supomu and needed to be divided into two separate loci. Similarly, due to the fairly level topography on the island, there was no need for contouring at this site. The following section discusses the Wawase and Supomu sites and the field methods employed.

**Wawase: The site and field methods**

Wawase is a large site compared to Supomu. It covers an area of 66,000 square meters (6.6 hectares) running in a diagonal direction from the southwest to the northeast. The site extends from the immediate floodplain on the east bank of the Pra River to the crest of the low-rise to the northeast. The hill forms part of an arc-shaped relief that extends from the edge of the floodplains toward the northeast. This relief feature bends to connect the left bank of the river to the north of Wawase. The northern end of the arc-shaped relief is where a small sacred grove, known locally as *Apontuado*, stands (see Figure 4.3). A swampy or floodable area of approximately 150 meters separates Wawase and the grove. Sugar cane is cultivated in this swamp.

In this sacred grove, a few isolated, fragmentary pieces of very eroded local ceramics were noted, mainly from tree falls. The grove was not thoroughly surveyed during the field visits because of practical reasons. Special permission would have been
required to conduct archaeological excavations in the grove, and the thick vegetation cover would have made transecting of the site impractical. It is notable that at the time of writing this dissertation, the grove has been cleared for rubber plantation, and this clearing has exposed cultural materials across the entire hilltop\textsuperscript{28}. The exposed materials, including mainly eroded ceramics, are reminiscent of the pre-Atlantic period. Further work at the site will provide good comparative data for assessing the integrity of the pre-contact occupation and historical development of the area.

The work discussed here focused on the Wawase site, which has both pre-contact and Atlantic period occupation phases. For practical reasons, the Wawase site was divided into two loci, Locus 1 and 2. The ridge and adjoining slopes make up Locus 1, and the plain to the southwest is designated Locus 2 (see Figure 4.2). At both loci, a ten-meter grid formed the basis for recording shovel test units, mapping, and surface collection. Even though these designations were arbitrary, they seem consistent with the site’s spatio-cultural and spatio-chronological characteristics. Locus 1 has mainly pre-contact and early Atlantic period characteristics, while Locus 2 has late nineteenth and twentieth centuries characteristics.

Mounds are the most conspicuous archaeological features on the Wawase landscape. They are of various sizes and heights. The average height of the mounds is 50 centimeters above the natural ground, and their dimensions range between 2 x 3 meters

\textsuperscript{28} I visited Apontuado in 2020. The site has been cleared for farming. Surface indications suggest that there was no contact-period occupation at the site. The site was likely occupied during the first and second millennia, and was abandoned prior to the opening of the Atlantic world.
and 5 x 10 meters. The larger mounds are found in Locus 2, particularly to the southwest corner. No mounds were found on the north-facing slope and the eastern edge of Locus 1. Because it was assumed that the mounds were collapsed mud walls, no excavation units were placed in any of the mounds. Emphasis was rather placed on documenting lateral and vertical artifact distributions, in line with the research questions. A few shovel test units extended into some mounds, and these produced no archaeological materials up to a depth of 100 centimeters below the surface. This observation is not surprising as the site may not have been abandoned abruptly, but gradually and thus, perhaps little was left in situ within the structures.

The nature of the mounds’ distribution and sizes with their associated materials has the potentials to illuminate the chronology and nature of occupation at Wawase (Agorssah 1985; Carr 2001; McIntosh 1974, 1976). The sizes of the mounds appear to reduce from the northeast towards the southwest (Figure 4.2). This observation is consistent with the shifts in Wawase’s history from the first millennium BC to AD 1960s. The disparate rate of erosion cannot be discounted for the reduced sizes of the mounds located along the slope. Additionally, as the mounds in the cocoa farm are protected from erosion by the cocoa shrubs, their sizes may have remained relatively intact. Radiocarbon date for the horizon just below the Atlantic horizon in Unit 2 (at Locus 1) situates the chronology of this locus in the transitional phase of the pre-Atlantic and the Atlantic period. In Locus 2, where the mounds are very prominent, archaeological materials suggest, mainly, a twentieth-century occupation.
Figure 4.2 Site map of Wawase. Dotted lines represent the boundary between Locus 1 and Locus 2.

There are a few additional observations that need to be noted about the Wawase site. There was a fall-off of cultural materials from the west towards the east of the sites. This observation is consistent with the fact that the area closer to the floodplain is the most continuously occupied. Subsurface cultural materials obtained from the shovel test units across the site attest to this observation. However, further detailed work needs to be
undertaken across the ridge to corroborate this observation. This research focused on the western edge of the ridge. Although the majority of the pre-Atlantic and Atlantic period deposits were found in Locus 1, the western edge of Locus 2 also produced some pre-Atlantic deposits. This observation indicates that the spatial designation of each locus does not directly correlate to chronology; there is a chronological overlap between Locus 1 and 2 (see Figure 6.1).

**Test excavations at Wawase**

Shovel test excavations and 1 x 1-meter test units were used to obtain sub-surface cultural deposits. The shovel test units were small circular excavation units that measured 25 centimeters in diameter and were excavated to an average depth of 90 centimeters. A total of 84 shovel test units were excavated at Wawase, and three test excavation units were undertaken, two from Locus 1 and the other from Locus 2. These shovel test units were aimed at providing a general assessment of materials represented across the site and their chronological implications.

The sub-surface shovel testing began in Locus 1, from the east towards the west. This decision was taken because surface indications at the eastern end of the sites were limited. It was anticipated that this area was a “peripheral” zone of the site’s catchment area. In this so-called peripheral area, the shovel test excavations have an average interval of 30 meters. This interval was selected for practical reasons. For instance, the mounds provide evidence of sub-surface cultural deposits at the western edge of the site. When it became clear that the core of the sub-surface deposits was located closer to the western
edge of the ridge, the shovel test interval was narrowed to between 10 and 20 centimeters.

Figure 4.3 A view of Apontuado Grove (to the north) from Wawase (Photo by Samuel Amartey).

As shovel test excavations were extended towards the western edge of Locus 1, it became increasingly noticeable that the quantity of sub-surface culture materials increases towards the west of the Locus. The majority of the shovel test units were placed at the western end of this locus. A similar decision obtains in Locus 2, where, again, the number of materials remains reduce from the east towards the west.
At Locus 2, the spacing of the shovel test units followed a similar trend, as noted in Locus 1. A spacing of between 10- and 20-centimeter was allowed between units depending on whether the grid intersection sits on a mound or not. The concentration of the shovel test units was at the western edge of the locus, especially toward the northwestern corner of the locus. This trend is contiguous to that of Locus 1. The area closer to the east of the locus contained a limited quantity of sub-surface cultural materials except for the few centimeters of the topsoil.

The pattern of materials distribution across the site informed the decision for selecting the excavation test units’ locations. The three test units were sampled to test the crest of the low-rise, slope, and floodplain. These units were designated in the order of 1, 2, and 3. Units 1 and 2 were located in Locus 1, while Unit 3 was located in Locus 2 (see Figure 4.2). Unit 1 was placed right on the eastern edge of the hilltop. Unit 2 was placed on the northeastern slope, while unit 3 was situated closer to the edge of the floodplain in the southeast (that is Locus 2).

Both Units 1 and 2 were located in an area where there was a continuous occupation of the site from the pre-Atlantic through to the close of the nineteenth century. Unit 3, on the other hand, was placed in an area where there was a twentieth-century occupation that sits directly on a pre-Atlantic cultural horizon. Notably, in Unit 3, there was a break in the cultural deposits between the pre-Atlantic component and the underlying twentieth-century ones. The pre-Atlantic materials were recovered from the sub-soil that has fewer organic materials (see Figure 4.4).
Figure 4.4 Wawase Unit 3. Note the dark yellowish-brown layer where the pre-Atlantic materials were recovered.

Around the area of Unit 1 and 2, for example (Locus 1), a flat base local smoking pipe of Ozanne’s Type 1 (Figure 4.5) dated to between 1640 to 1650 was collected from
the surface (Ozanne 1960; 1962:58). In Unit 1, a shallow deposition of up to 40 centimeters was excavated. This deposit sits on a very compact lateritic earth. This lateritic deposit appears to be inconsistent with the surrounding layers of soil. Even though there was a need for further investigation of this phenomenon, this was suspended as the focus of the current research is to get a general understanding of the site. In the northwest corner of the unit, a little depression was noted. This depression measured 20 centimeters in diameter and was 20 centimeters deeper than the base-level of the excavation unit. This depression was excavated separately as a natural level. Two fragments of local ceramics were recovered from this feature. It is possible that this lateritic earth may have been part of a collapsed mud-wall, and the dip may have been the outer gully for the prevention of erosion as described by McIntosh (1974:159; 1977) and Agorsah (1985:105) in Begho and Wiae, respectively. This hypothesis needs further investigation. It is significant, however, to note that none of the mounds present at Wawase were noted to have been made of such lateritic earth. There is no layer of compact laterite noted in the surrounding shovel test units at the site.

Paul Ozanne (1960; 1962b) developed a local smoking pipe typology based on the base morphology and the angle between the bowl and the stem. Even though this typology was developed for the Accra Plains, its utility as a chronological marker for dating sites in southern Ghana has been tremendous. Ozanne distinguished three groups of pipes, which he designated Group/Type 1, 2, and 3. Type 1 is characterized by round bases with obtuse angle between the bowl and the stem. Type 2 is characterized by flat bases with a hook between the stem and the bowl and has acute angles between the bowl and the stem. The last group comprise either squared or quatrefoil pedestal bases (Ozanne 1962b:54). According to Ozanne, these pipes occur in succession with the first group dated to between 1640 and 1650. The second group is dated to between 1650 and 1660, and the last group is dated to between 1660 and 1675.
Units 2 and 3 produced the longest occupation sequence at the site. Both units were well stratified, and there was minimal evidence of disturbance in the soil profiles. The topsoil comprises 20-30-centimeters of very dark brown loamy soil. A layer of yellowish to reddish-brown sandy clay and silty soil sits beneath the topsoil. This subsoil is very thick and extends for about a meter below the topsoil. While these soil layers generally characterize the site, in some shovel test units, particularly to the southeastern corner of the site, sandy silt soil interspersed these broad layers. Each of these was excavated to 160 and 120 centimeters deep, respectively. Even though Unit 2 has a relatively deeper occupation sequence than Unit 3, it should be noted that Unit 2 was on a higher elevation. Notably, the pre-Atlantic ceramics noted in Unit 3 are quite distinct in paste and condition from those noted in Unit 2. This is discussed in the next chapter. Because there are no features in the soil profile and the intervals between the layers are wider, excavation was conducted using an arbitrary level of 5 centimeters until a significant change is noted in the unit. As noted previously, in Unit 3, a twentieth-century assemblage sits on a pre-Atlantic deposit, and there was no interceding transitional
assemblage between the two cultural layers. This claim is made on the basis of the materials represented across Locus 2 where Unit 3 is situated. In Unit 2 at Locus 1, however, the locus appears to have been occupied continuously from pre-Atlantic times through to the eighteenth and nineteenth centuries. In Locus 1, twentieth-century cultural materials such as plastic beads and light green glass fragments were not present. This observation informed the decision to obtain sequential radiocarbon dates from Unit 2 as the locus seems to have been the area that has been occupied for a very long time. The four radiocarbon dates obtained so far from Unit 2 fall in stratigraphic succession, beginning from the first millennium BC to the fifteenth century (see Table 6.1 and Appendix C). The samples were collected from arbitrary successive layers from the pre-Atlantic stratigraphic horizon. These successive dates likely represent the historical development of the site. Admittedly, there is a need for dates from the plain to support the pre-Atlantic historical development of Wawase. Further dates from the plain will potentially help us to understand the historical relationship between the apparent variability in the pre-Atlantic ceramic traditions (see Chouin 2009:673-674; Spiers 2007b:142-143).

**Supomu: The site and field methods**
Supomu is an island in the Pra River. The island measures approximately 60,000-meter square. The island narrows towards the south. The widest end is found in the north where the historic settlement is centered. The historic settlement likely covered about one-third of the island, which is approximately 20,000 square meters (2 hectares). However,
because of the archaeological disturbance (discussed below), it is difficult to establish the size of the settlement precisely.

The southern half of the island constitutes thorny mangrove vegetation, which makes it inaccessible. The northern half that has a high density of archaeological surface materials, is covered by a series of bamboo thickets with little undergrowth. Limited research has been conducted on bamboos in West Africa. While most bamboo species are indigenous to Southeast Asia, South America, and Madagascar, one species of woody bamboo (*Oxytenanthera abyssinica*) is known to grow naturally in West Africa (Bystiakova et al. 2004:10). The knowledge of the biodiversity and ecology of this island is minimal. It is not known when these bamboos were introduced to the island. No documentary reference indicates that bamboo was grown on the island. These bamboos likely started growing on the island after it has been abandoned. Notably, the area bordering the stretch of the Pra River in the region has isolated groves of woody bamboo, and it is possible that some were present during the island’s occupation.

There are two islets located just to the northeast and northwest of Supomu (Figure 4.8). Both islets were covered with thick thorny mangrove vegetation, rendering them inaccessible. Additionally, both islets submerge at high tide. These islets were not surveyed for abandoned settlements. The local assistants indicated that these islets are made up of pebbles that were sometimes collected by town folks around the vicinity for building. These pebbles form part of the underlying geological formation in the riverbed, and this was noted in the soil profile of the island in some excavation units. The width of
the river separating the islet on the northeast bank is small (Figure 4.6). The depth of the river between the main island and this islet is shallow such that at very low tide, the base of a canoe touches the riverbed. While it is possible that these islets may have been part of the main island at some point in the past, there is no knowledge of when these islets were formed.

**Galamsey and Supomu’s archaeological record**

Supomu’s archaeological record has been heavily disturbed by small-scale mining operations, locally known as “galamsey” (see Figure 4.7). The etymology of the term galamsey is a corruption of the phrase “gather them and sell” (Spiers 2007b:99). These mining operations have also been characterized as ‘traditional’ or ‘artisanal’ due to their rudimentary nature and crude techniques (Aryee et al. 2003:131-132). Shallow pit and alluvial mining characterize the galamsey operations at Supomu. These two modes of mining are very common around rivers and streams that run through the gold-bearing region in the forest areas of southern Ghana and date back to pre-colonial times (Botchway 1995:304-305; Dumett 2013:134-136). Alluvial mining, also known as placer mining, involves panning river beds for gold while shallow pit mining or surface mining involves digging and sluicing soil from pits generally not exceeding three meters deep for gold (Dumett 2013:134-136).
The negative impacts on the environment and archaeological record and the associated political economic dimensions of these rudimentary mining methods have been noted by several scholars (Apoh et al. 2017:377; Appiah 1998; Botchway 1995; Hilson 2002a, 2002b, 2003; Kankpeyeng and DeCorse 2004; Kumah and Nyarko 2018; Schueler et al. 2011; Spiers 2007b). According to Gavin Hilson, after 1989, when the Minerals Commission started issuing out concessions to mining, small-scale mining operations in Ghana became increasingly common (Hilson 2002a:61-64). This observation has been borne out by Central Region Project survey work (DeCorse personal communication).
The galamsey method that has decimated the historic settlement on Supomu island is best described as the sluice box and hopper. Henry Appiah (1998:309) outlines the technique involved in the sluice box and hopper operations:

“A group comprises 4 to 6 people. Initially they dig the land scoop out the soil and dump it on the side. The soil is handled three or four times. First, after the soil has been dug and dumped to one side of the pit, some is put back into the same pit, and water is added. This is to muddle the clayey soil. The SSM (Aryee et al.) stand in the pit and stamp on the soils in order to make it into a slurry. The slurry is then put into the hopper on the sluice box and buckets of water poured on it for it to run over the board. The hopper is built with holes (about 6 mm) on the under part so that any oversize material is trapped and later discarded. The oversize material is carefully examined for gold nuggets. On the sluice box is a blanket or a cut jute sack, which traps all the heavy minerals from the slurry that runs over it. A careful observation has shown that SSM do not use too much water for fear of losing some of the fine gold. Gold from sluices is concentrated by using a smaller ‘krowa’ or the gold pan. The concentrate obtained is amalgamated with mercury. After this the amalgam is burnt in the charcoal fire. The ball of gold that remains is unrefined and this is what is sold.”

This description is reiterated by Yaw Daniel, one of the locals who participated in the archaeological excavations at Supomu. He indicated that at Supomu, using simple tools like shovels and pickaxes to dig up the earth, the dug-up earth was washed in the river or washed with water collected in existing pits to collect gold dust or nuggets using screens and specialized blankets. In amalgamating the tiny particles of gold, mercury is dropped into a crucible containing the gold particles. Yaw Daniel further noted that, in
some cases, the riverbed was dredged for gold dust. This operation involves the use of specialized dredging equipment, mainly supplied by the Chinese, who take part in these mining activities.

Channels and holes of various dimensions have been left on the site. None of the holes at Supomu measured more than two meters. The area dimensions of the holes are difficult to estimate as they are irregularly dug and partially filled by back fill from adjacent holes. Water has collected in some of the big holes, mainly in the northern tip of the island. Loose, disturbed earth that has been washed for gold can be observed across the site. Sam Spiers (2007b:106) notes that the artifacts contained in the soil remains provide a sense of settlement’s age and artifact typologies, despite the loss of vital contextual information. The balks that remain between holes are vital archaeological excavation targets for intact contextual information. Trench 1 is one of such targets where the soil profile shows natural layers without any disturbance in the profile.

There were, however, scatters of local ceramics and European trade materials on the surface. The majority of these scatters may not have been in their primary context, as they may have been part of secondary depositions from mining operations. However, some were in situ, particularly those noted in the pit walls. While small-scale mining operations have had dramatic impacts on many archaeological sites in southern Ghana, as yet no detailed archaeological study of the galamsey operations has been undertaken (see Kankpeyeng and DeCorse 2004; Kumah and Nyarko 2018; Spiers 2007b). Seemingly, the miners target archaeological sites. Sam Spiers noted that these miners might have
been targeting human remains since it was the area of the settlement site that was heavily looted. A similar phenomenon is reported from Egunfo and possibly other areas in southern Ghana (Kankpeyeng and DeCorse 2004:117; Spiers 2007b:94).

Figure 4.7 Supomu island showing some galamsey pits of the site. Note the limited areas of undisturbed deposits (photograph by Samuel Amartey).

At Supomu, this archaeological disturbance appears to have concentrated in the northern portion of the site. The entire northern edge of the island is almost completely submerged, not because of the river erosion, but from these galamsey operations. These

30 In Ghana, the dead are sometimes buried with precious items. Gold objects have been recovered from a burial context at Egunfo (Spiers 2007b:94) and Elmina (DeCorse 2001a:66).
pits were very irregular and posed limitations during the mapping and selection of excavation loci. It is possible that the northern width of the island may have been wider than its current dimension. *Galamsey* pits have reduced the edges into deep gullies, making it difficult to access the site from its northern side. Unfortunately, this area appears to have been the core of the settlement during its prosperous days.

The edges of the settlement perimeter of the island appear to have been filled with sand, presumably to prevent flooding. This earthwork provides cliff-like access to the island, and this phenomenon is particularly visible from the eastern edge of the island. Two shovel test units placed at the respective edges of the island where the core of the settlement is located produced no cultural materials. The soil was sandy silt and was uniform throughout the unit up to a depth of 90 centimeters. This phenomenon was noted at the northern edges of the island where the historic settlement was located. This apparent embankment did not appear at the southern half of the island. The supposed embankment may have been lined with trees, as noted in a nineteenth-century account. According to one European visitor to the island in the nineteenth century, the town is not visible from an approaching distance until one gets onto the island since the edges were lined with trees (Henige 1975a:35).

**Test excavations at Supomu**

At Supomu, a relatively high proportion of materials were collected from the surface. The high quantity of materials collected from the surface is because *galamsey* pits have unearthed numerous materials. The *galamsey* pits were mapped since they constitute the
most significant archaeological feature on the landscape (Figure 4.7). The few isolated balsks that are found in-between pits have bamboos growing on them. It is unclear whether the bamboo thicket inhibited the excavation of these balsks by the galamsey operators. It was anticipated that these balsks might contain intact archaeological deposits. A trench was put through one of these balsks. As noted, the concentration of the *galamsey* pits is coterminous with the area of the settlement. It was for this reason that it is suspected that these small-scale miners were targeting the settlement.

The surface indications at Supomu attest to the site’s connection to the Atlantic trade. European trade items like ceramics and early glass bottles were prevalent on the surface and in the walls of the *galamsey* pits. Based on the surface survey, it was observed that the density of surface materials was to the northern end of the island, and there was a fall-off of materials towards the south of the island. There were no surface indications for a twentieth-century activity. Unfortunately, the northern end of the island was the area that had been heavily looted. Because it was evident that the core of the settlement covered the northern end of the island, shovel test units were initiated further away from the disturbed locus, which is found to the south. The few test units excavated away from the mainly disturbed locus to the north produced no cultural materials except for isolated specks or smudges of charcoal.

Eleven shovel test excavations were conducted at Supomu. Five were located to the southern, undisturbed portion of the site while the rest were located around the north side of the island. Five of these shovel test units did not produce cultural materials. These
were located to the southern end of the island, toward the edge of the thorny vegetation. There was no underlying pre-Atlantic cultural deposit found in these test units. Also, on the respective east and west edges of the island, the shovel test units did not produce any cultural materials. The edges consist of homogenous sandy silt soil. These shovel test units provided indications on the extent of the settlement and the nature of archaeological deposits across the site. The settlement did not extend towards the south side and was not close to the edge of the river. A few auger probes were placed at the western edge to further test for occupational deposits. These probes produced no cultural materials. These probes were conducted in five-meter intervals to assess the nature of deposition on this side of the island (Figure 4.8). Auguring proved to be challenging and not feasible due to the density of bamboo roots at the site.

Four test units were excavated at Supomu. One was a trench measuring 1x3 meters, and the other three units measured 1x1 meters. The 1x1 meter test units were respectively designated in the order of Unit 1, 2, and 3. Units 1 and 2 were placed at the southern end of the site, where there was a minimal surface indication of a disturbance. Also, at this location, the density of surface cultural materials was limited. This area represents the southern end of the disturbed portion of the site. In both units, no cultural materials were recovered in the first 40- or 50-centimeter depth. It is not clear whether this depth represents a separate occupation horizon or original surface of the site. This uncertainty is a challenge for these two loci due to the looting of the site.
Figure 4.8 Site map of Supomu (Drawing by Samuel Amartey).
Even though discrete soil horizons are discernible in profile, it is possible that the top layer without cultural materials may have been derived from the washing of galamsey soil, which may have filled the original surface, because in Unit 1, for example, a piece of plastic was noted at the upper-level of the layer with cultural materials. Also, between 70 and 80 centimeters of this unit (Unit 1), a fragment of European made pipe stem with a bore diameter of 5/64 inches, which suggests, at least, an eighteenth-century date and consistent with the mean occupation date of the site. The local ceramics recovered from these units were eroded and may be included in the sixteenth and seventeenth century ceramic assemblage based on the condition of the sherds and paste.

The third unit was placed in a relatively looted locus in the approximate center of the site. This unit turned out to be mixed earth from the galamsey operations. It was excavated to the water table at a depth of 120 meters, but no materials were recovered beyond 100 centimeters deep. The reason for testing this locus was to identify intact subsurface deposits. It, however, turned out to be a series of screened excavated soil from galamsey operations consisting of interspersed gravelly sandy soil and fine silt.

The trench designated Trench 1 was placed in an undisturbed balk. A small bamboo thicket stands on the balk to the north. The unit was situated at the southeastern edge of the balk and aligned to the balk in a southwest and northeast orientation. The balk measures approximately 3 x 5 meters and was aligned in a southwest-northeast direction (Figure 4.9). The balk stood up to approximately seventy centimeters high from the base of the surrounding galamsey pit. The initial trench dimension measured 2 x 1 meter and
was extended to the northeast by a meter square into the *galamsey* pit. This extension was undertaken to test for further deposition beneath the base of the looted level. No cultural materials were recovered from this extension. Each 1 x 1-meter unit was excavated as a separate unit.

The excavations exposed what appeared to be a stratigraphic profile undisturbed by galamsey digging and it may be representative of the nature and chronology of the Supomu site. Materials recovered from the trench include bones, knives, a grinder, cobbles (with smoothed edges), and glass bottles. One such cobble was noted in the north wall. Additionally, few European imports such as ceramics and smoking pipes were also recovered. Two pieces of copper alloy gun parts were also recovered (discussed in Chapter 5). Three distinct layers were present in the soil profile. However, these layers do not correspond to a fine resolution of cultural chronology based on the nature of materials recovered. Except for some few angular and highly burnished so-called Akanware-type ceramics dated to the nineteenth century, the majority of the ceramics from the units were typical of early contact to transitional Akanware dated to the seventeenth and eighteenth centuries, and there was no pre-European contact deposit across the site. This claim is borne out of the presence of European imports throughout the layers. Also notable is that the density of European imports reduces from the north towards the south.
Figure 4.9 A photo of the trench at Supomu (photograph by Samuel Amartey).

The soil was mainly silty, and this suggests intermittent flooding, particularly in the southern end of the settlement (Davies 1976:299). Notably, the water table is high towards the south. The southern end of the island may have been susceptible to flooding
during heavy rains, as was once the case during the fieldwork. The water table was noted to be higher in the units situated to the south of the settlement. The modern people of Supomu Dunkwa claim that flooding was the cause of the abandonment of Supomu, even though the archaeological data cannot substantiate this claim. The northern end of the island where the settlement stood is slightly higher than the southern side and may have been less prone to flooding. David Henige, however, indicates that the depletion of wood may have been the main factor for the abandonment of the Supomu settlement during the third quarter of the nineteenth century (Henige 1975a:34). Today the island is covered by secondary vegetation and farm bush, including introduced species such as bamboo and a few older trees.

**A commentary on the archaeological field methods**

Mapping, surface collections, shovel testing, and test excavations are the sets of techniques that were used at Supomu and Wawase. The surface collection and archaeological excavations provided the framework for the evaluation of the sites and their chronologies. These methods and the derived data afford a lens through which to understand the settlement histories of these sites. The techniques were varied across the sites to accommodate field practicalities. Surface collection at Supomu was more intensive than Wawase due to the nature of surface archaeological indications, such as the fact that there was a high density of materials that have been exposed by the *galamsey* operations. Shovel test excavations at Supomu were of limited utility due to the nature of the disturbance. The limited shovel testing undertaken at Supomu is because of the heavily looted nature of the site. These limitations, however, do not significantly affect
the chronological interpretation of the site, which is dated to between the seventeenth and the close of the nineteenth century. The trench at Supomu, which is the most intact deposit uncovered at the site, illustrates this archaeological interpretation.

In contrast, at Wawase, shovel testing provided a substantive mode for evaluating the site’s historical development. The Wawase site covered a wider area and is mostly undisturbed. Its historical development spans two millennia, and its spatial organization was reconfigured at various historical moments. The shovel test excavations proved viable in capturing these historical and spatial dynamics of the Wawase site. At Wawase, the area that seems to have been slightly disturbed is the eastern edge of Locus 2, which lies at the periphery of the twentieth century occupation loci. While the Wawase site may have been connected to the sacred grove, *Apontuado*, it is difficult to assess this relationship because of the limited archaeological survey from this locus.
CHAPTER FIVE. CULTURAL MATERIALS

The archaeological assemblages from Wawase and Supomu include a variety of locally made artifacts and European trade items. The local materials include pottery, lithics, beads, and pieces of daub, metal, and iron slag. The European trade items include glass, ceramics, beads, and metal objects. The identification, analysis, and context of recovery of these materials provide the framework for evaluating the chronology of the sites, their sociopolitical and commercial characterizations, and historical trends. The archaeological materials resonate with data from other sites and have broader implications for understanding the settlement histories of the southern Ghana forest. Bones of wild and domesticated animals also form part of the archaeological assemblage from the study.

Wawase has a long sequence of occupation spanning from the first millennium BC to the twentieth century. Four sequential calibrated radiocarbon dates from Wawase have been obtained from the pre-Atlantic context. The earliest pre-European contact assemblage at Wawase date to the first millennium BC. The final date in the sequence of radiocarbon dates from the pre-contact context is in the fifteenth century. These dates are anchored to the materials recovered from the pre-Atlantic context to support the local ceramic chronology in the broader southern forest of Ghana. Since this study aims to evaluate broad transformations in settlements, the focus of the discussion of this assemblage shall follow a chronological progression from the first millennium BC through to the mid-twentieth century. The following discussion aims to provide a chronological and spatial contrast between Wawase and Supomu to show differences and similarities in the assemblages from the two sites.
Since locally made ceramics form the main component of constructing chronologies, a detailed discussion of the local ceramic chronology of the broader Central Region is provided to set the stage for situating Wawase and Supomu ceramics within the broader chronological context of the region. The Supomu site has an assemblage that is typical of the period during the Atlantic slave trade. At Wawase, the lower horizon devoid of European trade materials include materials like lithics, shell beads, shells, iron slag, bones, and local ceramics. Atlantic context artifacts include European ceramics, smoking pipes (both local and imported), glass, local ceramics, iron and glass, and plastic beads. The European trade items were represented and manifested at Wawase and Supomu in variable quantities and categories. At Supomu, the spatial and stratigraphic distribution of materials is relatively homogeneous, and not susceptible to a very fine chronological resolution over the two centuries or so of the settlement’s existence. The paucity of European trade items to the south of the Supomu site and condition of the local ceramics from this locus suggests that the formative period of occupation was likely located in this locus. From here, the Supomu settlement evolved and expanded towards the north of the island in the nineteenth century.

At Wawase, the spatial and stratigraphic distributions of the artifacts afford the tracing of the historical developments of the settlement from its formative phases, growth, and shifts in the organization, and abandonment. It is these broad trends that this discussion intends to portray. This discussion is preceded by an assessment of the local ceramic chronology of the southern Ghanaian forest, which serves as the basis for the description and analysis of local ceramics recovered from the archaeology of Supomu.
and Wawase. The succeeding sections discuss the other components of the archaeological finds, which include European trade items such as beads, European ceramics, iron objects, and glass bottles.

**Southern Ghana forest’s local ceramic chronology**

The ceramics recovered from Wawase and Supomu are reminiscent of the ceramic types and chronology of southern Ghana. Therefore, there is a need to highlight some dimensions about these ceramic types in the region. Accumulated data from local ceramic variations known from the southern forest region of Ghana affords an understanding of the chronology of human occupation in the forest region of southern Ghana, including those of Wawase and Supomu. These data are relevant to understanding the socio-cultural transformations that occurred throughout the forest region of southern Ghana before the opening of the Atlantic trade through to the twentieth century. These data have been invoked to challenge the notion that the emergence of social complexity in the Akan forest of southern Ghana dates to the last 500 years (e.g., Shinnie 1996). For instance, the wider homogeneous distribution of pre-contact ceramic tradition in the region speaks to a complex network of settled agrarian communities within the broader region.

These data are also significant to the understanding of transformations in settlement geographies of the wider region. Unfortunately, limited data have been obtained from the area west of the Pra River (e.g., Nunoo 1948). Local ceramic data from Wawase’s pre-Atlantic context, in particular, complements this ceramic chronology of southern Ghana.
The paste, overall condition of sherds, vessels’ morphology, surface treatments, and decorations comprise the attributes considered in the ceramic chronology of southern Ghana (see the introduction in Appendix A). Paste characteristics, decorations, and formal variability in vessel forms of pre-European contact ceramics are different from the post-seventeenth century ones (Bellis 1976a, 1976b; Boachie-Ansah 2014:40-41; DeCorse 2001:116-118; Kiyaga-Mulindwa 1979, 1982; Spiers 2007b:142-144). The pre-European contact ceramics comprise eroded, round-base pots or jars and cups with “gritty” orange-colored paste and are mostly decorated on the shoulders with circular and triangular stamps and roulettes. The pre-contact sherds are mostly are eroded, and this makes decorations usually challenging to recognize. In a given assemblage, there is a preponderance of everted (curved outwards) flared rims with ledges and flanges in the vessel profile. This type of ceramics has been variously referred to as earthworks pottery (Kiyaga-Mulindwa 1979:179-185; 1982) and Atetefo ware (Chouin 2009:36, 532). Robert Wild also referred to these ceramics as Nyame akuma pottery, making an association with Late Stone Age cultural tradition of Ghana described above (Wild 1934, 1937b). These ceramics are radiocarbon dated to the first to mid-second millennium AD from sites such as Coconut Grove, Elmina, and Brenu Akyinimu (DeCorse 2001:18-19), the Dumpow at Eguafo (Spiers 2007b), Nsadwer (Chouin 2009), and the earthwork site at Asaman (Boachie-Ansah 2014:35-37). These ceramics have also been reported from Nsuta Hill, west of the Pra River, in association with isolated quartz lithic assemblage (Nunoo 1948). Recently, it has been noted that the production and use of this ceramic tradition on the
central coast continued until the mid-seventeenth century, as observed in the materials from Abandzi (DeCorse, *personal communication*).

These pre-contact ceramics appear to exhibit a degree of variation based on the condition of the sherds and paste characteristics in which no chronological or socio-cultural interpretation is evident (Chouin 2009:673-674; Spiers 2007b:142-143). The first group of sherds exhibits robust fabric and may have been tempered with fine sand. The paste is fine with no visible granules measuring more than a millimeter. The second group of sherds comprises the friable gritty orange paste, and either comes with a high degree of coarseness derived from quartz or quartzite grog temper or sand tempered paste (Chouin 2009:674). There are visible signs of quartz granules measuring more than a millimeter in distributed in paste. According to Robert Wild (1937b:96), the robust paste feature noted in the former group of sherds could have resulted from the sherds being “impregnated with extraneous minerals.” These sherds seemingly occur in limited quantities. Sam Spiers identified a few of these sherds at the Eguafô site (Spiers 2007b:142). Citing Sam Spiers (2007b:142-144), Gérard Chouin (2009:674) is of the view that the second group of sherds predates the later robust paste types during the pre-Atlantic period. However, Christopher DeCorse (*personal communication*) notes that based on the limited assemblage from Elmina, this group of robust paste sherds may have been later Atlantic period transitional forms. At Wawase, a handful of these robust sherds were collected from a well stratified pre-Atlantic context in Unit 3 (at Locus 2) in association with the other friable paste sherds. But it is unclear whether these sherds are chronologically sensitive, or they may have been a variation in these pre-Atlantic
assemblages associated with socio-economic, cultural, and political distinction. No radiocarbon date has been obtained from this Unit 3 yet.

Based on the description provided by David Calvocoressi (1975b), it is likely that the ceramic assemblage from his Komenda excavations may be included in this latter class of ceramics. Based on a small-scale excavation at Komenda, 20 kilometers east of Wawase, David Calvocoressi described an assemblage that includes several complete miniature pots or jars with luted-handles that were profusely decorated. The forms and decorations of these vessels and the fact that they were not associated with any European materials suggest that they constitute a pre-contact assemblage.31 Due to the lack of adequate samples from stratified context, the variations in the pre-Atlantic ceramic assemblage have not been well-studied. The socio-economic context of production, exchange, and consumption of these early ceramics have rarely been studied or researched (e.g., Boachie-Ansah 2008, 2010; Braunholtz 1936; Stahl et al. 2008).

Ceramics associated with the Atlantic trade (that is between eighteenth and nineteenth centuries) are characterized by robust paste, relatively well-fired, and are in very good condition. Decorations on these ceramics are rare and where present, include circumferential, arc grooves along the necks and shoulders of the vessels. The overall vessel morphology in this assemblage exhibits a high degree of variability. They include pots and bowls that usually have angled necks either in the interior or exterior with round, tapered or squared lips. A variety of bases (usually of bowls and pots) are represented in

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31 However, Calvocoressi (1975b:163-164) was hesitant to associate this pottery assemblage with more considerable antiquity. Instead, he suggested that the site may have been a ceremonial site, dating to the relatively recent past.
this assemblage. These include flat, ring-footed, and pedestaled bases. Early contact period ones are delineated from later eighteenth and nineteenth centuries on the bases of surface treatment and finish as well as the degree of carination or sharpness of angles in the rim profiles. The nineteenth and twentieth centuries ceramics have a highly polished and burnished (blackened) surfaces. These sherds were relatively highly fired, resulting in robust fabric. The vessel profiles exhibit a high degree of carination or sharp angles in their rim profile compared to the preceding Atlantic period types. In Asante, in the north of the forest, these polished and highly carinated ceramics predates the coastal assemblage by more than a century (e.g., Shinnie and Vivian 1991) and their appearance on the coast in the nineteenth century is seen as “a possible indicator of increasing Asante influence in peripheral Akan areas.” (DeCorse 2001:122). Very few of these polished sherds were recovered from the current research.

These post-seventeenth century of ceramic traditions are referred to as “Akan” or “Atwea” ware to attribute its distinctiveness to the Akan or forest area of southern Ghana (Bellis 1976a, 1976b; Boachie-Ansah 2008; 2014:40-41; Kiyaga-Mulindwa 1979, 1982). The “Akan” or “Atwea” ware are documented from several sites from the coast to the Brong-Ahafo and Asante Regions to the north of Ghana (Bredwa-Mensah 1990; Effah-Gyamfi 1985; Keteku 1981; Rattray 1927; Shinnie 1988; Shinnie and Vivian 1991).

In the southern Akan forest, the chronological relationship and its implications for socio-cultural changes between the pre-Atlantic ceramics and later contact ceramics are uncertain (DeCorse 2001:117). Changes in the culinary and dietary practices may have
played a role in the transformations in ceramic styles and technology. However, this remains to be demonstrated empirically. The challenge is to document these ceramics in a well-stratified sequence within a given site. At the earthwork site at Nyaduem in the northeastern Central Region of Ghana, Boachie-Ansah has documented ceramic assemblages characteristic of these two ceramic traditions (Boachie-Ansah 2008, 2010). Although he provides no stratigraphic relationship between these two assemblages, he suggests that these traditions are similar and show a degree of cultural continuity than previously assumed. Further north, on the margins of the forest region, at Bosumpra on the Kwahu Plateau, Derek Watson has documented over 12,000 years of human habitation at the site and found no evidence of discontinuous cultural assemblage the ceramic of the last two millennia AD (Watson 2017:505). The assemblage from Bosumpra also provides a long-term perspective on human cultural behavior in the Akan area.

**Wawase finds: First millennium BC to the sixteenth century**

The pre-Atlantic assemblage from Wawase is reminiscent of finds from other sites in the Central and Western regions of Ghana. They include local ceramics, stone and shell beads, shells, ambiguous pieces of slag and daub, and microliths. Based on radiocarbon dates from Wawase and the assemblages represented, the pre-Atlantic period assemblage from Wawase spans the period from the first millennium BC to the beginning of the Atlantic trade. The assemblage is overlaid by the succeeding Atlantic period at the western and northern edges of the Wawase site. Over 1800 ceramic sherd fragments were collected from Wawase. No complete vessel was noted in the collection. Out of this
number, 100 or so constitute rim sherds, which potentially can be used to estimate vessel forms. Detailed description of diagnostic ceramic sherds—rims, bases, and body sherds with decorations—is provided in Appendix A.

Pre-Atlantic local ceramics

As noted, paste, condition of sherds, and rim profiles are the attributes that set these vessels apart from their succeeding tradition. Regarding the condition of the pre-Atlantic ceramic sherds, the two variations described above were present in the Wawase assemblage. The first group of sherds are in very good condition and lack the weathered surfaces common in the other group. This group of sherds was recovered mainly from Locus 2, particularly in Unit 3, where they are found stratigraphically separated from a twentieth-centuries horizon with no interceding Atlantic period assemblage. The second variety comprises crumbly and highly eroded sherds. This latter group represents a classic “gritty orange” paste noted, particularly from the Coconut Grove and Brenu Akyinimiu sites, near Elmina (DeCorse 2001:116; 2005). In this latter group of sherds, the temper appears in two forms. One group is tempered with quartz or quartzite grog, and the other group has a fine grit temper. The fine grit tempered sherds are distinguished from the former by the absence of granules of quartz measuring at least a millimeter in the fabric of the sherds. It is unclear whether these variations are chronologically significant as they seem to occur in two different loci and not in any stratigraphic succession. The variations may also either suggest the exploitation of different clay or mineral resources or be associated with discrete socio-cultural practices across space. The classic “gritty orange” sherds were recovered in significant quantities compared to the
former variety of sherds. The “gritty orange” sherds were recovered from both Locus 1 and 2, mainly from the western side of the site.

The number of rims from the Wawase pre-Atlantic context is small (N<15), and this limits our interpretation of the forms of vessels represented. These rims have free-flowing profiles and are curved outwards, or direct sloping (that is, there is no significant curvature in the rim profile). A limited variety of vessel forms are represented. Bowls and small pots or jars are represented in these rims. These vessels were likely associated with culinary practices. Water procurement and storage, which were the main functions of large pots and jars in Ghana, may not have been pressing needs of this community compared to those who lived on the hill-top and further away from a water resource (compare, for example, Gblerkpor 2008). The bowls are mainly open bowls with an average rim diameter of 23 centimeters. The pots or jars have their rim diameters averaging 15 centimeters (see Figure 5.2).

Body sherds were common compared to rims and bases, and because the sherds were fragmentary and eroded, they provide very limited diagnostic information aside from the paste. Round-base vessels are likely to have been represented in this pre-Atlantic assemblage since it has been demonstrated that flat-based vessels were copied after the Europeans introduced metal vessels into West Africa (Bellis 1987; Boachie-Ansah 2008:29; 2009b; DeCorse 2001:123; Ozanne 1962:66). As shall be demonstrated, during the Atlantic period, flat-base forms of vessels become common.
The vessel walls of the pre-Atlantic ceramics are relatively thinner (<1cm) than the succeeding Atlantic period. However, it appears that the rim is usually thickened by the addition of a lump of clay to the vessel wall. This thickening of the lip of the vessel is discernible from the cross-section of the rim of the vessel. This technique likely persisted into the Atlantic period (see Boachie-Ansah 2010, 2014; Watson 2017:496-497). A corollary to the thickening of the rim, which is diagnostic in the pre-Atlantic vessel rim profiles, is the distinctive presence of ledges on the exterior shoulder (Figure 5.1 and Figure 5.2). It is unclear whether these ledges have functional significance. It has been hypothesized that they may have been used to facilitate stringing the vessel onto the shoulder (Boachie-Ansah 2008; Braunholtz 1936).
Figure 5.2 Examples of vessel forms from pre-Atlantic context.

Compared to the succeeding Atlantic period, several decorative motifs and techniques are represented on the sherds recovered from this context. Incisions and stamping appear to dominate the techniques used in the decoration of the sherds. Incisions appear to be mainly done below the shoulder of the vessel and usually diagonal or horizontal to the body of the sherd or vessel. Stamping motifs usually occur in circular or triangular forms. One body sherd with shell stamps was noted in the assemblage (see
example in Appendix A 93). These variable motifs either occur in isolation or together on the same vessel. Vertical incisions and circular stamps occur on the ledges in some cases.

**Beads**

The beads from the pre-Atlantic contexts at Wawase include four stone beads, three shell beads, and one bead of an unidentified material. No bead of these materials occurred at Supomu. The four stone beads from Wawase were disc-shaped. All of the perforations in the stone beads were hand drilled. This observation is based on the irregularity in the perforations. Two of these beads were made of mudstone and were friable and somewhat irregular in shape; the edges and surfaces are irregular, having been chipped or broken because of the malleability of the mudstone (Figure 5.3). The mudstone beads perforations were biconical. David Calvocoressi has reported 200 pieces of mudstone beads from Komenda some 20 kilometers east of Wawase (Calvocoressi 1975b:160). However, these were not analyzed or described in the report. These beads would have served a good comparative sample for those recovered from Wawase. Notably, several pieces of unworked mudstone were noted in the excavations.
The other two beads were also disc-shaped and have uniform perforations. One of these was probably made from granodiorite with a dark brown and white mosaic color (see Figure 5.4 B). The other stone is of unidentified fine-grained dark-brown to black rock. This glossy mineral is likely traded from afar. No rock of this nature has been noted at the Wawase vicinity. It is unclear how the uniformity in the perforation was achieved, but these beads were likely hand-drilled.

It is surprising that despite the preponderance of quartz in the lithic assemblage, no quartz manufactured bead is found in the bead collections from Wawase from the pre-Atlantic context. However, biconically perforated quartz beads have been documented in Later Iron Age and Stone Age sites from other areas in southern Ghana (e.g., Davies 1964:284; Watson 2010:161).
Figure 5.4 Examples of beads from pre-Atlantic context at Wawase. A is a shell. B is stone.

Four other beads made out of shells were recovered from Wawase. All of these beads were disc-shaped and were likely hand-drilled (see Figure 5.4 A). These shell beads had very uniform dimensions of one millimeter thick and seven millimeters wide. The shell beads were finely finished and polished. Two of these pieces were broken and crumbly. The degree of uniformity in the shell beads suggest a degree of standardization, and probably serve as a clue to craft specialization. However, the lack of adequate sample limits how far this interpretive vantage can be pushed.

*Stone tools—Microliths, querns, and ground stone axes*

Seventy-nine pieces of microliths were isolated for further macroscopic observation. All the microliths were made out of quartz. They were likely made out of riverine quartz pebbles rather than vein quartz (see Figure 5.5). The quartz pebbles were noted in the excavations at Wawase and Supomu. Some of the microlithic tools from the Wawase assemblage have unflaked cortexes. The majority of the microliths are not over two centimeters in length and a centimeter in width. Some of these flakes may have been non-
utilized debitage, but the majority were likely utilized flakes. There were visible signs of retouching and usage in some cases (see Figure 5.5 and Figure 5.6). Due to the limited number of pieces in the sample and the lack of broad uniformity in the microliths, it is difficult to make a general socio-cultural inference.

Figure 5.5 A utilized quartz flake with secondary unifacial flaking from Wawase Locus 2. The side facing down is unflaked.
Figure 5.6 Examples of flaked quartz lithics recovered from Wawase.

The spatial distribution of the microliths at Wawase indicates that they were predominant in Locus 1, which seems to have had a longer occupation span.
Stratigraphically, the microliths were mainly recovered from pre-Atlantic contexts, although a few were also collected from upper levels of some shovel test excavations. In Unit 2 and 3, the lithics were found in a stratified context preceding and overlapping with pre-Atlantic ceramics and stone beads. One ground stone celt, locally referred to as “nyame akuma”, was found on the surface. It is unclear whether this stone tool represents the site’s early occupation as these tools continued in use in the twentieth-century (Balfour 1912:4; Casey 1993; Rattray 1969:321). This ground stone ax was cylindrically shaped with faceted platforms. It measures about 4 X 10 centimeters and sharpened at one end.

The rock is likely amphibolite because of its coarse-grain nature. However, the most commonly reported stone used for manufacturing ground stone tools is diorite greenstone, which is a metamorphic rock composed of calcchlorite schist found in Birrimian rock formation of Ghana (Bates 1962:53; Stahl 1994:74; Watson 2010:160). According to Oliver Davies, greenstone may have been obtained from Sekondi (Davies 1964:193-195). Greenstone has been found at several sites in Ghana. Several unfinished greenstone pieces were found at Wawase (see Figure 5.7). These unfinished stones debitage may suggest that some stone tools were manufactured at Wawase. However, no rock outcrop, which has been associated with manufacture or repair of these ground stone tools, was found at Wawase to suggest on-site production. At Apontuado, just north of Wawase, several granite outcrops were found, but no grooves or grinding marks were found on these rocks. Several pieces of querns were also recovered from the pre-Atlantic
context. To the south of Wawase, near the village of Bosomdo, Sam Spiers (2007a:60) reported a possible site where some of these axes were either produced or sharpened.

![Image](image_url)

*Figure 5.7* A piece of unfinished greenstone, the type of material typically used in the production of *nyame akuma* (polished stone axe). Excavated from Locus 2 (STP N200) at Wawase.

**Iron and slag**

Three pieces of iron slag were recovered from Unit 2 from the pre-Atlantic context. The slag came in small chunks, not measuring more than 5 centimeters in their maximum dimensions. Additional three pieces of non-diagnostic metal fragments were also recovered. These metal fragments appear to have been small pins. The function of these metal fragments is difficult to identify. It is not unreasonable to associate these fragments of metal with fishing, which is likely to have been a key subsistence activity at the site because of its proximity to the Pra River. They could have been used as fishhooks. The iron and slag pieces occur at the upper levels of the pre-Atlantic horizon. It is unclear
whether this observation is due to preservation considerations or technological innovations about iron working or use.

Animal and plant remain
A few faunal remains, mainly shells, were recovered from the pre-Atlantic context. Most of the mollusk's shells recovered were the giant land snail, *Achatina achatina*, which are common in dense vegetation areas of West Africa. Other freshwater shells (particularly *Pachymelania aurita*) were also recovered. All these shells appear to have been distributed widely across the pre-Atlantic stratigraphic layers. This find is not surprising, as the Pra River and the outlying swamps may have abounded with these gastropods.

Plants remains were limited, and no flotation samples were collected. Several charred pieces of palm kernels were noted throughout the various horizons. The importance of oil palm in prehistoric West African culinary and subsistence practices has been emphasized from studies across the region (e.g., D’Andrea et al. 2006; Logan and D’Andrea 2012; Sowunmi 1999).

European trade at Wawase: Eighteenth to nineteenth century
The European trade items from the Atlantic trade at Wawase include ceramics, beads, glass, and metal objects. Although the number of European trade items from Wawase outnumbers those from Supomu, proportionally, the majority of these artifacts date to the nineteenth century or later (for example see summary of imported ceramics below Table 5.1). Except for the bottles, glass beads and metal objects in the assemblage, there was a limited range of trade items dating to the eighteenth century or earlier.
The European ceramics were mostly whiteware with a known beginning production date of the 1820s (DeCorse 2001:153; Miller et al. 2000:13; South 1977:211). A total of 52 fragments of European ceramics were collected from Wawase (see summary below). They range from plates, bowls, and cups or mugs (see example of fragment in Figure 5.8). Seven pieces of whiteware chamber pot were reconstructed to a partially complete vessel. The chamber had a blue annular band along the rim. Except for the chamber pot, most of the European ceramics were small pieces with their maximum dimension not exceeding 5 centimeters. Mostly, it was difficult to identify the form of vessels. Plates are mostly represented in the assemblage. Two fragments of porcelain were also recovered, but these were from the twentieth century context (discussed below). Although the date ranges noted in the collection dates to the nineteenth century, the majority of these European ceramics were recovered from Locus 2, and they likely date to the late nineteenth and twentieth century. This timing coincides with the abandonment of Supomu and the expansion of Wawase on the plain.

Figure 5.8 A whiteware bowl fragment from Wawase with hand painted floral decoration in green and brown.
Table 5.1 Wawase: A catalog of imported ceramics (N=52).

<table>
<thead>
<tr>
<th>Count</th>
<th>Context Unit/Level</th>
<th>Ware</th>
<th>Form</th>
<th>Decoration</th>
<th>Date range (and references on known dates of production)\textsuperscript{32}</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>L2STPT200/7/</td>
<td>Whiteware</td>
<td>Serving bowl</td>
<td>None</td>
<td>1840-1970 (DeCorse 2001:153; South 1977:212)</td>
</tr>
<tr>
<td>1</td>
<td>L2STPT200/7/</td>
<td>Whiteware</td>
<td>uncertain</td>
<td>None</td>
<td>1840-1970 (DeCorse 2001:153; South 1977:212)</td>
</tr>
<tr>
<td>1</td>
<td>L2STPTN200/5/</td>
<td>Whiteware</td>
<td>Bowl/Plate</td>
<td>None</td>
<td>1840-1970 (DeCorse 2001:153; South 1977:212)</td>
</tr>
<tr>
<td>1</td>
<td>L2STPT200/3/</td>
<td>Whiteware</td>
<td>Tableware</td>
<td>None</td>
<td>1840-1970 (DeCorse 2001:153; South 1977:212)</td>
</tr>
<tr>
<td>1</td>
<td>L2STPK240/3/</td>
<td>Whiteware</td>
<td>Plate/Bowl</td>
<td>None</td>
<td>1840-1970 (DeCorse 2001:153; South 1977:212)</td>
</tr>
<tr>
<td>1</td>
<td>L2STPJ210/3/</td>
<td>Porcelain</td>
<td>Uncertain</td>
<td>None</td>
<td>1830-1970 (DeCorse 2001:152-153)</td>
</tr>
<tr>
<td>1</td>
<td>L2STPN300/6/</td>
<td>Whiteware</td>
<td>Uncertain</td>
<td>None</td>
<td>1840-1970 (DeCorse 2001:153; South 1977:212)</td>
</tr>
<tr>
<td>1</td>
<td>L2STPP210/1/</td>
<td>Yellowware</td>
<td>Uncertain</td>
<td>None</td>
<td>1840-1970 (DeCorse 2001:152-153)</td>
</tr>
<tr>
<td>1</td>
<td>L2STPM300/7/</td>
<td>Whiteware</td>
<td>Unknown</td>
<td>Hand painted yellow floral decoration</td>
<td>1840-1970 (DeCorse 2001:153) (Majewski and O'Brien 1987; Miller et al. 2000:13)</td>
</tr>
<tr>
<td>1</td>
<td>L2STPM300/7/</td>
<td>Whiteware</td>
<td>uncertain</td>
<td>Flow blue transfer print</td>
<td>1845-1970 (DeCorse 2001:153; Miller 2000:91-92; Miller et al. 2000:13)</td>
</tr>
<tr>
<td>1</td>
<td>L2Unit 3/2/</td>
<td>Whiteware</td>
<td>Uncertain</td>
<td>None</td>
<td>1840-1970 (DeCorse 2001:153; South 1977:212)</td>
</tr>
<tr>
<td>1</td>
<td>L2STPT200/5/</td>
<td>Whiteware</td>
<td>Uncertain</td>
<td>None</td>
<td>1840-1970 (DeCorse 2001:153; South 1977:212)</td>
</tr>
<tr>
<td>1</td>
<td>L2STPT200/9/</td>
<td>Whiteware</td>
<td>Uncertain</td>
<td>None</td>
<td>1840-1970 (DeCorse 2001:153; South 1977:212)</td>
</tr>
<tr>
<td>1</td>
<td>L2STPE170/1/</td>
<td>Whiteware</td>
<td>Uncertain</td>
<td>None</td>
<td>1840-1970 (DeCorse 2001:153; South 1977:212)</td>
</tr>
</tbody>
</table>

\textsuperscript{32} The date range is derived from the known beginning date of production and the estimated date of the Wawase site's abandonment.
<table>
<thead>
<tr>
<th>Code</th>
<th>Type</th>
<th>Material</th>
<th>Color/Decoration</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>L2STPR140/3/</td>
<td>Yellowware</td>
<td>Uncertain</td>
<td>None</td>
<td>1820-1970 (DeCorse 2001:152)</td>
</tr>
<tr>
<td>L2STPK140/2/</td>
<td>Whiteware</td>
<td>Saucer</td>
<td>None</td>
<td>1840-1970 (DeCorse 2001:153; South 1977:212)</td>
</tr>
<tr>
<td>L2STPT200/6/</td>
<td>Pearlware</td>
<td>Plate</td>
<td>None</td>
<td>1780-1970 (DeCorse 2001:153; South 1977:212)</td>
</tr>
<tr>
<td>L2STPP140/2/</td>
<td>Whiteware</td>
<td>Unknown</td>
<td>None</td>
<td>1820-1970 (DeCorse 2001:153; South 1977:212)</td>
</tr>
<tr>
<td>L2STPP140/2/</td>
<td>Whiteware</td>
<td>Holloware</td>
<td>Black decoration</td>
<td>1840-1970 (DeCorse 2001:153; South 1977:212)</td>
</tr>
<tr>
<td>L2STPH180/4/</td>
<td>Whiteware</td>
<td>Unknown</td>
<td>None</td>
<td>1840-1970 (DeCorse 2001:153; South 1977:212)</td>
</tr>
<tr>
<td>L2L280 QUAD/0/</td>
<td>Whiteware</td>
<td>Unknown</td>
<td>None</td>
<td>1840-1970 (DeCorse 2001:153; South 1977:212)</td>
</tr>
<tr>
<td>L2L280 QUAD/0/</td>
<td>Chinese Porcelain</td>
<td>Teacup</td>
<td>None</td>
<td>1830-1970 (DeCorse 2001:152)</td>
</tr>
<tr>
<td>L2STPT140/3/</td>
<td>Chinese Porcelain</td>
<td>None</td>
<td>None</td>
<td>1830-1970 (DeCorse 2001:152)</td>
</tr>
<tr>
<td>L2STPL270/3/</td>
<td>Whiteware</td>
<td>Uncertain</td>
<td>None</td>
<td>1820-1970 (DeCorse 2001:153; South 1977:212)</td>
</tr>
<tr>
<td>L2STPL270/7/</td>
<td>Whiteware</td>
<td>Bowl</td>
<td>Pink, red hand-painted decoration</td>
<td>1820-1970 (DeCorse 2001:153; Majewski and O'Brien 1987:158-163)</td>
</tr>
</tbody>
</table>
There was a variety of glass beads recovered from Wawase that date to the Atlantic period (see Table 5.2 and Figure 5.10). However, glass beads from the European
trade are difficult chronological markers in the archaeology of West Africa (DeCorse 1989:43-44). These beads include a variety of wound, drawn, and molded beads that were recovered from Locus 1 and northwestern edge of Locus 2. One millefiori bead was recovered from Locus 1. The manufacture and distribution of millefiori has a long antiquity in Italy (e.g., see DeCorse 1989:43-44; Francis 1993:3). The millefiori bead occurred in an eighteenth-century context at Wawase. Ten Prosser-molded beads dated to the 1840s were recovered from the site, and they make up the most dominant glass bead in the bead assemblage (Karklins 1985:104; Sprague 2002; Sprague and Bowers 1985:97). These Prosser-molded beads came in bright blue opaque glass and are in short cylindrical or tubular forms. They measure 5 X 4 millimeters. They are very uniform and consistent with the mechanization of these beads in the 1840s (DeCorse et al. 2003:84; Sprague and Bowers 1985:97). Aside from the Prosser-molded beads, the other varieties represented were likely of Venetian or Bohemian origin.

One metal button was recovered from Wawase. The button was disk-shaped and omega shank type made of a cuprous metal with a soldered ring at the back of it (see Figure 5.9). The shank of the button is broken. There was no identifiable seam which suggest that the button was casted and likely date to at least 1800 (Marcel 1994:8-10; Noël Hume 1969:91; Olsen 1963:552; South 1977:100).
Table 5.2 Summary of glass trade beads from Wawase (N=30).

<table>
<thead>
<tr>
<th>COUNT</th>
<th>MANUFACTURE</th>
<th>SHAPE</th>
<th>DIMENSIONS (cm)</th>
<th>BORE DIAMETER (cm)</th>
<th>COLOR</th>
<th>DIAPHANEITY</th>
<th>DATE</th>
<th>REMARKS (Sources)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Drawn</td>
<td>Globular</td>
<td>0.08 x 0.25</td>
<td>0.01</td>
<td>Blue</td>
<td>Opaque</td>
<td>19th century</td>
<td>Likely to be of Venetian origin</td>
</tr>
<tr>
<td>10</td>
<td>Prosser molded</td>
<td>Short cylindrical</td>
<td>0.5 x 0.4</td>
<td>0.2</td>
<td>Bright blue</td>
<td>Opaque</td>
<td>1840s-1970</td>
<td>The ends are ground (polished), smoothed (DeCorse et al. 2003:100) (Sprague 2002:113; Sprague and Bowers 1985:97)</td>
</tr>
<tr>
<td>1</td>
<td>Molded</td>
<td>Globular</td>
<td>0.7 x 0.86</td>
<td>0.2</td>
<td>Light blue</td>
<td>Opaque</td>
<td>19th century</td>
<td>Ends are ground (polished) (DeCorse et al. 2003:99)</td>
</tr>
<tr>
<td>1</td>
<td>Molded</td>
<td>Globular</td>
<td>0.62 x 0.85</td>
<td>0.3</td>
<td>Light blue</td>
<td>Opaque</td>
<td>19th century</td>
<td>Bohemian (DeCorse et al. 2003:99)</td>
</tr>
<tr>
<td>1</td>
<td>Molded</td>
<td>Cylindrical</td>
<td>0.17 x 0.87</td>
<td>0.15</td>
<td>Green</td>
<td>Opaque</td>
<td>19th century</td>
<td>Opaque, single layered</td>
</tr>
<tr>
<td>4</td>
<td>Wound</td>
<td>Disc</td>
<td>1.14 x 0.56</td>
<td></td>
<td>Polychrome</td>
<td>Opaque</td>
<td>Likely 18th century</td>
<td>white, brown, black; spiral (Lamb 1978:26)</td>
</tr>
<tr>
<td>1</td>
<td>Drawn</td>
<td>Ellipsoidal with faceted ends</td>
<td></td>
<td></td>
<td>Polychrome</td>
<td>Chevron - yellow and Blue</td>
<td>17th</td>
<td>Multi-layered yellow, blue, and colorless glass</td>
</tr>
<tr>
<td>1</td>
<td>Drawn</td>
<td>Ellipsoidal with faceted ends</td>
<td></td>
<td></td>
<td>Millefiori – Chevron bead</td>
<td>At least the 17th century</td>
<td>Crumbled; Origin Venetian (Francis 1993; Lamb 1978:24; Sprague and Bowers 1985:97)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Wound</td>
<td>Globular</td>
<td>0.8 x 0.6</td>
<td>0.3</td>
<td>Opaque white</td>
<td>Opaque</td>
<td>17th century</td>
<td>Origin is Dutch (Karklins 1974:80)</td>
</tr>
<tr>
<td>#</td>
<td>Shape</td>
<td>Type</td>
<td>Dimensions</td>
<td>Color</td>
<td>Opaque</td>
<td>Period</td>
<td>Origin/Description</td>
<td></td>
</tr>
<tr>
<td>---</td>
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<td>-----------</td>
<td>------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Drawn</td>
<td>Ellipsoidal with facetted ends</td>
<td>1.77x.77</td>
<td>0.25</td>
<td>Millefiori – Chevron bead</td>
<td>Opaque</td>
<td>At least the 17th century</td>
<td>Multilayered: origin-Venetian; Polychrome multiple corrugated layers parallel to perforation (Francis 1993:3; Lamb 1978:24; Sprague and Bowers 1985:97)</td>
</tr>
<tr>
<td>1</td>
<td>Drawn</td>
<td>Cylindrical</td>
<td>0.56 x .12</td>
<td>0.1</td>
<td>Brick red on light green glass</td>
<td>Opaque</td>
<td>17th to 19th century</td>
<td>Venetian (DeCorse et al. 2003:98)</td>
</tr>
<tr>
<td>1</td>
<td>Fused</td>
<td>Cylindrical</td>
<td>0.25</td>
<td>Polychrome mosaic colors</td>
<td>Opaque</td>
<td>1900-1970</td>
<td>Origin uncertain; likely local; green, red, white, and blue (DeCorse 1989:49)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Drawn</td>
<td>Tubular and facetted</td>
<td>0.67 x 0.59</td>
<td>0.3</td>
<td>Colorless</td>
<td>Translucent</td>
<td>17th century</td>
<td>So called Russian bead-faceted (Karklins 1985:14; Sprague and Bowers 1985:89)</td>
</tr>
<tr>
<td>1</td>
<td>Molded?</td>
<td>Cylindrical</td>
<td>0.7 x 1.1</td>
<td>0.25</td>
<td>Yellow</td>
<td>Opaque</td>
<td>19th century</td>
<td>Bohemian (DeCorse et al. 2003:99)</td>
</tr>
<tr>
<td>1</td>
<td>Molded?</td>
<td>Cylindrical</td>
<td>0.19 x 0.69</td>
<td>0.2</td>
<td>Dark blue</td>
<td>Opaque</td>
<td>19th century</td>
<td>Bohemian (DeCorse et al. 2003:98)</td>
</tr>
<tr>
<td>1</td>
<td>Drawn</td>
<td>Uncertain</td>
<td></td>
<td>Red</td>
<td>Opaque</td>
<td>17th to 19th century</td>
<td>Crumbled; origin is likely Venetian (DeCorse et al. 2003:98)</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Drawn</td>
<td>Cylindrical</td>
<td>1.25 x 0.6</td>
<td>0.15</td>
<td>Brick red</td>
<td>Opaque</td>
<td>18th century</td>
<td>Origin – Venetian (DeCorse et al. 2003:98)</td>
</tr>
</tbody>
</table>
Remarkably, very few glass items were recovered from the Atlantic period context at Wawase. The majority of the glass pieces recovered from the plain are dated to the twentieth century. These are discussed below. Similarly, very few European smoking pipes were recovered at Wawase (see Table 5.2). Out of the 22 imported pipe fragments collected, nine fragmentary stems were noted in the Wawase collection. No bowl fragment was noted in the collection, and the majority of the stem fragments have a bore diameter of between 9/64” and 5/54”. These bore diameters suggest at least eighteenth-century dates. Considering the contrast in the collection of European trade items at Wawase and Supomu, another interesting phenomenon noted is that no cuprous objects were noted in Wawase assemblage.
As has been pointed out earlier, metal objects are ambiguous determinants of European trade; nonetheless, some metal objects from Wawase were imported. One corroded iron cut nail (Figure 5.11) likely dated to the nineteenth century is part of the European metal imports in the Wawase settlement (Miller et al. 2000:14; Wells 2000:332).
Figure 5.11 A corroded iron cut nail from Wawase.

**European trade at Supomu: Eighteenth to nineteenth century**
There was a variable range of European import at Supomu dating to the eighteenth and nineteenth centuries than at Wawase. These European imports range from variable utilitarian ceramic ware and glass bottles, smoking pipe fragments, glass bead, gun parts, and other brass fragments. No cultural horizon was devoid of European trade items at Supomu. Similarly, no diagnostic twentieth century artifacts were recovered from the site. There was a preponderance of European imports at the northern section of the site, suggesting that the northern section of the site represents the classic occupation period of Supomu. Unfortunately, it is the area that has been heavily looted. These trade items date to the nineteenth-century or earlier. The nature of the settlement size, its locational geography, and the limited period it was occupied, the density of cultural materials, and a
variety of European imports speak to the pre-eminence of the island during the Atlantic slave trade.

Glass bottle, European ceramic, and pipe fragments make up the majority of the European imports recovered from Supomu. A few glass beads (N=3) were recovered from Supomu. A detailed description of individual ceramics and beads are provided in Appendices B and C. Most classes of European artifacts are dated to the nineteenth century. A few eighteenth-century materials are likely present in the sample. Generally, the number of European trade items in each category of artifact recovered from Supomu is small, but a wide variety is represented within the respective categories. For instance, the number of European ceramic fragments recovered from Supomu is less than ten pieces, but the ware types range from pearlware, yellowware, and whiteware (Table 5.3). Also, bowls, mugs (Figure 5.12), plates, and other hollowware are represented. The noted date ranges provided are derived from known beginning date of production of these ceramics and the *terminus ante quem* of the Supomu settlement.
<table>
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<th>Vessel Form</th>
<th>Decoration</th>
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<td>NCT42QUAD/surface</td>
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<td>Bowl</td>
<td>Brown annular band</td>
<td>1820-1900 (DeCorse 2001:153; Majewski and O'Brien 1987:158-163)</td>
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<tr>
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<td>Hollow</td>
<td>None</td>
<td>1820-1900 (DeCorse 2001:152)</td>
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<tr>
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<td>Pearlware</td>
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<td>None</td>
<td>1780-1900 (DeCorse 2001:153; South 1977:212)</td>
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<tr>
<td>1</td>
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<td>Yellowware</td>
<td>Mug</td>
<td>Earth-toned annular band</td>
<td>1820-1900 (DeCorse 2001:153; Majewski and O'Brien 1987:158-163)</td>
</tr>
<tr>
<td>1</td>
<td>NCT43E1/1/0-10</td>
<td>Whiteware</td>
<td>Plate</td>
<td>Blue transfer printing</td>
<td>1840-1900 (DeCorse 2001:153; Miller et al. 2000:13; Miller and Sullivan 2000:94; Samford 2000:79)</td>
</tr>
<tr>
<td>1</td>
<td>T1Unit1/15/85-90</td>
<td>Whiteware</td>
<td>Mug</td>
<td>Machine turned annular band and beaded decoration</td>
<td>1820-1900 (DeCorse 2001:153; Majewski and O'Brien 1987:158-163)</td>
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<td>Saucer</td>
<td>None</td>
<td>1820-1900 (DeCorse 2001:152; South 1977:211)</td>
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<tr>
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<td>NCT43(STP5)/3/20-30</td>
<td>Yellowware</td>
<td>Handle</td>
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<td>1820-1900 (DeCorse 2001:152)</td>
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<tr>
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<td>Yellowware</td>
<td>Hollowware</td>
<td>None</td>
<td>1820-1900 (DeCorse 2001:152)</td>
</tr>
</tbody>
</table>

Table 5.3 Supomu: European ceramic fragments (N=9).

33 The date range is derived from the known beginning date of production of the ceramic to the estimated date of abandonment of the site. The known beginning date of production is appropriately cited.
Figure 5.12 A fragment of nineteenth-century whiteware mug; machine-turned annular and molded decoration recovered from Supomu.

Most of the glass fragments collected from Supomu date to the nineteenth century or earlier. For notes on the glass fragments description see total of 59 fragments of glass bottles were collected from Supomu. Dark to light green and colorless glass bottles are the main colors that dominate the collection. Although only a few were recovered in almost complete forms, several base fragments, seam, and body cross-sections were chronologically diagnostic. One large piece of a free-blown bottle base was collected from the trench's lower level at Supomu (Figure 5.14). The bottle has a sand pontil scar and date to the eighteenth century (Jones 2000:156-157). The free-blown glass bottle is a characteristic of the seventeenth and eighteenth centuries assemblage at Elmina (DeCorse
2001:160) and is one of the earliest chronologically diagnostic European trade items recovered at Supomu. The majority of the dark-green opaque fragments without evidence of a seam may likely be dip-molded case bottles dated to the late eighteenth and nineteenth centuries (Jones and Sullivan 1989:24-27; Newman 1970:72-73). A fragment of a molded case bottle with a pontil scar was also recovered from Supomu (see Figure 5.13). A significant trend observed in the bottle fragments from Supomu is the extent of patination present on the bottle's surfaces. There was heavy patination present on the bottles from Supomu than that of Wawase. One almost complete colorless glass bottle was found at Supomu with a slight patination on the surface (Figure 5.15). The top of the bottle, the finish, is broken off. It has a cylindrical body and a tapered finish. The bottle is a two-piece molded with a mold seam running along the base of the bottle. It is reminiscent of a toiletry bottle and is probably from a plain Florida water bottle dated to the late nineteenth century (Sullivan 1994:84).

Several European-made pipes were collected from Supomu (N=13). None of these pipes was complete. Eight bowl fragments were recovered. Two of these were almost complete. One of these has a heel and a bore diameter of 5/64 inches. The base of the heel is inscribed with the letter M or W with a crown on top of the letter or bottom. The rim of this bowl has a zig-zag roulette running along its lip or rim. This pipe is Dutch-made and dated to the seventeenth and eighteenth centuries (Atkinson and Oswald 1972:182; Calvocoressi 1975a; DeCorse 2001:164-165). The other complete bowl has a bore diameter of 9/64 inches with an obtuse bowl-stem angle. This bowl has a diameter
of two centimeters and has no heel or foot. The origin of this latter bowl is uncertain, but the bowl-stem angle suggests an eighteenth century date (Noël Hume 1969:302-303). The other pieces were fragmentary. Only one has roulette along the lip of the bowl.

![Figure 5.13 A free-blown case bottle base with a blow-pipe pontil scar from Supomu.](image)

Unambiguously, cuprous metal objects formed part of the European trade items at Supomu; although, some of the other metal objects may also have been imported. The cuprous metal imports at Supomu sharply contrast with that of Wawase, where very limited number of these metal imports were collected. One piece of an umbrella-shaped furniture tack likely dated to the eighteenth or early nineteenth century was recovered from Supomu (e.g., Wells 1998:92). Other ambiguous copper alloy objects were recovered from Supomu (see earlier discussion of brass imports). These cuprous objects may have been parts of bangles (Figure 5.16). Two pieces of copper alloy (brass) gun parts from either a flintlock or percussion cap musket were recovered from Supomu.
(Figure 5.17). One is a side plate, and the other is probably a cock or part of a hammer. These gun parts likely date to the eighteenth century. Another ambiguous brass object was noted in the Supomu collection.

![Figure 5.14 A base of a free-blown bottle with sand pontil scar from Supomu Trench.](image)

A few European glass beads (N=3) were recovered from Supomu compared to the Wawase settlement. This is surprising, considering the fact that the settlement became very successful during the Atlantic slave trade, and beads would have been one of the main items of trade. It is likely that galamsey operators may have targeted these exotic items for the art market. The first bead is a drawn tubular bead made of a dark brick red glass. This bead is of Venetian origin and dates to the seventeenth through to the nineteenth century (DeCorse et al. 2003:97).
Figure 5.15 A nineteenth century toiletry bottle.

Figure 5.16 An unidentified brass objects, possibly a bracelet, from Supomu.
Figure 5.17 Copper alloy gun parts: A) is a side plate, and B) is a trigger guard.

Figure 5.18 Examples of glass beads from Supomu. A) is Prosser molded; B) is a dark brick red drawn bead

The second bead is a wound and faceted bead of light blue, translucent glass. This bead is a Dutch bead. The third bead from Supomu is a Prosser-molded bead and is made of light blue opaque glass (see Figure 5.18). The production of Prosser molded beads started in the 1840s (DeCorse et al. 2003:100; Karklins 1985:104; Sprague 2002:113; Sprague and Bowers 1985:97).
Atlantic period local ceramics from Wawase and Supomo
The local ceramics collected from Wawase and Supomo dated to the Atlantic period exhibit similarities with other local ceramic assemblages from southern Ghana forest discussed previously. Since the timing of occupation at Supomo and Wawase overlap and that the local ceramics are similar, both sites are discussed below. They are distinguished from the pre-European contact assemblage based on the condition of the sherds, surface characteristics and vessel forms, and decorations. No complete vessel was collected from either Wawase or Supomo. Most rims collected from the Atlantic period came from Supomo (N=218). The majority of these rims were fragmentary and mostly undiagnostic. An almost complete flat-base bowl was recovered from Supomo (see Appendix A). The vessel was 80 percent complete. The upper part of the vessel was missing.

From the seventeenth to the nineteenth century, two groups of ceramics are present. The sherds in the first group are characterized by grayish-yellowish and smudged surfaces. There is a great deal of variability in attributes about this group of sherds. For example, there is a wide variety of rim morphologies and vessel forms represented in this group of sherds. The surfaces are either evened by hand and giving an undulating surface pattern or uniformly smoothed. Some of these sherds were slightly eroded. The assemblage recovered from Units 1, 2, and 3 at Supomo were relatively eroded than those recovered from the northern side of the site. These sherds were likely transitional forms between the pre-Atlantic and Atlantic periods. The paste in this first group of sherds is usually robust than the pre-Atlantic period sherds. They make up most sherds recovered in the local ceramic assemblage from this study. At Wawase, most of these sherds were
recovered in Locus 1. Flat-bases and ring-shaped pedestal bases sometimes characterize this group of vessels. The lip (tip of the rim) in this group of sherds may be potentially sensitive to chronology. A variety of these vessels have their lips flattened (termed as squared lip) as opposed to the rounded lips of the preceding Atlantic period vessels (see Figure 5.20 and Figure 5.21). However, because of the small sample size from this study, this point cannot be emphasized until further research into this phenomenon.

Medium to large pots (between 10 and 30 centimeters in diameter) and bowls are the common vessel forms represented in this group of sherds. A few smaller vessels with a rim diameter of less than 10 centimeters, referred to as cups, were noted in the assemblage. Pots are mainly characterized by outward curving rims which angle at the exterior but flare in the interior. Bowls mainly have outward curving or direct sloping rim profiles. Some everted rims have their lips parallel to the ground. Decorations rarely occur on these vessels. But when decorations appear, wide grooves along the rims and the necks are common. A collection of flat bases (<10) is present in this group of sherds. These are mostly incomplete. Very few footed bases are present in the collection, otherwise simple flat bases are present.
Figure 5.19 Examples of vessel forms dated to the Atlantic period.

The second group of locally made ceramics sherds is the classic Akanware noted earlier—these sherds date to the nineteenth century Supomu and Wawase (Figure 5.22). At Wawase, however, their use may have continued into the twentieth century. They are characterized by their highly smoothed and polished black surfaces and pronounced angles in the rim profiles. The entire paste is sometimes black. A few of these sherds were recovered in the current study and were mostly from Wawase. At Supomu, they
were mainly recovered from the northern end of the island. At Wawase, these this group of sherds were mainly recovered Locus 2. Like the first group of sherds, decorations rarely occur on these sherds. Where they do, they occur in wide shallow grooves that run along the exterior part of the vessel. These grooves may also occur on the shoulders of the body in horizontal channels and, sometimes, arc-shaped motifs.

Figure 5.20 Some bowl rim forms dating to the Atlantic period recovered from Wawase and Supomu.
Figure 5.21 Pots rims dated to the Atlantic period from Wawase and Supomu.

Figure 5.22 Typical carinated vessels (Akanware) from Wawase and Supomu.

Miscellaneous materials from Wawase and Supomu

Other cultural materials that were recovered from the study from Wawase and Supomu dated to the Atlantic period included architectural and faunal remains and pieces of iron
slag. At Wawase, the majority of the slag pieces were recovered from the hilltop and slopes. This observation suggests that by the late nineteenth and twentieth centuries, smelting activities have diminished substantially in the area. Two large lateritic cobbles were noted on the surface to the southeast. It is not clear whether these have been used in iron production. At Supomu, a few of the slag pieces were recovered from the surface. Here, again, it is unclear whether these fragments are *in situ* or contemporaneous with the expansive Atlantic period occupation on the island. Because the settlement would have been very nucleated, and the island is quite small, it is unlikely that iron smelting was undertaken on the island. Further investigation will be needed to corroborate iron smelting on the island, either before or during the Atlantic trade. No other associated iron production apparatus has been found at Wawase or Supomu.

Fragmentary pieces of daub of irregular shapes were recovered from various contexts at both Wawase and Supomu. Some pieces show signs of charring, while others show clear impressions of wood, a probably rectangular impression (see Figure 5.23). Several pieces recovered from Supomu were charred and had a robust paste.
Besides shells, several pieces of bones were recovered from this study. Most of these bones were from the Atlantic period context. Both domesticated and wild species are represented in the assemblage. Some of these faunal remains could not be identified, and the majority were identified to the genus level, not to the species. Sheep and goats (bovids) predominate (N=54). The cattle, sheep, and goat specimen are the common domesticates identified in the assemblage, and they are proportionally highly represented at Supomu than Wawase. There were bones from wild birds, fishes, and reptiles. The wild species are common in the bone collection found at Wawase. A small number of fish bones were found. While it is surprising that a small number of fish bones were found as fishing was a likely primary subsistence strategy of these settlements, these bones could not stand the preservation conditions for an extended period.

**Twentieth-century assemblage from Wawase**

The most predominant artifacts recovered from the twentieth-century context were metal objects and glass bottle fragments. The metal objects recovered from Wawase were
mainly recovered from Locus 2 (N=444). The collection includes a variety of ambiguous metal plates, tin cans, crown cork fragments, and machine-made iron nails (see examples in Figure 5.24 and Figure 5.25). Several pieces of drum braze fragments, and two cartridges were also noted in the collection. These metal objects date to at least the late nineteenth century or later (Jones and Sullivan 1989:28; Newman 1970:72).

Aside from these complete bottles, the form and function of the glass fragments are, in most cases, difficult to discern. Many of the glass fragments do not measure up to 10 centimeters in their maximum dimensions. The majority of the Wawase glass likely dates to the late nineteenth and twentieth centuries (Jones and Sullivan 1989:12-14; Newman 1970:73-74). The glass fragments are either curved or flat and suggest that they were either molded or machine-made, and they comprise mostly light green (N=113) and colorless (N=101) translucent glass. A few of these glass fragments were slightly dark green. The glass bottles are likely to be part of European imported gin, rum, and beer bottles. The majority of the light green transparent pieces are undoubtedly twentieth-century machine-made beer, genever, or Schnapp bottles. 10 finishes with precise seams on either side were noted in the collection, which is one of the unique attributes of fully automatic machine-made bottles (Jones and Sullivan 1989:36-37; Miller and Sullivan 2000:171; Newman 1970:72). Indeed, the majority of these green glass fragments were likely machine-made and date to the twentieth century.

A total of nine plastic beads were recovered the surface and the first twenty centimeters of excavations, mainly from Locus 2. These plastic beads date to the
twentieth century. The plastic beads have uniform dimensions and are disc-shaped. The dimensions range from between 9 and 10 millimeters in maximum diameter and 2 millimeters in breadth. Red is the predominant color represented in this class of beads. Only one black plastic bead was noted in the plastic beads collection. Most of these plastic beads were recovered from between 0- and 30-centimeter depth.

Figure 5.24 A nineteenth century metal screw cap from Wawase inscribed "Made in Germany".
Figure 5.25 A crown bottle closure from a 20th century context at Wawase.
CHAPTER SIX. SETTLEMENTS’ TRANSFORMATIONS

The chapter explores the processes of settlement’s formation, expansion, contraction, and abandonment from the earliest times to the mid-twentieth century at Supomu and Wawase, afforded by the archaeological and historical data. The section addresses three critical transformative periods in the history of the lower Pra River. The first phase deals with the formation and history of the Wawase settlement from the first millennium BC until the European contact period. This phase is contextualized within the broader history of human occupation and archaeology of the forest of southern Ghana before the opening of the Atlantic world.

The second transformative phase is the period from the sixteenth century to the nineteenth century when Supomu, and its composite settlement, Wawase, became a significant commercial and sociopolitical center in the Shama hinterland. These characterizations that occurred during the Atlantic trade derived from the strategic position of the island on the Pra River. The pre-Atlantic and Atlantic components of Wawase settlement are contrasted with the Atlantic settlement component at Supomu during this period. Documentary sources, in addition to archaeological data, provide insight into the wider historical context and the transformations at Supomu and Wawase during the Atlantic trade. These data show a reorientation of the settlements landscape during the period when Supomu became a centripetal force, attracting people and trade to the island.
The final phase explores the processes of abandonment of Supomu at the close of the nineteenth century and the expansion of Wawase in the twentieth century. Wawase was eventually abandoned in the 1960s. When Supomu was abandoned at the close of the nineteenth century, we see an expansion of the Wawase settlement on the southern plains, which, based on the archaeological data and other sources of evidence, likely became an expanding enclave for liquor trade, particularly the illegal trade in locally manufactured gin, akpeteshie. It is likely that the inhabitant of Wawase took advantage of their location to play an active role in the illegal (production) and distribution of local gin in the second quarter of the twentieth century. This claim is borne out by the quantities of glass bottles dating to post-1930s. The transformative phases in the Wawase settlements are illustrated in Figure 6.1.

**Wawase: The pre-Atlantic settlement**
The story of settlements along the Pra River begins in the first millennium BC. The occupation of the site is likely representative of wider settlement processes throughout the southern Ghana forest. Archaeological data from Wawase, coupled with regional survey data and the archaeology of the wider Central Region Project, corroborate the timing of human beginnings of this broader area. What is the nature of the settlement and its socio-economic dynamics during the period? What are the implications of these socio-economic dynamics to the wider archaeology and history of early settlements of the forest region of Ghana? These questions provide the backdrop for understanding the changes that were engendered after the West African coast was brought into the fray of the modern world economy.
The archaeological evidence in the form of quartz microliths, stone bead, shells ceramics, and pieces of iron and iron slag suggests that by the first millennium AD, there were human settlements scattered in various localities and ecological niches of the forest region of southern Ghana. Wawase was one of these early localities that date to the first millennium BC based on radiocarbon dates (see Table 6.1). The pre-Atlantic settlement was restricted to the area immediately adjacent to the Pra River floodplain and the top of the low-rise northward (see Figure 6.1). Four radiocarbon dates from successive excavation layers produced dates from the first millennium BC to the 1500s AD. Two dates fall within the first millennium BC, and the third and fourth dates were AD tenth and fifteenth centuries. These dates are not inconsistent with the archaeological knowledge of the broader region. Archaeological survey data from the central region indicates that the low-rises and hilltops were settlement enclaves during the first and early second millennium AD. Most of the isolated hills adjoining the Pra River contain pre-contact occupation sites, which suggest that these localities were occupied and exploited before the Atlantic trade. This manifestation is further corroborated by the high proportion of pre-contact occupation sites noted in the Central Region Project survey. These data suggest intensive exploitation of the forest region before the opening of the Atlantic trade (compare Wilks 1982, 1993).
Archaeological evidence from Wawase provides limited insights into the nature of the pre-contact settlement and demography. Contemporaneous earthwork sites hint at some degree of sociopolitical complexity in these pre-Atlantic societies (Chouin and DeCorse 2010:138). Although our understanding of the relationships between sites across the region is lacking, the broad similarities in the archaeological assemblages, notably, in
the local ceramic technology and style, indicate a broad network of cultural and sociopolitical interactions (Watson 2017:493-497).

The archaeology data suggest socio-cultural and political stability through the two millennia of occupation in the region. There was no significant change in settlements organization and pattern and the culture of these societies until the seventeenth century when Supomu was occupied. The island was likely visited during fishing forays, but a permanent settlement was not probably established until the seventeenth century. The settlement of Supomu is discussed later in this chapter. The broader implications of the archaeology of Wawase and Supomu is that before the seventeenth century, settlements in this region were located on isolated low-rises, floodplains, and marine and lagoonal shores.

<table>
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Table 6.1 List of radiocarbon dates from pre-Atlantic context at Wawase

Aspects of technology, subsistence, and trade before the Atlantic period
The lithics, slag and metal pieces, and beads (stone and shell) of the first millennium BC through to the sixteenth century AD from Wawase afford insight into aspects of technology, subsistence, and trade. There was a small sample of utilized flakes, and this
provides a limited basis for studying them as a lithic industry. The limited quantity of tools and utilized flakes preclude formal technological classification. Steven Rosen (1997:34), who works on lithic assemblages from Iron Age Levant, notes that such a limited sample of lithics is characteristic of iron-using villages or town sites. This observation derives from the assumption that stone tools may have complemented iron technology during the period. Unmodified quartz and greenstone fragments and cobbles that were probably used as grinders and querns were also recovered. These cobbles have smooth surfaces that suggest that they have been utilized for sharpening and polishing objects or grinding food items such as grains and nuts.

There is limited evidence for iron production or use at Wawase. The ambiguous pieces of slag and metal objects imply knowledge of ironworking and use. However, given the quantity of iron-related objects recovered from the pre-Atlantic context, the interpretation of iron technology remains imprecise. Access to metal objects was likely limited, and they may have been prized items that are rarely discarded but reworked several times. This caveat, and perhaps poor preservation, may have resulted in their lack of visibility in the archaeological record. Although the few pieces of slag suggest on-site iron production, archaeological survey of the region suggests relatively small-scale production. As noted earlier, Sean Reid has excavated a small slag mound at Adiembra, a few kilometers to the north of Wawase, but only preliminary details of this work are available. The Adiembra site and other small-scale slag localities identified during the Central Region Project survey indicate satellite iron-producing loci coterminous to
settlements. This habitation distribution in relation to iron smelting localities in the region is consistent with ethnographic and archaeological studies of ironworking in other parts of West Africa where smelting has been known to have been situated on the fringes of settlements (e.g., de Barros 1997:143; McNaughton 1988). However, because a detailed archaeological study has not been completed, it is difficult to establish the chronology and nature of these iron working loci.

Although only one polished stone tool was recovered from Wawase, ground stone tools were likely to have been part of the tool kit. They have been found in several first millennium AD sites across the region. The several grooves found on granite boulders and outcrops that dot the landscape along the Pra River and other small streams in the Central Region survey area may have been workshop sites where these tools were ground.

Data on subsistence practices during the pre-Atlantic period is limited. Limited faunal remains were recovered from the pre-contact context at Wawase. Fish and other riverine fauna may have been essential components of the diet of the Wawase settlement. Riverine shells make up the most significant evidence that supports the dependence of river resources of the settlement. The Pra River and its fertile floodplains and protected low-rises would have been the main environmental resource and geographical vantage that attracted populations to this locality. Most of the microliths and iron pieces found at Wawase from the pre-Atlantic context were likely utilized in the fishing industry by hafting to a harpoon or used individually as fishing hooks (see Casey 1993:42). Several
charred and fragmentary remains of palm kernel were present and are indicative of the importance of oil palm in the prehistoric diet of the area (D'Andrea et al. 2006; Logan and D’Andrea 2012; Sowunmi 1999). No detailed analysis has been conducted on these mainly charred remains to identify domesticated species from wild ones. Both wild and domesticated species are potentially represented.

The fragmentary and eroded nature of the ceramic collection from the pre-Atlantic context provides limited indications of the culinary practices and resources procurement at Wawase. Notable evidence in the ceramic assemblage is the apparent lack of large jars or pots in the ceramic assemblage, which are especially common at mountainous sites and sites that have challenges with water availability. The unpopularity of jars suggests that water procurement was not a preoccupation of the inhabitants, as their proximity to the Pra River may have provided that convenience for water procurement. Most of the pots from pre-contact Wawase were likely used in food preparation, consumption, and storage.

The archaeological evidence of long-distance trade during the pre-Atlantic period is ambiguous. The archaeological data offer limited insights into local and regional trade and economy. Shell and stone beads from the pre-Atlantic context at Wawase are potentially sensitive to regional trade. There is no direct evidence for the on-site production of stone and shell beads. No abraders have been found at Wawase. Although some of these beads were likely produced at Wawase, a few may have been obtained from neighboring localities. No detailed microscopic or sourcing studies have been done
on the stone beads to identify the sources of the minerals in these rocks. Surprisingly, while most of the microliths were made of quartz, none of the stone beads was made of quartz. Although the sample size is small, the beads recovered from Wawase were mainly made of diorite and mudstone. A detailed microscopic analysis of these beads is required to provide further insights into the production and exchange processes of these objects of bodily adornment. The shell beads are likely to have been made of marine shells, which suggests that they may have been obtained from the nearby coastline. Marine shells may be more susceptible to cutting and grinding into the fine uniform shapes, as noted in the Wawase sample. The apparent standardization in the shell beads recovered from Wawase hints at craft specialization, and probably trade.

**Supomo: A commercial and political center in the Shama hinterland**

From the beginning of the seventeenth century to the close of the nineteenth century, several lines of evidence suggest that the small island community became the most significant settlement in the Shama hinterland. Atlantic commerce may have been the overriding factor in the reorganization of the settlement landscape in the Wawase-Supomo enclave. We lack a detailed understanding of the processes that resulted in this reorganization of the settlement landscape, but the locational geography of the island and the pre-existing outlying settlements like Wawase was a significant factor in the foundation of the island settlement. European trade on the coast with its resultant expansion of the local economy may have been the main impetus. The Supomo locality lies on one of the main trade routes from Aowin and Asante to Shama, Komenda, and Elmina on the coast (Kea 1982:31). The locality is well-sheltered by several swamps and
ravines that surround the isolated low-rises. The river is and was the most important access route to the locality. This locality may have been a critical node of trade between the coast and the interior in this region.

Before the seventeenth century, Supomu may have been a fishing camp, probably with a few huts. It was not until the late seventeenth century that documentary references to the island began to appear by which time the island community had been well positioned for the Atlantic trade. These early references provided limited information about the settlement. At no time in the seventeenth century was the island settlement referred to as Supomu until the eighteenth century, when its name became to be associated with the then waning Adom state (Henige 1975a:32-33). The foundation and expansion of Supomu was undoubtedly connected to the expansion of the slave trade in the eighteenth and nineteenth centuries. Although direct evidence of slave trading in this region is lacking, the timing of occupation, expansion, and abandonment of the site and the relative preponderance of European trade goods suggest that the island was a trading center during the eighteenth and nineteenth centuries. The preeminence of trade on the island may have been the basis of the sociopolitical authority of the Supomu community.

The present documented boundaries of the Supomu settlement were likely achieved by the mid-nineteenth century. Even though the size of the Supomu settlement was nucleated and was occupied for a relatively short period, proportionally, the density of archaeological materials compared to the Wawase site is a further sign of the economic and political significance of the island during the eighteenth and nineteenth centuries. It is
not surprising that it was from the beginning of the eighteenth century that we have specific reference to kingship on the island as opposed to captaincy (Bosman 1705:22; Henige 1975a:33). Most of the eighteenth and nineteenth centuries varieties of European trade items such as ceramics, smoking pipes, glass beads, and gun parts were recovered from Supomu. These artifacts speak to the success of the Supomu settlement as a trading and sociopolitical center in the Shama hinterland during the eighteenth and nineteenth centuries. In fact, as noted, an item like the brass furniture tack is associated with prestige and authority on the Ghanaian coast. Also, as discussed earlier, because in the Ghanaian archaeological record, the quantity and variety of European trade items reduce significantly as one moves from the coast towards the hinterland, the amount and variety of European trade items on such a small island is telling of its sociopolitical and commercial significance.

The strategic location of Supomu in the Pra River was a significant factor for the success and importance of the island settlement during the slave trade. The island may not have necessarily served as refugia for slave-raiding as borne out by the preponderance of European trade goods on the island but may have afforded protection for traders. The island is sheltered on one of the main trade routes to the coast from the gold and slave producing regions in the hinterland, particularly Asanteland. On the way to the coast along this route, the island may have served as the last trading terminus before the European trading ports at Shama, Elmina, and Komenda. Records about trade in this region are lacking. There is no data on the procurement strategies for slaves. Paul
Lovejoy (2012:78) notes that warfare is a significant procurement strategy for slaves on the Gold Coast (also see Sparks 2014:123). Jean Barbot, for instance, noted that at Komenda, during times of war, there is “a brisk trade for slaves” (Barbot 1992:350). If slave procurement and trade were connected to warfare, it is not unreasonable to see how Supomu could have been a critical center of trade. Traders on the island would have been sheltered from slave raiders. This sheltered landscape of this locality may have persisted into the twentieth century when Wawase took advantage of its location to engage in the illicit liquor economy between the 1930s and 1950s. This indication is discussed below.

As discussed in Chapter 3, the persistence of the Supomu toponym in modern-town of Supomu-Dunkwa and census records of the late nineteenth and early twentieth century hint at the sociopolitical character and significance of the island during its occupation. The prefix of Supomu to Dunkwa to associate the settlement’s foundation to the historic island community is indicative of the island’s sociopolitical significance during its occupation. Also, the fact that Supomu recorded the highest population density in the Shama hinterland in the nineteenth century is evocative of the island’s occupational success in the nineteenth century. Finally, the Dutch factor stationed on the island during the eighteenth century is significant for illustrating the importance of Supomu during the Atlantic trade.

**The twentieth-century liquor economy and the Wawase settlement**

The relatively large number of twentieth-century bottle fragments recovered at Wawase is likely related to the expansion of trade in imported liquor in the early twentieth century
and controlled trade in both imported gin and locally distilled gin, *akpeteshie*, between the 1930s and 1960s. The glass bottle fragments are estimated to comprise over 100 bottle containers. This minimum vessel estimation is based on the number of unique base rim fragments, makers marks, and an estimate of the number of vessels represented in the non-diagnostic bottle fragments. Most of the glass bottle fragments were collected from Locus 2, which covers approximately 40,000 square meters (4 hectares). Additionally, the tin cans and drum-related metal objects possibly complement the number of bottle containers that were likely related to either alcohol production, distribution, or consumption. This interpretive vantage explored here is derived from the diminished socio-economic importance of the Wawase enclave, sequestered location of the settlement, and the importance of local gin production and trade in modern-day Shama District.

From the twentieth century onwards, the economic importance of the Supomu locality and the port of Shama diminished due to wider economic and political trends in Ghana. Nonetheless, as noted, census data between 1891 and 1921 showed that Supomu (and/or Wawase) recorded the highest population density in the Shama hinterland (see Henige 1975a:39). It remains to be explained how a remote settlement like Wawase expanded at this time with high percentage of imported liquor bottles. While the large number of glass bottles from Wawase speaks to the increasing trade in imported liquor between the 1890s and 1920s, the settlement’s inhabitants likely took advantage of their

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34 *Akpeteshie* is made by boiling cane syrup or sap tapped from the palm tree at a high temperature in sealed barrels. The vapor that is generated from this boiling process is cooled through tubes that run through a cooling tank and is collected in containers, as distilled alcohol.
location to engage in the trade of locally produced gin which was banned by the colonial
government from the 1930s until the close of the 1950s. The glass bottles dated to the
twentieth century at Wawase likely had secondary usage in the production and
distribution of akpeteshie, particularly when its production was banned by the then
colonial government in the 1930s.

Alcohol has been and is still is an important part of Ghanaian culture. Scholars
have written about the socio-cultural and political implications of alcohol in Ghana and
other parts of West Africa (Akyeampong 1996a, 1996b, 2002; DeCorse 2001:159-163;
2014). Production and consumption of local alcoholic beverages such as pito and palm
wine predate European wine and liquor (DeCorse 2001:159; van Den Bersselaar
2007:38).35 These local beverages have relatively low alcoholic content compared to
imported wine and spirits. The use of imported rum and gin in the eighteenth century as
welcoming drinks and for ceremonial purposes may have popularized the taste for liquor
(DeCorse 2001:159). European imported liquor (brandy, gin and rum) became common
in Ghana and was increasingly used in coastal communities in all forms of ritual and
ceremonial activities (DeCorse 2001:159; Dumett 1974:81).

During the late nineteenth to the early twentieth century, European liquor imports
into Ghana soared. Liquor trade figures for the Gold Coast provided by Emmanuel

35 *Pito* refers to a local beer brewed from millet and is peculiar beverage in the northern parts of
the country. Palm wine is a sweet syrup that is tapped from the palm tree. Both beverages remain
popular in these areas today.
Akyeampong (1996a:81) and Ray Dumett (1974:77; 2013:211) show exponential increments from the late nineteenth to the first decade of the twentieth century. Several underpinning socio-cultural and economic factors account for these exponential increments in liquor imports during the late nineteenth and early twentieth century. Critical among these factors include the expansion and diversification of the Ghanaian economy, increase in cash earnings derived from the expansion of exports, and the emergence of liquor as a social beverage (Akyeampong 1994; 1996a:53-62; 1996b; Dumett 1974:94; 2013:220). Trade figures for specific localities and towns are lacking. Raymond Dumett (1974:80-81) has, however, noted that most of the imported gin was consumed in the coastal towns like Elmina, Cape Coast, Apam, Accra, Winneba (also see van Den Bersselaar 2007:47, 158-159). A small proportion of the imported alcohol went to towns and villages in the hinterland.

When import duties were introduced in Ghana in the mid-nineteenth century, it was duties on liquor that quickly became the important constituent of the colonial government finances (Akyeampong 1996a:80). Taxation in Ghana has its origins in the mid-nineteenth century after the infamous “Bond of 1844” (Boahen 1974:213-214; Danquah 1957) which officially brought the then Gold Coast under the jurisdiction of the British Crown36 (Kimble 1963:168-171; Metcalfe 1955). In 1852, the colonial government under Governor Hill instituted the unsuccessful Poll Tax (a direct taxation to

36 At the time, British jurisdiction on the Ghanaian coast extended from Ada in the west to Cape Coast in the east. This territory included a few kilometres to the hinterland. The Dutch controlled the region from Elmina to Appolonia, on the Ivory Coast border.
be paid by all individuals in the Gold Coast Colony) and import duties (Boahen 1974:218-224; Kimble 1963:168-191; Shumway 2004:160-161). Although the direct Poll Tax failed woefully, the British colonial administration seemed to have sustain taxation on imports after the abolition of the Poll Tax and by the close of the nineteenth century, revenue from tariffs on liquor imports constituted a significant proportion of the colonial government revenue (Akyeampong 1996b:80).

From the beginning of the twentieth century, the colonial government increased import tariffs dramatically to control liquor consumption on the Gold Coast. Emmanuel Akyeampong (1996b:81) cites that duties on imported spirit ‘increased gradually from 2s.6d. in 1897 to 27s.6d. in 1927’. The high tariffs instituted in the first decades of the twentieth aimed to reduce liquor consumption in Ghana due to pressure from the then temperance movement in Ghana (Akyeampong 1996b:86-89; van Den Bersselaar 2007). The temperance movement in Ghana was initiated by King Ghartey IV of Winneba in 1862 and, later in the nineteenth century, was supported by Christian societies such as the Basel Mission Society and Wesleyan Methodist Mission (Akyeampong 1996b:73-75; van Den Bersselaar 2007:157-163). The aim of the temperance movement was ambiguous in that it did not disavow the use of alcohol in all forms of social life in the country, but rather advocated for the prohibition of alcohol among the common populace, particularly young men who at the time were the major consumers of cheap imported gin and rum. However, as a traditional ruler himself, King Ghartey and other chiefs did not advocate
for prohibition of alcohol among the elite and kingly class because of alcohol’s embeddedness in the ceremonial culture of Ghana.

While the price of imported gin increased dramatically in Ghana from the 1920s onwards because of the import restrictions and emerging global depression after World War I, the popularity of social drinking deriving from the emergence of industrial labor and drinking bars increased the demand for gin among the common populace. Dmitri van Den Bersselaar (2014:53), for instance, notes: “During the economic depression of the 1930s the individual and social drinking of imported liquors declined dramatically, as many consumers could no longer afford the imported drinks and switched to the much cheaper local illegally distilled liquors.” (also see Akyeampong 1994:402). Thus, Akpeteshie became a cheaper and convenient substitute for European gin, and its soaring production and consumption from the 1920s onwards reduced the colonial government’s revenue derived from liquor imports (Akyeampong 1996b:85). The colonial government begun a campaign to make the local gin unpopular and reduce its consumption. This campaign was also aimed at sustaining government revenue from liquor imports that have been the leading revenue for the colonial administration between the 1890s and 1910s (Akyeampong 1996b:81; Dumett 1974). These local and global economic trends popularize the drinking of akpeteshie in the second quarter of the twentieth century.

The origin of the technique for the local distillation of gin in West Africa is shrouded in uncertainty (Akyeampong 1996b:106-107; Dumett 1974:93-94; Heap 1996, 2008) and there is a lack of direct evidence for the beginning of akpeteshie production in
Ghana. Ray Dumett (1974:93 n. 66)(1974:93 n. 66) has suggested that the first documented attempt to distill gin in Ghana was in the vicinity of Komenda in 1887. Emmanuel Akyeampong also notes there were indications of the local distillation of alcohol at Shama in the 1870s (Akyeampong 1996b:73). These instances provide some clues to the importance of the coastal towns of the Western Region and the western Central Region in the emerging illicit trade in *akpeteshie* during the second quarter of the twentieth century. According to Ray Dumett (Dumett 2013:220), the production of *akpeteshie* blossomed after import restrictions on imported gin and rum in the 1930s, which made imported gin unaffordable for the common populace (also see van Den Bersselaa 2007). Restrictive liquor policies were enacted in 1928 and 1930 and these included the restriction of the sale of imported spirits and prohibition on the production and consumption of *akpeteshie* (Akyeampong 1996b:93-94). Between the 1930s and 1958, *akpeteshie* distillation and distribution were undertaken in bushes and remote localities to avoid arrest and possible fine and/or imprisonment. The etymology of *akpeteshie* is reminiscent of this prohibition (Akyeampong 2002:57); *Akpeteshie* literally translates as “hide to drink” (Akyeampong 1996b:108). Wawase fits into this ideal locality for the illicit trade.

In the context of the preceding history of the liquor trade in Ghana in the twentieth century, the number of bottles recovered from Wawase can be interpreted not only be in terms of the expansion of the liquor imports at the site but as evidence for the site’s engagement with illegal liquor trade from the 1930s onward. The Wawase
settlement may have played a vital role in the production and distribution of illegal alcohol during the second quarter of the twentieth century. The dating of the bottle fragments, the town’s location, and ethnographic data suggest that the settlement was well-positioned to participate in the local gin distribution (and production), which by the second quarter of the twentieth century were being controlled by the colonial government through increased taxation and prohibitive regulations and laws.

The abolition of the slave trade and a gradual refocusing of production, trade, and, at the end of the nineteenth, a wage-based economy had a dramatic impact in the Shama hinterland. Rubber, gold, cocoa, timber, and oil palm production expanded exponentially during the nineteenth and early twentieth centuries in Ghana (Dumett 2013:33–34). It has already been pointed out that from the late nineteenth to the early twentieth century, regional productive centers evolved that specialized in the production of one or a combination of the above export commodities. Akyem and Akwapim areas in eastern Ghana became specialized in cocoa and oil palm production, while gold and timber were the specialties of Nzema and Denkyira in the far west. Timber and gold that had been the most important exports of the Shama hinterland during the Atlantic slave trade (Meredith 1812:78; van Dantzig 1980) declined by the first quarter of the twentieth century because of the expansion of cocoa production and mechanized gold mining at Tarkwa and Obuasi (Dickson 1969:255).

Shama and its neighboring localities, particularly along Pra River, fell outside the radar of Ghana’s main export producing centers, and this likely resulted in low earnings
and out-migrations. The declining population figures for Shama from between 1891 and 1920 are illustrative of the diminished importance of the region. The population of Shama reduced dramatically from 5,022 in 1901 to 2,637 in 1911 (Census Report 1911:50) and in 1921 it recorded yet another decline to stand at 2,378 (Census Report 1923:86). In contrast, the neighboring port of Sekondi recorded a growing population throughout the first quarter of the twentieth century, thanks to the railway line that connected the port to the mineral and timber producing regions in its hinterland. In this regard, the illicit local gin trade may have been a convenient alternative source of income for the inhabitants of Wawase and other smaller communities in the neighborhood. Emmanuel Akyeampong (1996a:110), for example, has noted that in the 1930s, in the neighboring vicinity of Yarbiw, a bottle of *akpeteshie* was valued at 1s. 6d while a bottle of imported gin cost 5s.

Most of the glass fragments from the twentieth-century contexts at Wawase are from Dutch schnapps or Geneva bottles. Geneva or Jenever refers to the distinctive juniper-flavored liquor most often associated with the Netherlands but produced in neighboring countries like Germany as well. The Dutch gin came in distinctive, green, square bottles that could be conveniently packed in crates (Akyeampong 1996a:84; 2002; DeCorse 2001:160). The light translucent green to dark slightly opaque green glass fragments recovered from the Wawase excavations fit these Dutch gin bottles. A few of these bottles have the J. H. Henkes label embossed on them. Some of the glass bottle fragments recovered came from other vessel types, such as beer and pharmaceutical bottles. However, these, too, may have been put to use as *akpeteshie* containers. As
Emmanuel Akyeampong (2002:57) notes, beer production in the Gold Coast Colony only began in the 1930s, and it took a few decades before it gained wide popularity (also see Heap 1996; van Den Bersselaar 2007:189). The economic situation at the time (as it is today) may have made both imported gin and beer expensive to the general populace. It is, therefore, likely that these other bottle types from Wawase may have seen secondary use in the production or distribution of akpeteshie. Dmitri van Den Bersselaar (2007:187-188) observed: “The illicit spirit was bottled in all sorts of containers, but empty bottles that had previously contained imported liquor were popular.” Merrick Posnansky (1999:31-33) further notes, West Africans are well-known for functional substitution and recycling of artifacts (also see Busch 1987; DeCorse 2001:159). These practices can still be observed today in small-scale bars where beer, soda, and pharmaceutical bottles are repurposed for selling akpeteshie.

The number of gin bottle fragments from the twentieth-century contexts at Wawase does not likely reflect the actual importation and consumption of imported liquor. The settlement is relatively inaccessible. Swamps and ravines surround the site to the south. Without canoe to access Wawase, the main path that connects the settlement to the hinterland runs along the right bank of the Pra River, cutting through a swampy area just to the north of the settlement. Given the settlement’s sequestered location, well away from main roads and commercial centers, the town’s inhabitants likely had limited income for the purchase of such luxuries as imported beer and liquor. During the twentieth century, the settlement’s location may have made it attractive for the illicit
production of alcohol and actually may have attracted migrants from neighboring communities.

Today, *akpeteshie* production in this area remains popular. A casual traveler along the Cape Coast-Takoradi Highway cannot miss the scale of the *akpeteshie* industry in this area. Peddlers and distillers sell and distill the *akpeteshie* in a variety of containers. Today, several Ewe migrant communities from the Volta Region, who mainly engage in *akpeteshie* distillation, fishing, and farming, live in the communities around the old Wawase settlement. It is possible that the expansion of Wawase during the twentieth century is explicable by the migration of Ewe people from eastern Ghana, and the modern inhabitants of the area may be their descendants. This observation suggests continuity from the period of the illegal *akpeteshie* industry in the second quarter of the twentieth century. Today, the production of *akpeteshie* in this region involves both cane syrup and palm wine. It is unclear if the same can be said in the early twentieth century. Further studies are required to explore this explanatory framework regarding the shifts in the demographics of this locality.

A final note on the significance of the bottles recovered from the archaeological context and their relationship to the local gin trade and prohibition is related to the present-day scaling categories of the local gin observed at Supomu Dunkwa. The scaling of local gin at bars in Supomu Dunkwa is telling of the secondary use of bottles for *akpeteshie* distribution. The various terminologies of measurement of *akpeteshie* at bars at Supomu Dunkwa derive from various bottle forms originally used for carrying items
such as pharmaceuticals, soda, and beer. A small pharmaceutical bottle of about 5 oz (150ml) is referred to as A.P.C. shot, which is equivalent to a quarter of a bottle. The acronym A.P.C. refers to aspirin (acetylsalicylic acid), phenacetin, and caffeine, which was an analgesic drug that was popularly used in the mid-twentieth century in Ghana (e.g., see Fosu 1981:479; Hogerzeil 1984:103). These drugs originally came in syrups in these pharmaceutical bottles. The 12 oz (350ml) soda bottle is half, and 20 oz (600ml) beer bottle is a full bottle. Four full bottles make-up a gallon. These scaling terminologies are significant for appreciating the secondary functions of bottles in this area. The origin of these scaling categorizations is unclear. However, they are likely to have their beginnings in the distribution of akpeteshie, particularly during the prohibition period when the local gin became popular. These ethnographic scaling signatures of akpeteshie shed light on the bottles recovered from Wawase during the twentieth century.

Admittedly, there are limitations to this line of interpretation. Direct evidence for the production of akpeteshie at Wawase is lacking. No barrels, hearth areas, or copper tubes were recovered to suggest a production locus. However, this lack of archaeological visibility is to be expected because production would have been undertaken in the outskirts or surrounding bushes of the settlement (see Akyeampong 1996a:105). Future survey work would have to focus on the surrounding bushes to identify possible akpeteshie production loci. One wonders if further survey and residue studies of bottle fragments may reveal Wawase’s hidden history.
CHAPTER SEVEN. REFLECTIONS

A critical theme explored in this discussion relates to the deep-time settlement histories in the Shama hinterland. The data from Wawase and Supomu are significant for such a perspective. Together with Supomu, this deep-time history of the Shama hinterland highlights the changes and continuities in technology, trade, and settlement patterns and the associated socio-cultural transformations from the first millennium BC to the mid-twentieth century. This chapter reflects on three theoretical threads explored in the archaeology and settlement histories of Wawase and Supomu. The first theoretical issue pertains to the Late Stone Age and Iron Age periodizations in the archaeology of the southern forest region of Ghana. Secondly, the potential contribution of Supomu to the emerging field of island archaeology, which to date privileges offshore islands, is explored. The final reflection explores the contribution of Wawase’s occupation in the twentieth century to the limited field of inquiry in illegal (smuggling) economies in archaeology. These reflections are, in turn, reflexive as they also identify some limitations of the current data in exploring these theoretical issues. The discussion underscores the need to further work at Wawase and Supomu to enrich the interpretive vantages taken in this research and highlights the need for potential long-term research in the area.

From a methodological standpoint, this study underscores the potential of shovel testing for documenting the totality of settlement under forest conditions that prevails in southern Ghana. Shovel test excavations have been demonstrated to be an effective and
cost-efficient means of assessing sites under poor surface visibility conditions like that of the hinterland Ghana. Unfortunately, this method has been rarely employed in the archaeology of Ghana. Admittedly, the testing of Wawase and Supomu may have to be expanded to enhance the interpretive scenarios addressed here.

**Southern Ghana’s Late Stone Age (LSA) and Iron Age (IA)**
The pre-contact occupation of the Wawase site is unique among the archaeologically explored sites in the southern forest region of Ghana. Wawase has a continuous occupation spanning about two millennia before the opening of the Atlantic trade as borne out by radiocarbon dates. The site is the first to produce a first-millennium BC occupation dates in the region. The two main excavation units extend between 1 and 2 meters deep, and the Atlantic period clearly superimposes on the pre-contact occupation phase. This continuous occupational history affords a lens through which to understand the technological and associated socio-economic and cultural changes during the period. However, admittedly, the number of excavation units is small, and there is a need for further excavations to strengthen the interpretations explored here. The interpretations drawn on these excavations are preliminary.

Nonetheless, when the data is examined within the wider archaeological context of the region, they hint at a fundamental conceptual challenge about the LSA/IA categories of phases in the prehistory of this region. This conceptual challenge is not new to West African archaeology. For instance, Bassey Andah (1979:135) questioned the meaning of the term (Early) Iron Age. In 1999, Ann Stahl (1999:47-48) proposed to Africanist archaeologists to challenge the big sequences of the Stone Age and Iron Age in
Africa and asked that they train their attention on winnowing variability within and between sites and regions to understand the different pathways to social complexity (also see Stahl 1994:52). While the tendency has been to treat these big sequences as temporally bound with trait-list characterizations, this approach raises several theoretical challenges and tends to inhibit historical understanding of intra- and inter-site interpretations (e.g., Andah 1979:135; Andah 1995; Stahl 1999). There is also the issue of regional variability in the transformations observed in these sequences (e.g., Andah 1979; DeCorse and Spiers 2001). With these issues in mind and focusing on the southern Ghana forest, the following questions are pertinent: is there an LSA preceding the IA, and if so, what is the relationship between these phases? In other words, what is the socio-cultural and chronological relationship between the LSA and IA societies in the southern forest region of Ghana? Increasingly, archaeological data from the southern Ghana forest region is vindicating the agenda to winnow variability across regions and time within the context of the Stone Age and Iron Age archaeology of Ghana and West Africa.

Out of the dozen or so sites that have been examined substantially, it is evident that there are no aceramic LSA and or Kintampo industries in the region. The Later Stone Age or ceramic LSA, which is characterized by microlithic tools, ground stone axes, ceramics, and associated with food-producing populations, is thought to have come to an end in sub-Saharan Africa by the close of the first millennium BC (Andah 1979:135; Shaw 1976:74; Stahl 1994:72). In the course of the late first millennium BC, iron seems to have replaced stone as the primary tool for subsistence in West Africa. This period appears to mark the beginning of human occupation of the southern forest region of
Ghana. However, as noted by several scholars, the history of the first millennium BC and early first millennium AD of southern Ghana—a period of transition from lithic to iron technology—is obscure (Casey 2013:604; Chouin and DeCorse 2010:123-124; Shinnie 2005; Watson 2017:493; Wilks 1993:71-72). This claim is understandably so because of the limited archaeological manifestations of this period. The archaeological evidence mainly included ceramics, ambiguous quartz microliths, ground stone axes, and scanty evidence of iron. Theoretically, within the big sequences of the Stone Age/Iron Age transitional phases, there seems to be little justification for assuming discrete successive phases of stone and iron technology. On the contrary, it is reasonable to avoid these seemingly technologically- and chronologically-dichotomous concepts as both lithic and iron may have been used throughout the first millennium AD.

In fact, evidence for ironworking in the Ghanaian coast and hinterland is limited and mainly comes from isolated pieces of slag and ambiguous metal fragments. Based on the paucity of the archaeological evidence, it is difficult to associate the associated communities with other well-defined industries in West African prehistory. The closest parallel of southern Ghana forest prehistory regarding the ecology, archaeological manifestations, and chronology is the work of John Atherton and Carlton Coon in northeastern Sierra Leone (Atherton 1969, 1972; Coon 1968). At the site of Yengema (Coon 1968), Yagala, and Kamabai (Atherton 1969, 1972), formal microlithic tools that constitute a small proportion of the lithic assemblage occurs with a half a dozen pieces of iron date to the first millennium AD. Similar assemblages have been reported from Liberia (Gabel 1976) and Cote d’Ivoire (Chenorkian 1983). The limited number of
formal tools in the lithic assemblage of the first millennium AD may be indicative of the reliance on alternative iron technology (see Rosen 1997:34).

Unlike the eastern rainforest region of West Africa where sites such as Iwo Eleru, in Nigeria (Shaw and Daniels 1984) and Shum Laka, in Cameroon (Cornelissen 2003; Lavachery 2001), where dates of early Holocene has been obtained, the western forest region between southwestern Ghana and Sierra Leone has produced radiocarbon dates that cluster around the first millennium AD. These emergent stone-cum-iron-age communities are defined as settled-agriculturalist, some of whom constructed the earthworks of southern Ghana during the first millennium AD (Chouin and DeCorse 2010:144; Ozanne 1971:39). Elsewhere, Pierre de Maret (1994:319-320) prefers to call this liminal phase in the West African archaeological record as the Stone to Metal Age (SMA) (also see Casey 2013). According to de Maret (1994:320), the SMA period refers to the stage with ambiguous or limited evidence of metal but “advanced technical traits, such as ceramics, polished stones, and possible indications of food-production.” In the western forest region of West Africa, quartz microliths are included in these trait-lists in the early stages of iron technology. Undoubtedly, these characterizations stem from the tenuous and ambiguous terminology of the Late Stone Age and Iron Age that connotes chronologically discrete assemblages.

The origin of these early agriculturalists of the Western rainforest of West Africa remains a matter of speculation. The data from the Central Region of Ghana (including Wawase) shows a broad set of socio-cultural and perhaps political networks that archaeologists are yet to examine. For instance, what is the relationship between the
earthwork sites and other non-monumental sites and the other ironworking and stone-polishing sites across the region? It will not be unreasonable to speculate, based on the monumentality of the earthwork, that these sites may have been political or ceremonial centers for the satellite populations in a locality. However, further studies are required, particularly on sourcing studies on the beads and ceramics, to determine their sources of production that can be used to address issues of differences in exotic items across these sites. There is a need to synthesize the available data to understand the relationships between contemporaneous sites of the two millennia preceding the modern era.

Seemingly, the stylistic assessment of the local ceramics from Wawase and Supomu suggests a degree of cultural persistence from the first millennium BC to the beginning of the Atlantic slave trade. This indication suggests that although there were differences in settlements organization, these were not accompanied by differences in the material culture. It was only when these societies were brought into the domain of the Atlantic economy that we see a variety of vessel forms and other stylistic variabilities such as flat-base wares. Along the Pra River and other documented cases in the hinterland, this period marks a period of diversification of the settlements landscape of the region, including the foundation of new settlements such as Supomu.

**Supomu and island archaeology in West Africa**
Supomu Island is a somewhat unique focus of study as a riverine island. Island archaeology has emerged over the last couple of decades as discrete a field of archaeological discourses with its own methodologies and theorizing. Because islands are unique regarding their apparent geographical isolation, archaeological studies of islands
have been usually framed around the notion of insularity and interactions, patterns of colonization and abandonment (e.g., Broodbank 2000; Cherry 1981; Dawson 2014; Fitzpatrick 2004; Keegan and Diamond 1987; Kirch 1986; Mitchell 2004; Rainbird 2007; Waldren and Ensenyat 2002). Freshwater islands barely feature in the theoretical and conceptual discourses about islands. Oceanic islands of Oceania, the Caribbean, and the Mediterranean have largely been the focus of discourse. A review article by Peter Mitchell (2004) about the archaeology of islands in Africa clearly illustrates the privileging of oceanic islands.

A notable point in the pattern of occupations of islands in Africa is that most of the islands’ occupational histories are “closely tied to the evolution of systems of long-distance, often intercontinental trade.” (Mitchell 2004:243). The historical pattern of occupation at Supomu, an onshore island, is no different from these patterns of island colonization. The archaeology of Supomu can provide a unique comparative framework for these emerging studies in the Mediterranean, Caribbean, Oceania, and East African Coast. While the system of European sea-borne trade was the main, direct effect of the success of Western Africa’s oceanic islands, the origin and success of Supomu was a direct local response to the European sea-borne trade. The socio-economic dynamics of Supomu’s occupational history were local but intricately connected to global European sea-borne trade. These historical dynamics of the Supomu settlement shows a contrasting perception of the European sea-borne trade and regional trade in the Shama hinterland. While in the eyes of Europeans, the Shama hinterland was an insignificant trading area,
archaeological data from Supomu and also Wawase suggest that these localities were integral to the local and regional trade.

Defensive strategies of slave raiding and slave trading in the coastal settlements and river estuaries during the Atlantic trade constitute an important dimension of settlements’ development in coastal West Africa (Amartey and Reid 2014; DeCorse 2014a; Hawthorne 2003; Kelly and Fall 2015; Soumonni 2003). In the Sierra Leone Estuary, for instance, the several slave-trading factories that were built on the islands and adjoining mainland may have attracted local settlers to these enclaves (Amartey and Reid 2014; DeCorse 2014a; Reid 2016). Several of these enclaves were abandoned after the slave trade was abolished. In southern Benin, lacustrine villages emerged during the Atlantic slave trade as defensive enclaves against slave raiding (Soumonni 2003). In the Rio Pongo Estuary in Guinea-Bissau, Kenneth Kelly and Elhadj Fall (2015) have documented how, in the nineteenth century, the adjoining land bordering the estuary became a successful locality of illegal slave trading as the area is sheltered against English Anti-slavery Squadron patrols. There are points of contrast and similarities regarding the settlement history of the Supomu locality to these historical developments along rivers in other parts of West Africa.

It is unclear how the island settlement of Supomu emerged in the seventeenth century. However, from all indications, it is doubtful that the island’s strategic location in the context of regional trade was a significant factor in the sociopolitical success of the settlement. The unique chronological context of the island’s occupational history between the seventeenth and nineteenth centuries is a testament to this indication. The chronology
of occupation of the island offers a unique time capsule to assess the local implications of the vicissitudes of the Atlantic trade between the seventeenth and nineteenth centuries. At Supomu, trade, in general (both in gold and slaves, legal or otherwise), was a critical factor in the sociopolitical development of the island. References to kingship on the island dates to the seventeenth century. As early as the beginning of the seventeenth century, the people of the immediate hinterland of Shama were depicted as traders. It is not surprising that after the abolition of the slave trade, the success of the island continued up to the close of the nineteenth century.

**Twentieth-century Wawase and the archaeology of illegal trade**

Archaeology of contraband trade is a very contested domain of inquiry. This challenge has both theoretical and methodological dimensions. The notion of contraband evinces two critical concepts, illicit (against social norms) and illegal (against the law) that relates to the politics and jurisprudence of production, exchange, and consumption. As Alexandra Hartnett and Shannon Dawdy (2013:39) note, the idea of illicit and illegal tend to force us to contrast it to the opposing category of legal and licit (also see Hauser 2008).

How does a given economic activity become illegal or illicit, and how is it delineated in the archaeological record? Both illicit/illegal and legal/licit economies are dimensions of socio-economic transaction and interaction. In indigenous societies, social norms and customs structure economic transactions, and there could be underlying prohibitions in these structures. The notion that social norms structure economic transactions in indigenous societies underpin the substantivists (structure) and formalists (agency) debates that became primordial to economic anthropology since Karl Polanyi’s
thesis about markets (e.g., Firth 1967). This dichotomy between indigenous institutions and emerging capitalists’ social formations underpins the illicit/illegal and formal/informal markets. However, as Mark Hauser’s (2008:40-41) work on informal economies in colonial Jamaica illustrates, the apparent contradictions in economic transactions are complementary, but not necessarily incongruous. Such an understanding is productive for the archaeological inquiry into illegal trade since “informal economies are poorly documented.” (Hauser 2008:53).

Archaeological investigation into the illegal economy is fraught with the challenge of archaeological identification (Carvino 2017; Deagan 2007; Hartnett and Dawdy 2013; Schmidt and Mrozowski 1988; Willis 2009). By their very clandestine nature, they leave no documentary traces. Studying contemporary illegal trade such as drug-trafficking and prostitution is even challenging (e.g., Akyeampong 2005; Shaw 2002). This mode of archaeological inquiry is constrained by ambiguous material evidence and lack of documentary evidence—illegal traders do not leave paper trails (Deagan 2007; Schmidt and Mrozowski 1988). Illegal trade is difficult to identify archaeologically because, in theory, the question of the legitimacy of economic activity is tied to legal regulations detached from social practice (Deagan 2007; Schmidt and Mrozowski 1988). In this conundrum lies the strength of historical archaeology where multidisciplinary gaze at the past helps to unravel the complexities of socio-economic interactions.

Alexandra Hartnett and Shannon Dawdy (2013) distinguish smuggling from piracy and prostitution as a political gray area of the illegal but socially licit domain of
economic transactions. Derived from the political domain of control, illegal economic transactions are seemingly contradictory to socially permissible economic practices. However, as Mark Hauser (2008:41-44) has argued, the issue is not about the incompatibility of formal and informal economies. Hauser complicates the supposed dichotomy between the regulated and unregulated economic transactions noting that the transaction is the nexus of structure and agency, production and consumption, politics and social dynamics (Hauser 2008:40-41). While there was an attempt by the colonial government to control the liquor trade in Ghana during the period between the 1930s and 1950s, the liquor economy contributed to the sustenance of localities that were not in the direct purview of the regulations. In Ghana, the regulations of trade for the emerging nation-state dates back to the nineteenth century after the slave trade was abolished. In the mid-nineteenth century, the British colonial authority in Ghana was established. Taxations and trade regulations started to be enforced. Alcohol prohibition regulations of the 1930s represent a quintessential control of trade in Ghana. Prohibition regulations promote smuggling. In Ghana, as in the United States, smuggling of liquor became integral in localities that were positioned to take advantage of the illegal trade (e.g., Mason 1995).

Alexandra Hartnett and Shannon Dawdy (2013) outlined several possible archaeological manifestations of illegal economic activities. On smuggling, they made several points that resonate with the possible illegal akpeteshie and highly taxed imported gin trade at the Wawase settlement during the twentieth century. According to Alexandra Hartnett and Shannon Dawdy (2013:42), these manifestations include sequestered
landsapes and features that facilitate evasion; concentrations of abandoned or destroyed luxury goods, or heavily taxed items (often occurring in a panic of detection); contents that do not match containers (e.g., traces of tea in wine barrels); and household assemblages containing known contraband or modest households or settlements with a significant percentage of exotic goods.

The abandonment of Supomu in the late nineteenth century and the subsequent expansion of Wawase derive from multivariate processes connected to the abolition of the slave trade and the emerging export-based economy of Ghana. By the beginning of the twentieth century, the Wawase settlement had expanded exponentially partially due to the settlement’s participation in the illegal liquor trade. Patrick Hunt (2011), for instance, made a similar case for the success of the sixth-century Byzantine state by arguing that the success of the state was due to it becoming the hub for “industrial espionage.” Philip Mason (1995) has noted that the success of settlements along the Michigan-Ontario waterway during the 1920s was due to the automobile industry and liquor smuggling from Canada when restrictive liquor regulations were instituted in the United States in the 1920s.

It has been established that the Wawase settlement is located in a relatively inaccessible locality in the Shama hinterland and that during the early twentieth century, the region lost its economic viability due to the expansion of other regional productive centers outside of the region. So, for instance, there was a dramatic decline in the population of Shama between 1891 and 1921. The region between Shama and Daboase along Pra River may have had low population density during the nineteenth century and
early twentieth centuries. The expansion of Wawase is evident in the distribution of mounds and twentieth-century artifacts like plastic beads, bottles, and European ceramics. Wawase was, in turn, abandoned because of the economic prospects afforded by the increased infrastructure in Ghana, particularly the construction of the Cape Coast-Takoradi highway. The Wawase settlement likely lost its commercial viability when the prohibition of the akpeteshie economy was lifted in 1957. A key issue about the development of the Wawase settlement in the twentieth century is its possible role of illegal trade in imported gin and akpeteshie played in the settlement’s history between the 1930s and 1950s. Settlement geographies, archaeological assemblages, and indirect documentary evidence alluded to in this work are indicative of the role of the illegal liquor trade in the development of settlements. These indications suggest that illegal and illicit trade are not improbable or impossible domains of archaeological inquiry. In Ghana, the prohibition of gin in the 1930s provide is a key entry point to understanding settlements that grew at the margins of coastal trading entrepôt. There is the potential for archaeology to document illicit and illegal activities of the gin trade in Ghana during the second quarter of the twentieth century by focusing on remote localities and identifying high frequencies of bottles or containers that may have been used for the production and distribution of gin.
APPENDIX A. LOCAL CERAMICS DESCRIPTION

Introduction

The total fragments of local ceramics constitute a large percentage of the total number of artifacts collected from Supomu. Most of the sherds were fragmentary and had limited diagnostic value. No complete vessel was present in the collection. The broad chronological and socio-cultural implications of the local ceramic collection is detailed in the main text. This appendix aims to describe in detail isolated diagnostic sherds to provide a sense of what types and forms of vessels are represented and by what attributes.

Out of a total of 3,368 sherds, 1,813 came from Wawase, and 1,555 were collected from Supomu. The total number of sherds represents at least 300 vessels based on the rim, base, and other body fragments. Notably, no re-constructible vessel was noted in the collection. The number of sherds with diagnostic attributes from precise stratigraphic contexts was even smaller. Because of the small sample size, no general typology is inferred, but instead, the diagnostic sherds are described individually. Mainly, rim, and base sherds, which form the basis for reconstructing vessel form, are described below. Although the number of rims noted in the collection is higher than described below, because of the size of the sherds is too small to provide a more precise vessel form reconstruction. For example, out of the 218 rim sherd fragments collected from Supomu, only 97 pieces are described here.

A total of 127 diagnostic sherds are described below on the bases of descriptive attributes commonly utilized in the archaeology of Ghana. A total of 30 sherds from Wawase and 97 sherds from Supomu are described below. These sherds include rims, bases, and decorative body sherds. While this description follows the descriptive attributes in the Central Region Project manual (DeCorse 2009), other comparative descriptive terminologies by other scholars working in the region have also been used (Bellis 1976a, 1976b; Boachie-Ansah 2008; Crossland 1989; Ozanne 1962, 1964). These references are cited where appropriate. The attributes recorded for each sherd includes (if represented): count, sherd type (the portion of vessel represented), rim forms, base forms, temper and paste characteristics, surface finish (preparation) and treatment, and decoration. Additionally, where discernable, the relative thickness of sherds is noted but not necessarily recorded for individual sherds.
Paste and temper attributes

The paste and temper attributes describe the fabric of the vessel. The description includes the texture and color of the fabric and diagnostic inclusions. Two broad paste attributes are delineated in this description: robust and gritty. Robust paste refers to a well-fired, brick-like paste, and gritty refers to friable crumbly paste likely due to reducing firing temperature. In addition to these broad descriptions of the fabric, different colors are represented, including orange to buff-colored, grayish brown, and black. In terms of texture, fine and coarse attributes are used. The fabric's texture is described as fine when the texture is smooth and fine granules visually estimated to be less than a millimeter. Coarse paste refers to rough-textured fabric with uniform quartz grain particles greater than a millimeter. The quartz nodules may or may not be part of the temper that was used to reinforce the plasticity of the clay. In other words, while sand was likely added to the clay as temper, the description of the texture does not necessarily refer to artificial inclusions (see photo below). Although, it is notable that there is evidence for the use of intentional tempers such as grog, shell, or organic material, which has been reported in other parts of West Africa (e.g., Atherton 1969:110; Newman 1966:20). Isolated mica specks appear in some of the sherds. This is only noted where they are clearly visible in the fabric and surface of the vessel.
Type of sherd
This attribute describes the part of the ceramic vessel. The main qualities recorded under this category include rims, body sherds, necks, and bases. The rim refers to the area between the lip (the edge of the orifice of the vessel) and the vessel's upper margins. However, in this description, where the sherd is large enough and spans the lip to the shoulder and part of the vessel's main body, it is simply recorded as a rim sherd. Because the sherds are mainly fragmentary, these large rim sherds form the basis for extrapolating vessel forms where possible. Otherwise, rim profiles are described. The neck refers to the point of curvature or constriction of the vessel if any. The neck is the area between the lip of the vessel and the shoulder (upper part of between maximum diameter and orifice) of a constricted vessel. Any non-diagnostic part of the sherd is recorded as body sherd and should have a surface decoration to be included in this detailed description. The base refers to that part of the vessel that sits on the ground. Two types of bases are described here. A simple flat base shows a clear angle to the body of the vessel. A footed or pedestal base has a ring-shaped seat on which the vessel sits as in APPENDIX A 2. No round base is described below, but as noted in the main text, most of these pots likely have round bases. A lid of which one is described refers to a vessel cover (see APPENDIX A 128).

Rim morphology
This attribute records diagnostic rim-lip characteristics or features. While the primary focus of this description is to record the nature of contours or angles in the rim the cross-section (Bellis 1976b:68), because some of the recorded rim sherds include the neck and shoulder of the vessel, variations in the relative thickness of the rim to the neck and shoulder are also noted (Boachie-Ansah 2008:8-9; Crossland 1989:28-43; Watson 2017). The broad descriptive terms used in describing the rim profiles and direction of the lip curve include direct, inverted, everted, and flared rim. Direct rims represent those that do not extend either outward or inward. Rims that have the lip curved inwards are termed inverted rims, and those that have the lip curved outwards are referred to as everted rims. Rim profiles are also described as flared in which case there are no sharp angles or corner points in their cross-sections (DeCorse 2009:40).

There are variations in these broad categories. Direct rims that are common on bowls and cups are described as direct sloping, direct vertical, or T-shaped. A direct rim is defined as direct sloping by the absence of no change in the side angles. Direct vertical rims represent straight-
sided vessels, while T-shaped rims are thickened on both sides of the lip with the body standing perpendicular to the lip. Inverted or everted rims are described respectively as plain inverted or direct sloping when there are no precise angles or corner points in the direction of the curves in the profiles. For the inverted rims, the only variation noted in addition to the plain inverted is the rims with a clear exterior corner point or angle with the interior flared. Rims that are flared at the interior and not the exterior is sometimes described as flared in the interior and carinated in the exterior and vice versa. Rims that show sharp angles at both the interior or exterior are referred to as carinated or carination rims. These carinated rim forms do not necessarily describe the vessel form (compare DeCorse 2009:32-33). Everted rims that have their rims or lips parallel to the ground are referred to as everted horizontal.

Lip characteristics described here include tapered, squared, rounded, and grooved. Tapered lip has a pointed, V-shaped morphology while a rounded lip is u-shaped. Squared lip has a flattened surface with sharp corners. Grooved lip refers to a squared lip with a shallow groove between the corners (Crossland 1989:28-43).

**Vessel form**

As noted, although no complete vessels were recovered, some vessel forms can be inferred based on material from other sites in southern Ghana cited above. Vessel forms identified in the Wawase and Supomu collections include pots, jars, bowls, and cups. One oil lamp was collected (APPENDIX A 19). Vessel forms are extrapolated from the rim diameter, rim form, and bases where these elements are discernable. For example, usually, jars and pots have restricted necks, and bowls are defined by everted (curved outward) vessel walls without necks. Pots and jars are used interchangeably because most of the sherds are incomplete, and it is difficult to estimate the maximum height or rim diameter of the vessels (compare Rice 1987:216). Otherwise, jars are usually defined by cylindrical body shape with maximum height exceeding the maximum diameter of the vessel while pots have globular body shape with their maximum diameter greater than maximum height. Cups refer to smaller vessels characterized by a smaller rim or maximum body diameter (that is <10cm), and generally, the height is less than the rim diameter (e.g., APPENDIX A 107). Mainly, the cups described below have straight-sided rim profiles.

As noted, pots, jars, and bowls are distinguished by the relative sizes of the rim diameter and maximum height of the vessels. Pots and jars have spherical bodies with their maximum heights greater than or the same as the maximum body with or rim diameter (Bellis 1976b:68; Crossland 1989:62). Bowls are defined by their squat bodies with their maximum height less than
the maximum width or rim diameter (Bellis 1976b:68; Crossland 1989:62). Usually, bowls are marked by direct sloping rim profiles with few instances of inverted rims with an exterior keel or carination (see APPENDIX A 98). Often, bowls lack the constriction at the neck compared to jars or pots. Jars, pots, and bowls are described by their relative sizes as small (with rim or maximum body diameter of less than 5cm), medium (rim or maximum body diameter between 5 and 25cm), and large (with rim or maximum body diameter of greater than 25cm).

**Surface treatment and preparation**

Surface attributes describe the color, smoothness, polishing, and roughness. Both the internal and external surfaces are described. The clay's structural features, firing temperature, and the vessel's surface treatment and preparation before and during firing afford these characteristics. Surface preparation identifies the smoothening and/or evening of the surface of the vessel before firing. Sherds are described as having rough, evened, or smooth surfaces. Rough surfaces show irregular dips and ridges across the entire surface of the sherds. Usually, this roughness of the vessel surfaces was intentionally applied apparently to provide a grip on the vessel (DeCorse 2009:43). Evened surfaces refer to those that have a uniform but not smooth surfaces. Smooth surfaces do not exhibit any undulations.

Surface treatment describes the vessel surface's outcomes by polishing or altering the vessel's color by changing the oxidizing condition of the firing process. Burnishing and smudging are two main terminologies used to describe these changes on the vessels' surfaces. Burnishing refers to sherds that are highly polished and have glossy surfaces. In cases the polishing does not cover the entire surfaces of the sherd or vessel, it is described as slightly burnished. Smudging refers to the outcome of a firing technique that involves reduced atmospheric conditions (usually by adding something like grass) that gives the vessel a uniform black surface. In cases where parts of the vessel surface become darker than other parts of the vessel due to uneven firing conditions, the term fire-cloud is used to describe this surface color feature. While generally burnished sherds are smudged, not all smudged sherds are burnished.

**Decoration**

The decorative attribute describes the combination of technique used and motif represented on the vessel. Incisions and stamps constitute the main techniques used in the decoration of the pots in the assemblage. Incisions refer to a technique where an object is used to make linear impressions on the pot after it has been molded. These incisions are referred to as grooves when the width of...
the impression is more than a millimeter. Incisions and grooves appear to come in mainly horizontal and vertical motifs at the upper parts of the vessel including the rim, neck, and shoulder. In a few cases, oblique, arcs, and wavy line patterns are also are represented in the incisions and grooves. Grooves appear mainly on the shoulder, lip, and neck. When grooves occur in the interior of the vessel, they are found above the neck or top of the rim.

Stamping refers to a method where an object is to press individual designs on the pots. This technique is sometimes referred to as punctations or notches. The commonest motif in the assemblage includes circular and triangular stamps. A few shell and roulette stamps were also noted. Unlike incisions, stamps occurred on any part of the vessels, including the lip, body, and base. A few of the sherds may have been red-slipped where fine clay and water are used to coat the body of the vessel before firing. However, in most cases, this is difficult to tell as the slip had eroded (see APPENDIX A 84).

Additional comments
In addition to these broad attributes, individual measurements are sometimes included in the description. The weight of individual sherds was noted for future reference. In some cases, the dimensions of the sherds are pointed out. A combination of photos and drawings are used to illustrate the sherds. However, some of the sherds are not shown for practical reasons. Where the rim profile is illustrated, the dotted lines at the top represents the interior of the vessel, and the figure noted below is the estimated rim diameter of the vessel. The dotted lines below show the extension and extrapolated form of the vessel. Also, probable date ranges are provided based on context and known estimates from other archaeological sites in southern Ghana. The appendix title provides the contextual information for the sherd.

Annotated description

APPENDIX A 1. SUPOMU. NCT 42. QUADRANT. SURFACE COLLECTION
Two co-joinable rim sherds; a small bowl or cup; sherd is uncharacteristically thick measuring 2.09-3.3cm; thinner at the lip than the other vessel parts; paste is robust with fine texture except one large quartz granule noted in the paste; both interior and exterior surfaces have rough surfaces; lip has notches; small linear indentation and dips beneath the lip; neck and shoulder have wide grooves about 0.5cm wide; fire-cloud; possible date early contact period -seventeenth century; only the largest piece is drawn; weight is 0.75lb.
APPENDIX A 2.  SUPOMU. NCT42 QUAD SURFACE COLLECTION
Flat and ring-shaped base vessel—only the upper part of the vessel is missing; vessel wall is about 1.34cm thick- likely a bowl; rim diameter is uncertain (probably > 10cm); robust paste coarse texture with quartz inclusions; both sides of base appear charred; fire-cloud surface color of vessel ranges from light brown to reddish brown; vessel is evened on both surfaces; decoration appears at bottom edge of vessel - triangular to crescent-shaped stamps along the foot of the vessel; estimated date range in seventeenth to nineteenth century; weight is 1.07lb.
APPENDIX A 3.  **SUPOMU NCT42 QUAD SURFACE COLLECTION**
One piece of body sherd; 0.58cm thick; 8×6 cm dimension; paste is robust; fire-clouded–color range from grayish to reddish-brown; exterior appears reddish; surface is rough in both interior and exterior; two multiple grooved decoration run horizontally along the vessel and three diagonal grooves; vessel wall is 0.5cm thick; estimated date range in seventeenth to nineteenth century; weighs 0.065lb.

APPENDIX A 4.  **SUPOMU NCT42 QUAD SURFACE COLLECTION.**
Rim sherd (between 0.65 and 0.95cm thick); wall tapers at the lip; rim is everted; vessel is a bowl with an approximate diameter of 22cm; fire-cloud–sherd color is black to dark brown; robust, fine texture paste; vessel is smoothed and highly burnished; smoothing appears in somewhat horizontal striations which may appear that the vessel may be wheel-thrown; no decoration occurs on the exterior; single groove on the interior rim; date range estimate is seventeenth to the nineteenth century; weight 0.155lb.

APPENDIX A 5.  **SUPOMU NCT. 42 QUAD SURFACE COLLECTIONS**
Two similar pieces of rim sherds, possibly from the same vessel; vessel form uncertain, likely to
be a deep bowl; rim diameter is uncertain; vessel is slightly everted or direct sloping with a small bulge in the upper interior of the vessel; a bulge in the upper part of inner rim; lip is tapered; vessel is between 1 and 1.1 cm thick; paste is robust and texture is fine, tiny specks of mica noted in the paste; vessel surface is smoothed and slightly burnished; fire-cloud–color ranges from gray to light brown; wide grooves appear at both ends of the interior bulge; no decoration found on exterior surface; estimated date range is seventeenth to nineteenth century; weight 0.21lb.

**APPENDIX A 6. SUPOMU. NCT 42 QUAD SURFACE COLLECTION**

Rim sherd; thin-walled bowl; rim diameter is 12cm; wall is 0.88cm thick; color is yellowish-brown with a grayish-brown; paste is robust with specks of mica noted in paste; vessel is direct sloping without any angles; has a squared lip; surface is evened and smooth; vessel is undecorated on both sides; no burnishing present; no smudges present; isolated quartz fragments noted in paste; estimated date range is seventeenth to the nineteenth century; weight is 0.16lb.
APPENDIX A 7. SUPOMU NCT 42 W1 QUAD SURFACE COLLECTION
A piece of a large rim sherd between 0.76 and 1.25 cm thick; likely from a medium globular pot or jar; rim diameter is 16 cm; vessel is everted and angular with restricted orifice – pieces of the lip are broken off; paste is robust with rough coarse texture; surface is evened on both sides; but the sherd is somewhat eroded; 3 grooves less than or equal 0.5 cm wide appear at the lip of the vessel in the interior; exterior surface is also worn; fire-cloud – color range from reddish to light brown and has isolated smudges; estimated date range is seventeenth to the nineteenth century; weight is 0.365 lb.
APPENDIX A 8. SUPOMU NCT 42 W1 QUAD SURFACE COLLECTION
A piece of a thick rim sherd 2.06cm thick; probably from a large bowl about 25cm rim diameter; rim is slightly inverted; surface color is yellowish-brown to brown; paste is robust and has fine texture; the exterior part of the lip has two grooves; lip of the rim is rounded; surface of the vessel is evened; no burnishing is present; estimated date range is seventeenth to the nineteenth century; weight is 0.210lb.
APPENDIX A 9.  SUPOMU. NCT 42 W1 QUAD SURFACE COLLECTION
A piece of a thick rim sherd; vessel wall is measured between 0.9 - 1.46 cm thick; vessel is a medium bowl with 15cm rim diameter; the lip of rim has a wide groove; rim has an exterior bulge at corner of the curvature; on the bulge are circular stamps or notches; the paste is robust and has fine texture; surface color ranges from dark brown interior to yellowish or grayish brown exterior; the surface is smoothed but not burnished; estimated date range is seventeenth or eighteenth century; weight is 0.055lb.

APPENDIX A 10.  SUPOMU NCT 42 W1 QUAD SURFACE COLLECTION
A small piece of evert rim sherd; robust paste rounded lip; fire cloud surface color; both sides of the vessel are smoothed and slightly burnished; exact form is uncertain; rim is everted and neck is constricted which suggest that vessel is likely a pot or jar; vessel wall is approximately 1.2cm thick; 3 circular stamps are noted in the interior as well as a small groove running horizontal along the interior angle of the vessel; paste is orange colored and robust; texture is fine; estimated date range is seventeenth to the nineteenth century; weight is 0.035.
APPENDIX A 11. SUPOMU NCT 42 W1 QUAD SURFACE COLLECTION
A piece of a small rim sherd; vessel wall is 1.12cm thick; exact form is uncertain; color is reddish-brown or orange; paste is robust, and texture is fine; surface is smoothed; lip has 2 grooves running along it; there appears to be an irregular roulette on the exterior; exact kind is uncertain; estimated date range is seventeenth to the nineteenth century; weight is 0.060lb.

APPENDIX A 12. WAWASE QUAD R80 LOCUS 1 SURFACE COLLECTION
A piece of a thick-walled rim sherd; the vessel wall is 1.77cm thick; vessel form is uncertain; the paste is robust with uniform coarse texture; rim is likely to be direct sloping? in which case the vessel was likely to be a bowl; multiple vertical incisions across the lip on the interior of the vessel; the exterior is not decorated; the inner part of the neck angle is flattened or squared; color of sherd is light to yellowish-brown or orange; estimated date range is seventeenth to the nineteenth century; weight is 0.090lb.

APPENDIX A 13. WAWASE QUAD R80 SURFACE COLLECTION LOCUS 1
Two sherds (a) A piece of uncertain sherd part; color is black to light brown; sherd is eroded; the paste is robust, and texture is very coarse; both sides of the vessel’s surfaces are evened; vessel wall approximately 0.9cm thick; weight is 0.050lb.
(b) A piece of rim sherd; vessel form uncertain; rim is everted; large pieces of quartz inclusions noted in paste; exterior color is reddish-brown; interior color is dark brown; wall approximate 1.20cm thick; no decoration; no burnishing present; surface is somewhat eroded; date range uncertain; weight is 0.055lb.

APPENDIX A 14. WAWASE LOCUS 2 L280 QUAD SURFACE COLLECTION
A piece of a large rim sherd from a medium pot or jar of 20cm rim diameter; two co-joinable
pieces of rim 1.02 - 1.35 cm thick wall; rim is slightly everted or direct; vessel has constricted neck; paste is robust and orange colored; exterior is fire-cloud; interior is reddish to orange; surface is evened in the interior; exterior is smoothed but not burnished; a single groove runs along the neck of the vessel; paste has a fine texture without any evidence of quartz inclusions; a few tiny speck of mica noted on surface; estimated date is seventeenth to the twentieth century; weight is 0.320 lb.

APPENDIX A 15. WAWASE LOCUS 2 L280 QUAD SURFACE COLLECTION
A rim sherd from a medium pot similar to one noted above; rim diameter is 15cm; rim is a slightly everted or direct with a rounded lip; vessel has constricted neck; vessel wall is approximately 0.9cm thick; paste is robust and orange-colored; texture is fine; fire-cloud – isolated smudges on both sides of the vessel, that is dark reddish brown to dark brown surface; surface is evened and slightly smoothed but not burnished; isolated specks of mica on the surface of the vessel; estimated date is seventeenth to the twentieth century; weight 0.165lb.
APPENDIX A 16.  WAWASE LOCUS 2 L280 QUAD SURFACE COLLECTION
A rim sherd from a medium carinated pot; rim diameter is approximately 22cm; internal body diameter is uncertain; rim is everted with rounded lip; wall is between 0.97 and 2.05 cm thick - lip is thinner than the other parts of the vessel; vessel has sharp angles at the neck on both sides; paste is robust; fire-cloud surface color – color is dark brown to black; surface is smoothed and slightly burnished; paste is robust and gray-colored; 1 piece of quartz noted in paste, otherwise paste texture is fine; grooves appear on the exterior necks of the vessel; groove appear along the interior lip of the vessel; multiple horizontal incisions are also noted at the exterior of the body; estimated date is seventeenth to the twentieth century; weight is 0.24lb.

APPENDIX A 17.  WAWASE LOCUS 2 L280 QUAD SURFACE COLLECTION
A rim sherd from a large bowl; rim diameter approximately 27cm; all thickness 1.25cm; lip is rounded; rim is direct sloping with a small bulge at the upper part in the interior; sherd is black; surface is smoothed and burnished; paste is robust black; texture of paste is fine; 3 shallow grooves appear in the interior at the lip of the vessel; estimated date is seventeenth to the twentieth century; weight is 0.180lb.
APPENDIX A 18.  WAWASE QUAD R80 SURFACE COLLECTION
Two pieces of sherd, sherd type uncertain, is probably a neck or base; vessel form is indeterminate; paste is gritty orange and texture is coarse with quartz granules noted in the paste; incisions run diagonally on the body of the vessel; date range estimation uncertain; weight not recorded.

APPENDIX A 19.  WAWASE LOCUS 1 QUAD R80 SURFACE COLLECTION
Oil lamp fragment? Half of the vessel is missing; difficulty to tell the base; wall average 0.79cm thick; interior has rough surface; exterior is evened but not smoothed; zigzag or wavy roulette run along the sides of vessel; paste is robust; interior is charred exterior and smudged, probably from use; color is light brown to dark yellowish-brown; estimated date is eighteenth to the twentieth century; weight is 0.130lb.

APPENDIX A 20.  SUPOMU QUAD NCT 41 E1 SURFACE COLLECTION
One piece of rim sherd; rim is likely everted; form indeterminate, vessel likely has restricted necks, but broken at the neck; paste is robust and texture is coarse; interior is smoothened and...
slightly burnished; exterior is rough and eroded; two grooves appear in the inner portion of the top of the rim; lip is broken; fire-cloud surface color—dark-brown to reddish-brown; estimated date range is seventeenth to nineteenth century; vessel wall is 1.66cm thick; weight is 0.165lb.

APPENDIX A 21. WAWASE LOCUS 2 QUAD J280 SURFACE COLLECTION
Rim sherd; direct sloping with a corner point or a ledge; form is medium bowl with a rim diameter of 20cm; wall is approximately 1 cm thick; paste texture is coarse and robust; surface is smoothed on both sides; groove occurs at the lip or neck of the vessel; vessel is not burnished; estimated date is sixteenth to the twentieth century; weight is 0.055lb.

APPENDIX A 22. WAWASE LOCUS 2 QUAD J280 SURFACE COLLECTION
One piece of a large rim sherd from a medium-size pot or jar with a restricted neck; rim diameter approximately 20cm; rounded lip with 2 grooves in the inner upper part of lip; flared at the exterior neck but has an interior keel; paste texture and is robust orange/red color; 1 isolated quartz pebble noted in the paste; vessel appears to have a black slipped exterior, and red slipped interior? but eroded; 3 wide grooves on the shoulder and neck of sherd; wall 1.60cm - 1:18cm thick; estimated date range is seventeenth to the twentieth century weight is 0.27lb;
APPENDIX A 23. WAWASE SURFACE COLLECTION TRANSECT (L 1) T 120
Small rim sherd from a medium bowl approximately 25 cm rim diameter; rim is a direct; sloping; lip is squared and grooved; sherd is somewhat eroded; color is grayish brown; robust paste - coarse texture; surface is evened; irregular incisions run along the exterior body; wall is between 1.12cm thick and 1.20cm; estimated date range is seventeenth to nineteenth century; weight is 0.090lb.
APPENDIX A 24. SUPOMU - NORTH SIDE SURFACE COLLECTION
A rim sherd; medium carinated bowl or pot 20cm rim diameter; rim sherd is everted and almost parallel to the ground; wall thickness range from 2.32 - 1.46cm; surface is smoothed and burnished on both sides, but the interior appears less burnished than the exterior; paste is black robust and texture is coarse; 2 wide grooves present at the neck and 1 smaller groove at the shoulder; a crescent-shaped stamp present above the shoulder 2 other smaller groove occurs on the lip in the interior of the vessel; estimated date is nineteenth century; weight is 0.315lb.

APPENDIX A 25. SUPOMU QUAD NCT 40 SURFACE COLLECTION
A very eroded rim sherd of a medium pot or bowl; rim is inverted; rim diameter approximately 20cm; lip is squared; Paste texture is coarse; paste is robust with quartz inclusions; wall is 1.36cm thick and is uniform across the vessel wall; no decoration present on vessel; surface is evened but not smoothed; no burnishing; estimated date is seventeenth to eighteenth century; weight is 0.12lb.
APPENDIX A 26.  SUPOMU QUAD NCT 40 SURFACE COLLECTION
Rim sherd from a medium pot or jar with everted rim; rim diameter approximately 17cm; vessel wall is between 1.01 and 1.24cm; wall thins from the shoulder and neck towards the body; paste is robust yellowish to dark yellowish brown and gray; paste texture is coarse; surface is quite eroded. There appears to be some slipping; exterior surface is evened, and interior is rough; no burnishing present; one isolated groove noted at the shoulder of vessel; estimated date range is seventeenth to the nineteenth century; weight is 0.120lb.
APPENDIX A 27.  SUPOMU QUAD NCT 40 SURFACE COLLECTION  
A rim sherd from a medium carinated bowl?; rim diameter is approximately 17cm; rim is slightly inverted with a keel at the exterior neck or shoulder; multiple grooves present between lip and the point of keel; exterior surface is evened but not smoothed; interior is rough; lip wall is 1.1cm and angled shoulder is 1.6cm paste is robust orange/yellowish ware; paste texture is coarse; estimated date range is seventeenth to nineteenth century; weight is 0.090lb.

APPENDIX A 28.  SUPOMU NCT 42 W1 QUAD SURFACE COLLECTION  
A rim sherd; form is a globular pot; rim diameter is approximately 5cm body diameter unknown; wall is thicker than the body; sherd is about 5cm × 5cm wide; paste is robust and grayish; paste has fine coarse texture; interior is rough; exterior is evened; no decoration or burnishing present; lip wall is 2.15cm thick; body wall is 1.61cm thick; weight is 0.165lb.
APPENDIX A 29.  SUPOMU NCT 42 QUAD SURFACE COLLECTION
Rim of a medium bowl vessel diameter is 17cm; grooved lip and form is similar to Eguafo type 7; paste is robust with fine coarse texture; paste color is grayish brown; internal surface is rough with an irregular surface; exterior is smooth but no burnishing; color of the sherd is yellowish orange to brown; groove occurs on the rim (exterior) only; body diameter unknown; sherd dimensions is 6×4 cm.

APPENDIX A 30.  SUPOMU UNIT 1 LEVEL 10 (refer to Appendix A 25)
Rim sherd from a large open bowl; rim diameter about 28cm; rim is everted and parallel to the ground; sherd wall thin toward the body of the vessel; lip wall about 2cm body wall is 0.55cm; paste is robust orange and medium coarse paste; quartz pebbles noted in paste; outer surface is smudged with black areas on surface; interior surface is reddish; multiple incised lines on the exterior; 4 triangular stamps noted on top of lip; surface is rough in both sides; lip is somewhat square not rounded; weight 0.135lb.

APPENDIX A 31.  SUPOMU UNIT 1 LEVEL 10 (80-90 cm)
Small jar or cup; rim sherd diameter approximate 10cm; vessel is inverted with squared lip; vessel color ranges from dark brown to gray; paste is robust and medium fine coarse texture; surface is smoothed on both sides; no burnishing present; wall is 0.86cm - thickness is uniform throughout vessel; 2 wide grooves noted on exterior surface of the vessel.
APPENDIX A 32. SUPOMU UNIT 1 LEVEL 9 (70-80cm)
A thin walled body sherd 0.58cm thick; form unknown; sherd dimension 2.18cm \times 6.38cm; sherd color - orange to light brown; paste is robust orange with fine- medium coarse texture; surface is evened but no burnishing present; an appliqué molded on the body with triangular stamps on the appliqué

APPENDIX A 33. SUPOMU UNIT 1 LEVEL 9 (70-80cm)
Rim sherd from a slightly flared rim—pot or jar; smudged in the interior and dark reddish brown on the exterior; paste is robust grayish brown with medium coarse texture - quartz inclusions present; lip is rounded; interior neck appears angular that is flaring appears on the exterior; exterior is evened, and interior is rough; no decoration present on vessel though this may be eroded; vessel diameter approximate 15cm; weight is 0.085lb.
APPENDIX A 34. SUPOMU UNIT 1 LEVEL 9 (70-80cm)
Rim sherd 6.62cm × 3.76cm sherd in dimension; rim sherd from a small bowl or cup - diameter 12cm; sherd color is red/ orange- same as paste; paste/ fabric has a fine uniform coarse texture; external surface smoothed: interior is rough and probably eroded - paste appears orange robust; no burnishing present; rim is everted with lip horizontal/parallel to the ground making the lip appear grooved beneath; single incision present on the exterior; wall approximately 1.29cm thick; weight is 0.075lb.
APPENDIX A 35.  SUPOMU UNIT 2 LEVEL 5 (103-110 cm)
Large rim Sherd from a globular pot with restricted orifice - Acketekiwi - for tapping palm wine; rim diameter is less than 5cm (probably 4cm); vessel is thicker at the rim than the body; vessel is smudged on both sides (more in the interior); color ranges from red to light brown to black; paste is grayish brown robust with medium coarse texture; few quartz flakes noted in paste; surface is rough on both sides; no decoration or burnishing present; lip wall is 2cm thick; body is 1.31cm thick; weight is 0.75lb.

APPENDIX A 36.  WAWASE UNIT 2 LEVEL 4 (25-30cm)
Two co-joinable piece of rim total dimensions 12.15cm × 5.06cm and 1 isolated piece but from the same vessel; vessel form is probably medium uncarinated pot with a rim diameter of 27cm; rim is everted with restricted neck, neck is angled in the interior; paste fine uniform texture, robust orange to grayish brown few isolated quartz flakes/pebbles noted in paste; surface is evened and smoothed but not burnished; decoration occurs on the neck vessel; 2 grooves run along the neck of the vessel; total weight is 0.435lb.

APPENDIX A 37.  WAWASE LOCUS 1 UNIT 2 LEVEL 4 (25-30cm)
Three pieces of body sherd relatively thin walled 0.80cm thick; paste texture fine and color is orange; paste is robust; specks of mica present in fabric; exterior is smooth while interior is
eroded probably evened; decoration includes a horizontal and crescent groove motif; date range uncertain; weight unrecorded.

APPENDIX A 38.  
SUPOMO UNIT 3 LEVEL 2 (0-30cm)
Rim sherd; lip is squared and has two wide grooves; rim form is slightly inverted; lip is squared with a dual groove; vessel form is uncertain, probably a large bowl or pot with diameter approximate 28cm; paste is robust grayish brown with a coarse texture; surface is smoothed and evened on both sides; fire-cloud surface color; no decoration on the body; vessel wall is 1.4cm thick; (sherd dimensional equals 5.8×3.7 cm); estimated date is seventeenth to the nineteenth century; weight unrecorded.

APPENDIX A 39.  
SUPOMU UNIT 3 LEVEL 4 (50-60cm)
Rim sherd of an indeterminate vessel form; rim has an interior keel interior and flared at the exterior; rim is everted with round lip; paste is orange robust and has a coarse texture; exterior surface has a red slip; rim diameter is 25cm; estimated date range is seventeenth to nineteenth century; weight unrecorded.

APPENDIX A 40.  
SUPOMU UNIT 3 LEVEL 4 (50-60cm)
Two co-joinable rim sherds; a medium bowl with 22cm rim diameter; lip is squared and has two grooves that sits on top of the exterior keel; rim is slightly inverted; paste is robust and has a fine texture; surface is smoothed; no decoration appears on the body color of a sherd is fire cloud; vessel wall is 1.38cm thick wall; estimated date range is seventeenth to nineteenth century; weight unrecorded.
APPENDIX A 41. SUPOMU UNIT 3 LEVEL 4 (50-60cm)
Two co-joinable rim sherds; vessel form pot or jar; vessel wall 0.75 -1.43 cm thick; rim is squared with two grooves running atop a small bulge on the exterior; rim diameter is approximately 25cm; paste is robust dark brown color; fine texture; interior surface is evened, exterior is smoothed; sherd color is fire-cloud; decoration groove occurs along the rim but not on the body; estimated date range is seventeenth to nineteenth century; weight is 0.215lb.
APPENDIX A 42. SUPOMU UNIT 3 LEVEL 4 (50-60cm)
A rim sherd; vessel is a bowl; rim is slightly inverted with an exterior corner point or carination and flared interior; rim diameter is 25cm; sherd color is black to light brown—fire-cloud; lip is squared with 2 wide grooves between the exterior corner point and the lip; vessel wall 1.89 and 0.55cm and thins towards the body; paste is orange robust and coarse texture—quartz granules in paste; surface is evened and smooth on both sides; there appears to be rouletting on the exterior but this is not so evident - groove appears between lip and corner point of sherd; estimated date range is seventeenth to nineteenth century; weight is unrecorded but sherd is 6×4.5cm in dimension.

APPENDIX A 43. SUPOMU UNIT 3 LEVEL 4 (50-60cm)
Rim sherd - form uncertain; lip is rounded; vessel has a restricted orifice and carinated on both sides; large vessel with rim diameter of 25cm - exact form uncertain likely to be a pot or jar; sherd color is orange brown; paste is robust and orange-colored with a coarse texture—granules of quartz in paste; surface is evened on both sides; no burnishing present on surface; small incisions run along the rim in the interior; exterior has incisions running along rim, neck and shoulder; there are small stamps of irregular vertical lines above the neck of the vessel; wall thickness is 2.04 and 1.5cm; estimated date range is seventeenth to nineteenth century; weight is 0.21lb.
APPENDIX A 44.  SUPOMU UNIT 3 LEVEL 3 (30-50cm)
Rim sherd - 2.48cm thicker at the neck, 1.5cm at the rim; rim is from a small pot / jar with a rim diameter of approximately 20cm - lip curvature uncertain; sherd is angular on both sides at the neck given it restricted orifice; rim a groove in the interior of the rim; surface is smoothed in the exterior; interior is evened; paste is robust grayish brown with a coarse texture; decoration; 3 grooves on the shoulder and 2 on the lip; estimated date range is seventeenth to nineteenth century; weight is 0.385lb.
APPENDIX A 45.  SUPOMU UNIT 3 LEVEL 3(30-50cm)
Rim sherd from an open bowl (bowl?); diameter about 20cm angled at the shoulder; has an exterior keel, but flared in the interior; rim is tapered and squared toward the interior; paste is orange-colored and robust with a fine texture; one isolated quartz flake noted in paste; sherd color is fire-cloud–ranging from orange to dark red and black; surface is smoothed on both sides; interior upper part of rim has 3 horizontal grooves; estimated date range is seventeenth to nineteenth century; wall is 1.5cm thick - sherd dimension is 7cm × 4.6cm.

APPENDIX A 46.  SUPOMU UNIT 3 LEVEL 3 (30-50cm)
Rim sherd from a bowl?; diameter equals 20cm; 7.45 × 3.7cm dimension; rim is grooved, 2 wide grooves; this vessel is similar to one in addendum 47; paste is dark orange to grayish brown and fine uniform texture; surface is well smoothed with no insulation; lip is squared; no burnishing present; decoration occurs above the shoulder between the lip and neck; estimated date range is seventeenth to nineteenth century; weight unrecorded.
APPENDIX A 47. SUPOMU UNIT 3 LEVEL 3 (30-50 cm)
Rim sherd - 6.85 × 4.93 cm; sherd from large pot with restricted orifice - diameter approximate 30 cm, body diameter unknown; rim is everted; lip is squared - angled in the interior but flared in the exterior; paste is robust grayish brown with coarse texture; surface is well smoothed on both sides; no burnishing present; decoration occurs on the inner side of lip; multiple grooves; color is fire-cloud–dark brown and dark red/orange; vessel wall is 1.55 cm thick at the neck, 0.8 cm at the shoulder; estimated date range is seventeenth to nineteenth century; weight is 0.12 lb.
APPENDIX A 48. SUPOMU NCT 42 W1 QUAD SURFACE COLLECTION
Two eroded pieces of body sherd; paste is gray to a light brown color - fine texture and robust; interior surface is rough; exterior is smooth; decoration includes a combination of grooves and roulette and appears on the exterior of the vessel; exact type of roulette is unknown; some appears oblique and vertical; no burnishing present; sherd may have been from two vessels based on surface color and paste characteristics; estimated date uncertain.

APPENDIX A 49. SUPOMU UNIT 3 LEVEL 2 (0-30cm)
Rim sherd; from a medium bowl; rim diameter of 13cm; sherd wall is between 1.15 and 1.90 cm thick sherd dimensions 5.7×5.3 cm; rim form is direct sloping with the lip parallel to the ground; vessel is thicker at the rim than the body of the vessel; color is orange to grayish brown- interior has an orange color; exterior has a grayish brown color; surface is smoothed but not burnished on both sides although the interior appears eroded; paste is robust grayish brown with medium coarse texture- few quartz flakes noted in paste; a wide groove just below the lip; estimated date range is seventeenth to nineteenth century; weight is 0.12lb.

APPENDIX A 50. SUPOMO UNIT 3 LEVEL 2(0-30cm)
Rim sherd from a possible small open bowl/ vessel; dimensions 3.6×4.5cm; wall; thickness 1.26cm; rim is direct curving with squared lip; rim is grooved; paste is robust grayish brown to light brown; paste texture is smooth no quartz noted inclusions- fine texture; surface is smoothed but not burnished; interior color is orange brown; exterior surface is dark brown; groove occurs
above the exterior angle of the vessel; estimated date range is seventeenth to nineteenth century; weight is 0.070lb.

APPENDIX A 51. SUPOMU UNIT 3 LEVEL 2(0-30cm)
Rim sherd; exact form uncertain (likely to be a medium pot less than or equal 25cm diameter); rim is everted with an exterior corner point; lip is squared; sherd color is grayish brown to yellowish brown; paste is robust with a fine texture; surface is evened on both sides of the vessel; 3 wide grooves appear on the interior above the neck; a single groove runs along the neck of the vessel; estimated date range is seventeenth to nineteenth century; sherd dimensions 6.8cm × 4.5cm / 1.28cm thick wall weight is 0.110lb.
APPENDIX A 52.  SUPOMU UNIT 3 LEVEL 2(0-30cm)
Rim sherd; small carinated pot with rim diameter approximately 25cm; lip is rounded; rim is
everted; color is fire-cloud – light brown to dark brown and black interior; interior surface is
smoothed; exterior surface is eroded; interior is undecorated; exterior has irregular incised lines
running along the lip; estimated date range is seventeenth to nineteenth century; dimensions
8.85cm × 4.2cm wall 1.3cm lip neck 2.12cm; weight 0.195lb.

APPENDIX A 53.  SUPOMU UNIT 3 LEVEL 2(0-30xm)
Two co-joinable sherds - rims from a small pot; rim diameter is 15cm; wall:1cm throughout
vessel; color is orange or red throughout surface and paste; paste is robust orange with coarse
texture; interior is evened: exterior surface is eroded; exterior is red slipped and slip appears
weathered; sherd appears to have vertically incised decoration suggesting that incised motif was
applied before slipping; lip shape is unclear; estimated date range is seventeenth to nineteenth
century; dimensions 8.62cm× 5.94cm; weight is 0.155lb.
APPENDIX A 54. SUPOMU UNIT 3 LEVEL 4 (50-60cm)
Rim sherd from medium open bowl; rim diameter is 24cm; lip is squared and rim is grooved - 2 grooves between the exterior corner point and the lip; vessel wall is 1.62cm and 0.77cm and thin towards the body of the vessel; color of the vessel is orange; paste is robust with a coarse texture; quartz inclusion is dense; interior surface is eroded and exterior is smoothed; grooves run along the shoulder of the vessel; estimated date range is seventeenth to nineteenth century; sherd dimension - 12cm×7cm; weight unrecorded.
APPENDIX A 55. SUPOMU UNIT 3 LEVEL 4 (50-60cm)
Rim sherd; exact from uncertain rim diameter is approximately 30cm; rim morphology is almost vertical - simple direct (straight-sided vessel); vessel wall thickness is between 0.95cm and 1.75cm; Two grooves sits on a bulge in the interior or the vessel- lip is rounded; color is orange/reddish and slightly smoothed on the exterior; paste is robust orange with fine texture; surface is evened on both sides; decoration occurs in the interior at the lip - 2 small grooves; estimated date range is seventeenth to nineteenth century; dimensions 7.19cm×4.35cm; weight is 0.14lb.

APPENDIX A 56. SUPOMU UNIT 3 LEVEL 3 (30-50cm)
Four co-joinable rims; sherd from a medium bowl; rim diameter equals 23cm; squared lip; paste is robust with coarse texture; surface is smoothed on both sides; exterior color is dark brown to dark orange, brown; 2 wide grooves found at the rim just above the corner point of the vessel; estimated date range is seventeenth to nineteenth century; sherd dimensions 9.5×4.1cm dimension; 1.62 and 0.62 thick wall; weight unrecorded.
APPENDIX A 57.  **SUPOMU UNIT 3 LEVEL 4 (50-60cm)**
Small rim sherd from medium uncarinated bowl; similar to Appendix 56 above; rim slope is almost direct sloping with a corner point; 3 wide grooves between the corner point and the lip of vessel; estimated date range is seventeenth to nineteenth century; sherd dimensions 4.16×3.55 cm dimension; vessel wall thickness 1.6cm and 1.12cm; weight unrecorded.

APPENDIX A 58.  **SUPOMU UNIT 3 LEVEL 4 (50-60cm)**
Large rim sherd; rim is everted and slightly flared on the exterior; an interior bulge at the neck; form is a medium jar or pot; rim diameter is 25cm; vessel wall is thicker at the rim and thins towards the body of the vessel; lip is weathered and morphology uncertain; paste is robust orange with coarse texture; quartz granules in paste; one large quartz flake noted in fabric; interior surface is very eroded; surface appear evened; exterior surface has red slipped but weathered; estimated date range is seventeenth to nineteenth century; 8.95cm × 9.26cm sherd dimensions;
wall 2.2cm and 0.93cm weight is 0.34lb.

APPENDIX A 59. SUPOMU TRENCH / UNIT 1 LEVEL 3 (50-60cm)
A small rim sherd; exact form uncertain; rim is everted with corner point in the interior neck; lip is rounded: rim appears somewhat flared in the exterior; paste is robust orange with a slightly coarse texture; surface is eroded on both sides probably evened; no decoration recorded on sherd; estimated date range is seventeenth to nineteenth century; sherd dimension is 5.76×3.28cm; wall thickness 1.5cm - thickness is uniform weight is 0.08lb.
APPENDIX A 60.  SUPOMU TRENCH 1 UNIT 1 LEVEL 8(50-55cm)
A rim sherd from a medium jar or pot with restricted neck; rim diameter is 28cm; lip is tapered and slightly angled at the neck in the interior; surface color is orange to light brown; paste is robust with uniform fine texture; surface is evened on both sides; striations on the interior with 5 triangular stamps noted along the lip in the interior; estimated date range is seventeenth to nineteenth century; sherd dimensions 7.7cm×5.36cm; vessel wall thickness is 1.4cm at the lip and body wall is 0.8cm thick; weight is 0.120lb.

APPENDIX A 61.  SUPOMU UNIT 3 LEVEL 8 (85-90cm)
Two co-joinable sherds; rim sherd probably from a medium uncarinated pot diameter with rim diameter approximately 25cm; shoulder of the vessel is missing; lip is squared; rim is everted with restricted neck; sherd color is gray with a smudged spot in the interior; paste is robust grayish brown with fine texture; surface is smoothed on both sides; no burnishing or decoration present; estimated date range is seventeenth to nineteenth century; sherd dimensions - 8.64×2.4 cm; wall 0.80cm thick; weight is 0.55lb.

APPENDIX A 62.  SUPOMU STP 5 NCT 43 LEVEL 1 (0-10cm)
Rim sherd exact form uncertain; rim diameter is 24cm; rim is everted with restricted neck – carinated; lip is squared towards the interior; color of the sherd is fire-cloud – from black to red and brown; paste is robust black with a coarse texture–quartz granules in paste; surface is evened and smoothed on both sides; no burnishing present; no decoration present; estimated date range is seventeenth to nineteenth century; dimension of sherd is 5.3×4cm; vessel wall is between 1.5 and
0.6cm thick; weight is 0.075lb.

APPENDIX A 63. SUPOMU NCT 43 STEP 5 LEVEL 1 (0-10cm)
A large rim sherd from a large open bowl; rim is direct sloping and lip is rounded; vessel has a little bulge in the interior at the upper part of the rim; sherd thins towards the body; sherd color is yellowish to light brown; paste is grayish-brown robust with fine texture; surface of the sherd is evened and smoothed on both sides; 3 grooves noted at the interior of the rim above the bulge; estimated date range is seventeenth to nineteenth century; sherd dimension is 9.53cm×7.5cm; vessel wall is between 1.2cm and 0.7cm thick; weight is 0.195lb.
APPENDIX A 64.  SUPOMU STEP 5 NCT 43 LEVEL 1 (0-10cm)
A base sherd exact form uncertain (likely to be a bowl); diameter unknown; base is pedestaled or footed (has a foot in the form of a ring); sherd color is black to dark brown; paste is robust with a slightly coarse texture; surface is evened on both sides; no burnishing or decoration noted; everted and pedestaled base - based on other records elsewhere; estimated date range is seventeenth to nineteenth century; sherd dimension is 7.75cm×1.75cm; vessel wall is 0.8cm thick; weight is 0.145lb.

APPENDIX A 65.  SUPOMU TRENCH 1 UNIT 2 LEVEL 11 (65-70cm)
A rim sherd from a probably large open bowl; rim is direct sloping; rim diameter is equal to 30cm; rim has a wide groove at the lip; groove is unusually deep u-shaped; paste is robust orange with a fine coarse texture; color of the sherd is a uniform orange/red; vessel is smoothed on both sides; in addition to the groove on the lip there are 3 circular stamps within the depression of groove and other double elliptical stamps (4 of these) on the outer lip of rim. These may be shell stamping?; estimated date range is seventeenth to nineteenth century; sherd dimension is 10.9cm×3.22cm; vessel wall is 1.48cm thick; weight is 0.115lb.
APPENDIX A 66. SUPOMU TRENCH 1 UNIT 2 LEVEL 11 (65-70cm)
A rim sherd from a small uncarinated pot or jar; pieces of the lip are broken off; rim is plain inverted without angles; color is red/orange throughout body surface and paste; uniform fine texture paste; surface is evened on both sides; vertical incisions cover the entire exterior body and red slipped has also been applied and has eroded; estimated date range is seventeenth to nineteenth century; sherd dimension is 7.02cm×6.05cm; vessel wall is 1.27cm thick; weight is not recorded.

APPENDIX A 67. SUPOMU TRENCH 1 UNIT 2 LEVEL 11 (65-70cm)
A large rim sherd from a possibly large bowl or pot; rim is slightly inverted with a corner point; angled at the exterior; interior is flared with a small bulge at the upper part of the rim; lip is tapered with 2 small incisions running along it; paste color is gray; interior surface is orange and exterior is gray; internal surface is evened and exterior appears smoothed; exterior is ornately decorated with grooves and crescent shaped stamps; grooves, 5 of them run along the external rim just above the shoulder of the vessel; crescent shaped motifs occur right on the angle of the shoulder; irregular notches may also be present on the exterior part of the lip but this is not clear; estimated date range is seventeenth to nineteenth century; sherd dimension is 10.5cm×6.76cm; vessel wall is 1.52cm at the neck, body is 0.74cm thick and lip is 1.22cm; weight is not recorded.
APPENDIX A 68. SUPOMU UNIT 3 LEVEL 5 (60-70cm)
A large rim sherd (refer to dimensions above) from a large pot with restricted orifice rim diameter equals 30cm; rim is everted with restricted neck- carinated vessel, lip is squared and grooved - groove is very shallow; color is fire-cloud–black to red and brown; paste is robust; texture is coarse; surface is evened on both sides; shallow grooves in the interior of rim; exterior is undecorated; estimated date range is seventeenth to nineteenth century; sherd dimensions 12.6cm×4.85cm; wall is 1cm thick at the rim shoulder; body wall equals 0.73cm; weight is 0.20lb.
APPENDIX A 69.  SUPOMU TRENCH 1 UNIT 1 LEVEL 10 (60-65cm)
Rim sherd from a medium (globular) pot with rim diameter of 20cm; body diameter is wider than the rim diameter; rim is inverted with a tapered lip that hangs out of the rim/body; width of the wall appears to reduce towards the body; paste is robust dark brown to black with fine texture; surface color is fire-cloud on both sides—yellow to black; surface is smoothed and slightly burnished; estimated date range is seventeenth to nineteenth century; sherd dimension is 7.37cm×6.5cm; weight is 0.205lb.

APPENDIX A 70.  SUPOMU TRENCH 1 UNIT 1 LEVEL 10 (60-65cm)
Large body sherd; exact form unknown; paste is robust with medium to fine texture; color is grayish brown; interior surface color is yellowish to brown; exterior color is fire-cloud- black to orange and brown; surface is evened on both sides; the exterior decoration include herring bone stamp decoration, 2 wide grooves that run along the body, and a triangular stamp also noted at the edge of sherd; estimated date range is seventeenth to eighteenth century; wall has a uniform thickness 0.9cm; thick dimension 14cm×12cm; weight is 0.42lb.

APPENDIX A 71.  SUPOMU UNIT 3 LEVEL 9 (55-60cm)
A small rim sherd, rim diameter is 20cm; rim is inverted; exact vessel form is uncertain; lip is squared and there are wide grooves at the exterior of rim; paste is black with coarse texture; 2 isolated large quartz pebbles noted in the paste; paste is robust; specks of mica present throughout paste; exterior surface is evened, and interior is rough; grooves occur at the exterior; estimated
date range is seventeenth to nineteenth century; sherd dimension is 4.5cm×2.7cm; vessel wall is 0.98cm thick – fairly thin; weight is 0.035lb.

APPENDIX A 72. SUPOMU UNIT 3 LEVEL 9 (90-95cm)
A rim sherd - wall vessel wall is very thick at the neck; vessel form is a medium pot or jar; lip is squared; rim is everted (restricted neck); angular at the neck at both sides; paste is robust with coarse texture; surface is rough on both surfaces; wide grooves (4) occur on the neck and shoulder of the vessel; estimated date range is seventeenth to nineteenth century sherd dimension is 8.22cm×6.35cm; vessel wall is 0.95cm; weight is 0.18lb.
APPENDIX A 73.  
SUPOMU UNIT 3 LEVEL 9 (90-95cm)
Two rims sherds with similar morphology but are distinguished by paste surface color, wall thickness and surface preparations; both sherds are probably medium uncarinated bowl/pot; both rim diameters are 20cm; (sherd one) vessel wall equals 0.82cm thick; lip is tapered and rounded; rim form is everted with lip almost parallel to the ground; paste is robust orange with fine texture; surface is smoothed on both sides; no decoration; dimensions 5.5cm×3.07cm; weight is 0.035lb; (sherd two); rim form is similar to (a), but lip is not tapered; lip is squared; paste is robust grayish brown; surface color is black to dark brown and cloudy; surface is evened; no burnishing or decoration present on the vessel; estimated date range is seventeenth to nineteenth century; wall thickness is 0.95cm ; 7.6cm×3.9cm dimension of sherd; weight is 0.105lb.

APPENDIX A 74.  
SUPOMU UNIT 3 LEVEL 7 (80-85cm)
Four co-jointable rim sherds - total dimension is quite large; form is a medium bowl (open); rim diameter about 20cm; paste is robust orange with fine texture paste; lip is squared; two wide grooves between the lip and exterior corner point; rim morphology is direct sloping; surface is smoothed on both sides; 3 wide grooves present at the exterior of the vessel; surface color is cloudy on both sides red to brown and black; estimated date range is seventeenth to nineteenth century; vessel wall is 1.30cm –at the body width of the vessel wall reduces; total dimension of sherds equals 12cm by 5.3cm; total weight is 0.165lb .
APPENDIX A 75.   SUPOMU TRENCH 1 UNIT 1 LEVEL 2 (0-10cm)
A rim sherd of medium open bowl. rim diameter is 25cm; rim is direct sloping with a corner point – looks like ledge; rim is thicker; lip is squared and thick (1.36cm); color is grayish brown on both sides; vessel is evened and smoothed on both sides; slightly burnished; paste is robust grayish brown with fine texture – only 1 large quartz flake noted in the paste; 2 shallow grooves between the corner point and the lip of the vessel; estimated date range is seventeenth to nineteenth century; sherd dimension is 10.24cm×4.05cm; vessel wall thickness is 0.94cm; weight is 0.080lb.
APPENDIX A 76. SUPOMU TRENCH 1 UNIT 1 LEVEL 9 (50-60cm)
A rim sherd; medium bowl rim diameter is 20cm; rim is slightly inverted with corner points exterior; slightly angled exterior at the shoulder or neck and flared in the interior; paste is robust black; surface color is fire-cloud – red to dark brown on both sides; surface is smoothed on both interior and exterior; 5 shallow grooves noted on rim exterior between the corner point and the lip; estimated date range is seventeenth to nineteenth century; sherd dimension is 6.54cm×5.95cm; vessel wall thickness is 1.5cm; weight is 0.15lb.

APPENDIX A 77. SUPOMU TRENCH 1 UNIT 1 LEVEL 12 (70-75cm)
Rim sherd – medium jar or pot; rim diameter approximately 15cm; body width is wider than the rim diameter; rim is everted with restricted neck; color of the sherd is fire-cloud – ranges from gray to brown; paste color is dark brown to gray and robust; paste texture is coarse; surface of the vessel is rough in the interior and evened at the exterior; estimated date range is seventeenth to nineteenth century; sherd dimension is 5.8cm×5.7cm; wall is between 1.65cm and 0.76cm thicker at the body than the lip; weight is 0.120lb.
APPENDIX A 78. SUPOMU TRENCH 1 UNIT 1 LEVEL 12 (70-75cm)
Rim sherd, medium open bowl, rim diameter is 25cm; rim is everted and parallel to the ground; paste is orange robust with fine texture; surface is evened on both sides; 2 shallow grooves occurs on the interior above the rim – that is the upward facing part of the rim; estimated date range is seventeenth to nineteenth century; dimensions 6.7cm×4.75cm; wall is between 1.3cm and 0.70cm thicker at the neck and thin towards the body of the vessel; weight is 0.080lb.

APPENDIX A 79. SUPOMU TRENCH 1 UNIT 2 LEVEL 7 (45-50cm)
A rim sherd; medium carinated pot or ja; rim diameter approximately 18cm; rim form is everted with lip almost parallel to the ground; lip sort of curving downwards forming a sort of ledge - lip is rounded; color of the vessel is uniform reddish brown; color is same as paste with a slightly coarse texture; exterior surface is evened and interior is rough; there are a series of 3 flattened platforms at the upward-facing rim; estimated date range is seventeenth to nineteenth century; sherd dimensions 9.65cm×3.16cm; wall is between 2.05and 0.97cm; weight is 0.145lb.
APPENDIX A 80.  SUPOMU TRENCH 1 UNIT 2 LEVEL 7 (45-50cm)
Rim sherd; medium open bowl; rim diameter approximately 18cm; sherd is angled at the exterior rim and flared in the interior, vessel thins towards the body; lip is squared and rim is grooved (2 grooves on the lip); vessel is reddish to light brown with similar paste color; paste texture is fine and robust; surface is evened at the interior and smoothed at the exterior; in addition to the grooving at the rim there are 3 incised lines run horizontally on the shoulder of the vessel, estimated date range is seventeenth to nineteenth century dimensions 6.5 3cm×5.26cm; wall is 1.8cm and 0.9cm thick; weight is 0.095lb.

APPENDIX A 81.  SUPOMU TRENCH 1 UNIT 1 LEVEL 4 (20-30cm)
Flat and footed base fragment; likely from an open bowl exact form is uncertain; thick; paste is robust grayish to black brown with a slightly coarse texture; few isolated large quartz pebbles in paste; external color is dark brown and is eroded; interior surface is black and smoothed; multiple diagonal grooves occur on the exterior foot of the base; estimated date range is seventeenth to nineteenth century; sherd dimension is 9.8cm×5.52cm; base wall is between 0.94 and 2.32cm weight is 0.245lb.
APPENDIX A 82. SUPOMU TRENCH 1 UNIT 1 LEVEL 4 (20-30cm)
A large rim sherd probably from small/medium pot; lip is broken; coarse-textured paste and robust; paste color is orange to dark brown; interior surface is rough, and exterior is smoothed and slightly burnished; 3 shallow grooves run horizontally along the shoulder of the vessel; 2 isolated stamps noted on the body of the vessel; estimated date range is seventeenth to nineteenth century; dimensions 9.49cm×10.28cm; wall is between 1.11cm and 2.25cm thick; weight is 0.43lb.

APPENDIX A 83. SUPOMU TRENCH 1 UNIT 2 LEVEL 15 (85-90cm)
Rim sherd from probably small jar or pot with restricted orifice rim is everted with restricted neck; lip is broken; sherd has a uniform dark brown color on both exterior and interior; paste is robust and has a fine texture; paste color is dark grayish brown; surface is smoothed on both sides and burnished; shallow groove occurs in the interior of vessel closer to the lip; 2 shallow grooves at the exterior, the neck area; sherd dimensions 7.45cm×4.65cm; vessel wall is 1.6cm thick; weight is 0.13lb.

APPENDIX A 84. SUPOMU TRENCH 1 UNIT 1 LEVEL 15 (85-90cm)
Rim sherd probably from a medium pot or jar; diameter approximately 15cm; lip is rounded; exterior wall is flare; interior edge of neck is angular; paste is robust grayish brown with a fine texture; 1 isolated pebble noted in paste; surface is evened on both sides; vessel appears to have been smeared/slipped with mica; there also appears to be roulette on the exterior and before a red slip was applied; interior also shows evidence of smeared mica with no slip or roulette; one
shallow groove occurs in the interior; sherd dimension is 5×25×8cm; vessel wall is between 2.1 and 0.96cm; wall thickness reduces towards the body of the vessel in the cross-section, thicker at the neck; weight is 0.135lb.

APPENDIX A 85. SUPOMU TRENCH 1 UNIT 1 LEVEL 16 (90-95cm)
A rim sherd of medium open bowl; direct sloping rim; and lip is grooved; color of the vessel is uniform reddish brown on both exterior and interior surface; paste is robust orange ware with fine texture; surface is evened on both sides and unburnished; groove occur on lip; lip is squared; estimated date range is seventeenth to nineteenth century; sherd dimension is 7cm×7.75cm; vessel wall is 1cm thick; lip is 1.62cm; vessel wall thinner at the body than the neck to lip; weight is 0.190lb.

APPENDIX A 86. SUPOMU TRENCH 1 UNIT 1 LEVEL 16 (90-95cm)
A rim sherd; medium uncarinated pot or jar, rim diameter is 16cm; lip is squared; rim is everted with restricted neck; the rim and the body is connected by a straight parallel-sided neck (see Bellis 1976b:68) with 2 shallow grooves at the exterior or the neck; groove is crudely made with
each piece separating the rim and the body; paste is robust orange; coarse texture – high density of quartz inclusions; surface is rough on both sides and interior appears eroded; surface color is fire-cloudy – darkened at some spots but essentially reddish to brown; estimated date range is seventeenth to nineteenth century; sherd dimensions 4.8cm×9.82cm; vessel wall is approximately 1.13cm thick; weight is 0.225lb.

APPENDIX A 87. SUPOMU TRENCH 1 UNIT 2 LEVEL 17 (95-100cm)
A rim sherd; medium open bowl; rim diameter is indeterminate; lip is squared and has a hallow groove; sherd color is reddish brown to gray, same as paste; paste is robust with a coarse texture – few large isolated quartz pebbles present in paste; surface is evened in the interior and smoothed at the exterior; no burnishing present; 2 wide grooves occur on the exterior of rim; slightly angled exterior wall at the neck and flared interior; estimated date range is seventeenth to nineteenth century; sherd dimensions 7.99cm×8.79cm; vessel wall is between 1.2cm and 1.78cm (neck) slightly thins towards the body; weight is 0.250lb.

APPENDIX A 88. SUPOMU TRENCH 1 UNIT 2 LEVEL 17(95-100cm)
A rim sherd; medium carinated pot or jar with restricted orifice; rim diameter approximately 20cm; rim is everted and very angular in the interior; lip appear somewhat squared; sherd color is cloudy: paste is robust grayish brown; paste has coarse texture; interior surface is rough except above the neck; exterior is evened; shallow wide grooves at the inner part of the vessel above the neck; estimated date range is seventeenth to nineteenth century; sherd dimension is 5.35cm×13cm; vessel wall is between 0.70cm and 1.8cm; weight is 0.235lb.
APPENDIX A 89.  
SUPOMU TRENCH 1 UNIT 2 LEVEL 5 (30-40cm)
A rim sherd; medium carinated pot or jar; rim diameter approximately 25cm; lip is squared and everted with restricted neck; color fire-cloud – gray to light brown on both sides; paste is robust and grayish brown with quartz pebbles; surface is smoothed on the interior above the neck and rough at the exterior, actual interior is rough and eroded; mica speck noted on the surface on both sides; inner side of rim has 5 shallow grooves running horizontally along it; estimated date range is seventeenth to nineteenth century; sherd dimensions 4.4cm×8.65cm; wall is between 1cm and 1.85cm (neck) thicker at the neck; weight is 0.155lb.

APPENDIX A 90.  
SUPOMU TRENCH 1 UNIT 2 LEVEL 10 (60-65cm)
A rim sherd; a large pot or jar; rim diameter 27cm; rim is everted; neck is constricted; lip is rounded; exterior surface color fire-cloud – dark brown and interior is reddish brown. paste color is dark grayish brown; paste is robust and texture is coarse; exterior surface is rough and inner upper part of rim is smoothed; the area below the neck in the interior is rough; 1 smaller groove run horizontally along the neck at the exterior; 2 wide grooves in the interior – the groove is about 1.5cm wide occurs above the neck in the interior; sherd dimension is 4.68cm×12.6cm; vessel wall is between 0.6cm and 1.85cm thicker at the neck and thins towards the body; weight is 0.255lb.

APPENDIX A 91.  
SUPOMU TRENCH 1 UNIT 2 LEVEL 8 (50-55cm)
A rim sherd; medium pot or jar; rim diameter approximately 23cm; rim is everted; neck is constricted; lip is squared; paste is robust; paste is coarse–uncharacteristically dense with quartz pebbles; exterior surface is evened and smoothed, interior is rough; shallow and wide grooves run
horizontally along the rim on both sides; 3 circumferential grooves also occur on the shoulder of vessel; estimated date range is seventeenth to nineteenth century; sherd dimensions 5.55cm×10.95cm; wall is between 0.96cm and 1.2cm thickness; weight is 0.25lb.

**APPENDIX A 92. **SUPOMU TRENCH 1 UNIT 2 LEVEL 8 (50-55cm)
A rim sherd; large open bowl; rim diameter is 27 cm; lip is squared; rim is everted and horizontal or parallel to the ground; surface color is dark brown on both sides; paste is robust grayish brown and fine texture; surface is smoothed and evened; 3 shallow grooves between the lip and neck in the interior or on upward-facing rim; vessel thins towards the body, neck is thicker; estimated date range is seventeenth to nineteenth century; sherd dimension is 6.42cm×6.33cm; wall is between 0.76cm and 1.87cm thick; weight is 0.150lb.

**APPENDIX A 93. **SUPOMU STP 7 NCT 43 E1 LEVEL 4 (30-40cm)
A piece of body sherd; there is a core present - core color is dark brown; surface color is fire-cloud on both sides – reddish brown to dark brown; internal surface is rough and external is smooth; paste is robust with coarse texture; there are grooves on the exterior surface as well as shell stamps; another body sherd from Level 5 of the same unit joined to this piece and described as one; estimated date range is seventeenth to nineteenth century; vessel wall is 1.57cm thick; dimensions 9.71cm×5cm; weight unrecorded.
APPENDIX A 94.  SUPOMU NCT 43 E1 STP 7 LEVEL 2 (0-10cm)
A piece of rim sherd; rim sherd from medium pot or jar; rim diameter is 20cm; rim is everted but lip is broken; the neck is elongated and parallel-sided; paste is robust grayish brown and slightly coarse texture; surface color is dark brown on both sides; exterior surface is evened and interior is rough; 2 wide grooves run horizontally along the neck; estimated date range is seventeenth to nineteenth century; sherd dimension is 10.13cm × 7.15cm; vessel wall is between 0.79cm and 1.63cm thick, thinner at the neck than other parts of the vessel; weight is 0.215lb.

APPENDIX A 95.  SUPOMU NCT 43 E1 STP 7 LEVEL 1 (0-10cm)
A rim sherd from medium open bowl; rim diameter is 18cm; lip is squared; rim is everted and horizontal or parallel to the ground; vessel wall thins towards the body; paste is robust orange with fine texture; interior surface is dark brown and exterior is reddish brown: surface is smoothed on both sides; vessel appears to have a slip which contained mica?; 3 grooves on rim are very shallow and not distinctively visible; sherd dimension is 6.2cm×6.5cm; vessel wall is between 1.6cm and 0.9cm; weight is 0.105lb.

APPENDIX A 96.  SUPOMU STP 8 NCT 39 LEVEL 2 (10-20cm)
A rim sherd; medium carinated medium pot or jar; rim diameter approximately 18cm; lip is squared; rim is everted with restricted neck; interior surface is fire-cloud–reddish to dark brown; exterior is a uniform dark brown; paste is robust black and slightly coarse texture with quartz granules; surface is rough in the interior and evened on the exterior; grooves occur on the inner/top of the rim and horizontally along the neck; estimated date range is seventeenth to nineteenth century; sherd dimension is 6.5cm×4.6cm; vessel wall is between 0.6cm and 1.7cm; vessel wall thins towards the body; weight is 0.090lb.

APPENDIX A 97.  SUPOMU STP 11 NCT 41 LEVEL 9 (80-90cm)
A rim sherd; uncarinated medium pot or jar; rim diameter approximately 20cm; rim is everted and has a rounded lip; internal surface color is red and external color is fire-cloud–ranging from red to black; surface is evened in the interior and rough exterior and the exterior surface is slightly eroded; paste is robust and grayish brown with coarse texture; 2 isolated large quartz pebbles noted in paste in the interior surface; lip of sherd has notches/stamps probably through the use of thumb; wide groove at the exterior neck; groove has stamps spread irregularly within it; estimated date range is seventeenth to nineteenth century; sherd dimension is 8.41cm×6.31cm; vessel wall thickness is between 1.0cm and 1.3cm; weight is 0.135lb.
APPENDIX A 98.  SUPOMU STP 9 NCT 40 LEVEL 8 (60-70cm)
A rim sherd; from a large restricted bowl; rim is inverted with an exterior corner point; neck is thicker; lip is squared/flattened; surface is dark brown/dark reddish brown on both sides; surface is smoothed on both sides; paste is fine and robust; 2 shallow grooves at the exterior rim between the lip and the neck of vessel; estimated date range is seventeenth to nineteenth century; sherd dimension is 8.06cm×5.71cm; vessel wall thickness is between 1.43 and 0.7cm; vessel wall thins towards the body; weight is 0.125lb.

APPENDIX A 99.  SUPOMU STP 9 NCT 40 LEVEL 8 (60-70cm)
A rim sherd from a medium pot; rim diameter approximately 20cm; rim is flared on both sides and lip is rounded; surface is eroded on both sides; paste is robust with a slightly coarse texture and has a grayish color; sherd appears to have a red slip but is worn at the exterior surface; specks of mica present in the paste; estimated date range is seventeenth to nineteenth century sherd dimensions 7.76cm×10.5cm; vessel wall is between 1.55cm and 0.8cm; neck is thicker than the body; weight is 0.190lb.

APPENDIX A 100.  SUPOMU STP 11 NCT 41 LEVEL 10 (90-100cm)
A rim sherd; medium carinated bowl; rim is inverted rim with corner points; rim diameter about 17cm; lip is squared; interior color is black; exterior color is gray to dark brown; paste is fine and robust with a black color; surface is smoothed on both sides; circular stamps or notches on the raised shoulder of rim; granules of a possible quartz noted in paste; estimated date range is seventeenth to nineteenth century; sherd dimensions 8.56cm×4.38cm; vessel wall is 1.75 and
0.9cm; shoulder wall is thicker than all other parts; weight is 0.135lb.

APPENDIX A 101.  
WAWASE UNIT 2 LEVEL 10 (55-60cm)
A ceramic disc with a maximum diameter of 3.22cm; wall thickness 0.92; weight is 0.020lb; surface is worn; paste is coarse and black; surface is black or dark brown on both sides; surface is eroded but appears evened/smoothed; no decoration noted; found in association with gritty orange materials; estimated date is pre-Atlantic – first millennium AD to fifteenth century.

APPENDIX A 102.  
WAWASE LOCUS 2 STP R 14 LEVEL 3
Rim sherd; rim is everted with rounded lip; vessel form is a medium uncarinated pot or jar with a rim diameter of 25cm; surface color is dark brown and smoothed on both sides; vessel may be slightly burnished; paste is robust and grayish brown with fine texture; 2 shallow grooves; one respectively run horizontally along the neck on both sides of the vessel; exterior one not finely achieved than the interior; sherd dimension is 8.5cm×4.55cm; vessel wall thickness is 0.83cm; wall thickness is fairly uniform but a little thicker at the neck; estimated date range is seventeenth to nineteenth century; weight is 0.080lb.

APPENDIX A 103.  
WAWASE LOCUS 2 STP R210 LEVEL 1 (0-10cm)
A large piece of rim sherd; vessel form is medium open bowl with a diameter approximately 25cm; lip is rounded; surface color is yellowish orange to brown on both sides; surface is smoothed and evened on both sides; paste color is dark brown and has a fine texture; paste is robust; grooves occur in the interior, 1 wide and deep groove run horizontally along the neck and above this groove are 4 shallow arc grooves; estimated date range is seventeenth to nineteenth century; sherd dimension is 10.42cm×9.11cm; vessel wall is between 1.5cm and 0.85cm; thinner at the body than the rim; weight is 0.260lb.

APPENDIX A 104.  
WAWASE LOCUS 2 STP 190 LEVEL (0-10cm)
A rim sherd; vessel form is medium bowl with a diameter approximately 22cm; rim is direct sloping; paste is robust black with a coarse texture; surface color is fire-cloud on both sides–black and gray; raised band/ridge at the exterior which appears to have been attached to the vessel wall and is visible in the cross-section; surface is smoothed on both sides and maybe slightly burnished; two grooves on the raised band/ridge running horizontally along it; notches on the tip of the raised band; estimated date range is seventeenth to nineteenth century; sherd dimension is 9cm×4.21cm; vessel wall is between 1.45cm and 0.35cm and tapers towards the body of the vessel; weight is 0.125lb.
APPENDIX A 105. WAWASE STP S90 LEVEL 2 (0-10cm)
A large rim sherd; vessel form is a large restricted bowl with a diameter approximately 27cm; lip is rounded; and grooved with exterior carination or corner point and the interior is flared; surface color is fire-cloud–ranging from reddish brown to dark brown and black; paste is robust and texture is slightly coarse and grayish brown; interior surface is rough and external surface is evened; 2 shallow grooves above the carinated edge and 1 irregular groove in the interior; both grooves run horizontally along the shoulder of vessel; estimated date range is seventeenth to nineteenth century; sherd dimension is 6cm×12cm; wall thickness is between 0.95 and 1.56cm; weight is 0.195lb.

APPENDIX A 106. WAWASE LOCUS 2 UNIT 3 LEVEL 3 (20-25cm)
A large rim sherd; vessel form is a medium bowl with a rim diameter of 25cm; rim is slightly inverted but has no exterior corner point; the interior neck is angular; lip is rounded and has two grooves at the interior; 4 isolated triangular stamps are also noted in the interior of the rim; paste is robust and orange-colored; paste texture is fine; surface is smoothed but not burnished; a similar piece of rim is noted in collection but appears to be from another vessel; estimated date range is seventeenth to nineteenth century; vessel wall thickness is between 1.6cm and 0.54cm and tapers towards the body of the vessel; weight is 0.230lb.

APPENDIX A 107. WAWASE LOCUS 2 STP F250 STP LEVEL 1 (0-10cm)
Two co-joinable sherds; large rim sherd from a medium open bowl uncarinated; uniform sherd thickness; direct sloping rim form with squared lip; fine textured paste; paste is robust orange-gray colored; surface is smoothed and slightly burnished; 2 shallow grooves at the interior of rim; estimated date range is seventeenth to nineteenth century sherd dimensions is 8.07cm×9.9cm; thickness is uniform and diameter approximately 1cm; weight is 0.190lb.

APPENDIX A 108. WAWASE LOCUS 2 STP N300 LEVEL 3 (10-20cm)
Almost complete vessel (cup rim diameter is 10cm); rim is direct sloping with a small perforation probably used for stringing; base is flat; internal color is dark red; interior surface is smoothed and evened; exterior is fire clouded and smoothed; paste is slightly coarse and robust grayish brown to black; most part of base is broken off; sherd dimension is 9cm×5cm (4.9cm); wall thickness is uniform- 0.75cm; weight is 0.190lb.
APPENDIX A 109. WAWASE LOCUS 2 STP L270 LEVEL 7 (60-70cm)
A rim sherd from medium uncarinated pot with a rim diameter of 25cm; rim is plain inverted with squared lip; surface color is cloudy on both sides (black and brown); paste is medium coarse and robust orange; surface is smoothed and evened on both sides; may be slightly burnished; estimated date range is eighteenth to nineteenth century; no decoration present; sherd dimension is 9.45cm×7.72cm; vessel wall thickness is fairly uniform approximately 1.15cm; weight is 0.185lb.

APPENDIX A 110. WAWASE LOCUS 2 UNIT 3 LEVEL 7 (65-75cm)
A body sherd from an indeterminate vessel form; surface color is red/orange in both interior and exterior; external surface smoothed and interior is evened; no burnishing present; sherd has a short ledge, probably an applique; this ledge may also be the neck of the vessel; triangular punctations on the tip of ledge; below the ledge/applique are a series of incisions in an oblique pattern; context-occurs with quartz flakes in sandy clay strong brown/matrix (below this layer no materials were found); estimated date is pre-Atlantic–first millennium to the sixteenth century; sherd dimension is 6cm×5.27cm; sherd has a uniform wall with a thickness of 0.7cm; weight is 0.075lb.

APPENDIX A 111. WAWASE LOCUS 2 UNIT 3 LEVEL 7 (65-75cm)
A sherd from a bowl (or lid) diameter 28cm unlikely to be a lid base on the decoration; surface color is red on both sides; texture is slightly coarse with a few quartz pebbles in the paste; interior is smoothed and exterior is evened; decoration occur on top of a ledge - oblique incisions along the ledge and there are also circular stamps just below the incisions; estimated date is pre-Atlantic–first millennium to the sixteenth century; sherd dimension is 3.65cm×7.95cm; vessel
wall is 0.45cm at the lip and 1.7cm at the shoulder, body is approximately 0.8cm; weight is 0.095lb.

**APPENDIX A 112. WAWASE LOCUS 2 UNIT 3 LEVEL 6 (57-65cm)**
A small rim sherd from a medium open bowl with a rim diameter approximately 25cm; rim is direct sloping with rounded lip; ledge appears to have been embossed on the body of the vessel; surface color is red - yellowish brown on both sides; paste is fine texture and is robust orange-colored; surface is evened on both sides but no burnishing present; oblique incised lines/stamps occur above the ledge of the vessel; estimated date is seventeenth to eighteenth century; sherd dimension is 6.17cm×3.95cm vessel wall thickness is 0.6cm - fairly uniform; weight is 0.045lb.

**APPENDIX A 113. WAWASE LOCUS 2 UNIT 3 LEVEL 5**
A rim sherd from a small jar or pot with restricted neck; lip is eroded and ledge is present; rim is everted and flared; surface color is red in the interior and gray to yellowish on the exterior; paste is robust orange; texture is fine but with few isolated quartz pebble inclusions; surface is smoothed on both sides but not burnished; two grooves occur on the corner where the ledge joins the lip of rim and vertical linear stamps on the top of ledge; estimated date is pre-Atlantic–first millennium to the1500s; sherd dimension is 6.05×4.35cm; vessel wall is 0.8cm thick; weight is 0.070lb.

**APPENDIX A 114. WAWASE LOCUS 2 UNIT 3 LEVEL 2 (15-20cm)**
Four pieces of rim sherd probably from two different/separate vessels medium open bowl with diameter 25cm; rim is direct curving or direct vertical; the lip has a wide groove and vessels tend to thin towards the body; paste is has fine texture; paste is robust and orange-colored; surface is evened on both sides and not burnished; surface color is reddish-brown on both sides; estimated date is seventeenth to eighteenth century; sherd dimension is 9.56cm - 4.28cm and 5.15cm - 2.92cm; vessel wall is 0.52cm and 1.44cm thick weight is 0.355lb.

**APPENDIX A 115. WAWASE LOCUS 2 UNIT 3 LEVEL 4 (32-42cm)**
A rim sherd from a medium pot/jar with a diameter approximately 15cm; restricted neck; rim is flared on both sides at an acute angle; lip wall is thicker than the neck and body of vessel and taper (and rounded); paste is incredibly fine and robust orange; surface color is yellowish orange to brown on both sides; interior is evened and exterior is smoothed; several irregular shallow grooves in the inner part of rim or lip; four finely executed deeper grooves occur on the shoulder of vessel; vessel date to pre-Atlantic period and occurs with similar vessels based on paste surface color and body forms; sherd dimension is 8.76cm×4.35cm; vessel wall is 1.1cm at the lip and
0.5cm at the body of the vessel; weight is 0.100lb.

**APPENDIX A 116. WAWASE LOCUS 2 STP D300 LEVEL 1 (0-10cm)**
Two co-joinable rim sherds; vessel form is a restricted medium bowl; diameter is about 20cm; lip is squared; rim is direct curving and slants at the shoulder towards the base; surface color is black in the interior and dark brown on the exterior; paste is black robust and slightly coarse texture with a few isolated quartz pebbles in paste; surface is evened in the interior and smoothed on the exterior; four shallow grooves occur on the exterior rim between the shoulder and lip of the vessel; estimated date is nineteenth to twentieth century; sherd dimension is 5.72cm×6.28cm; vessel wall is 1.1cm and 1.25cm thick and fairly uniform; weight is 0.090lb.

**APPENDIX A 117. SUPOMU UNIT 2 LEVEL 5**
A rim sherd; vessel form is medium bowl, uncarinated open or unrestricted; rim diameter is 23 cm; rim is everted, horizontal rim which is parallel to the ground; the paste color is dark brown grayish brown and robust with mica specks; exterior is slightly burnished; interior is also slightly burnished, vessel is red-slipped; slip was high in mica content; no other decoration; estimated date is seventeenth to nineteenth century; the thickness of the rim lip is 1.7cm; weight 0.1lb.

**APPENDIX A 118. SOPUMU UNIT 2 LEVEL 5**
A rim sherd; vessel form is medium bowl, uncarinated unrestricted; rim diameter is 20cm; rim form is a T shaped (rim is thickened on both sides with a groove on top of the lip of rim); vessel likely has straight sides; exterior color is black; paste is robust black–well fired; exterior is smoothed and interior is smooth; both exterior and interior have been burnished; exterior has a groove on the top of the rim (lip); interior is undecorated; estimated date is seventeenth to nineteenth century; weight is 0.055lb

**APPENDIX A 119. SUPOMU TRENCH 1 UNIT 2 LEVEL 13**
Rim sherd from a small uncarinated pot or jar; rim diameter is 21cm; rim is everted; exterior color is reddish brown; paste is robust orange; rough surface on both external and internal; eroded; a raised bands on the exterior and internal is undecorated; estimated date is seventeenth to nineteenth century; vessel wall thickness is 2cm: weight: 0.57lb.

**APPENDIX A 120. SUPOMU UNIT 1 LEVEL 6**
A rim sherd; medium vessel (likely to be bowl) with a rim diameter of 14cm; simple direct sloping rim; color—external color is gray; paste type is dark brown robust grayish brown; both surfaces are heavily eroded; rim diameter is 14cm - small bowl; estimated date is seventeenth to
nineteenth century; vessel wall thickness is 0.85mm; thickness weight is 0.065lb.

APPENDIX A 121.  WAWASE UNIT 1 LEVEL 6
A rim sherd; large piece of a globular pot; rim diameter is 4cm; maximum body diameter is far wider than the rim diameter (but exact measurement uncertain); exterior color is yellowish orange brown and interior color is yellowish orange brown; paste type is robust and orange-colored; vessel wall thickness is 2.9cm; weight: 0.22lb.

APPENDIX A 122.  SUPOMU UNIT 1 LEVEL 5
A rim sherd from a medium vessel with 15cm diameter; exact form uncertain; color is red; paste type is robust; specks of mica in paste; both sides of the surfaces are evened; slightly burnished on both surfaces; estimated date is seventeenth to nineteenth century; vessel wall thickness is 0.95cm; weight is unrecorded.

APPENDIX A 123.  SUPOMU UNIT 2 LEVEL 5.
A rim sherd from a medium pot; rim diameter 20cm diameter; rim is inverted with an exterior corner point; sherd color is black; evened on both sides and smudged; estimated date is nineteenth century; vessel wall thickness is 0.65cm; weight is 0.055g.

APPENDIX A 124.  SUPOMU UNIT 2 LEVEL 5
A piece of rim sherd from a medium pot carinated with 23 rim diameter; rim is everted, vessel wall is 0.7cm thickness; color is black on both sides; evened on both sides; slightly burnished; estimated date is seventeenth to nineteenth century; weight: 0.105g

APPENDIX A 125.  SUPOMU UNIT 3 LEVEL 4
A piece of rim sherd from a medium bowl uncarinated with 22cm rim diameter; rim form is direct sloping rim; lip is tapered; surface is smooth on both external and internal; burnished on both external and internal; no decoration; squared lip; estimated date is seventeenth to nineteenth century; vessel wall is 0.95mm thick; weight is unrecorded.

APPENDIX A 126.  SUPOMU UNIT TRENCH 1 LEVEL 6
A rim sherd; medium bowl with rim diameter of 12cm; rim form is direct and T-shaped (straight-sided vessel); eroded both external; no decoration; estimated date is seventeenth to nineteenth century; vessel wall is 0.85mm; weight unrecorded.

APPENDIX A 127.  SUPOMU TRENCH 1 LEVEL 6.
A piece of base sherd; simple flat base; surface is evened on both sides; vessel is slightly burnished; no decoration noted; estimated date is seventeenth to nineteenth century; weight:
APPENDIX A 128. SUPOMU SURFACE COLLECTION NORTH SIDE
A lid; estimated diameter of 15-25cm; wall thickness is 0.57cm; surface is smooth on both sides; smudged and burnished; no other decoration present; estimated date is seventeenth to nineteenth century; weight 0.11g.

0.035g.
APPENDIX B. GLASS ANALYSIS

Introduction

The aims of the glass description and analysis is to identify the dates and vessel forms represented. The various bottle forms are indicative of their function, although as discussed in the main text, secondary uses of bottles were likely pervasive in the past as they are today. These data shed light on the chronology and political economic transformations at the Supomu and Wawase settlements. While the Central Region Project Manual (DeCorse 2009) has been used for this analysis, several other sources regarding terminologies and date range for the glass fragments have also been drawn on (Hudson 1961; Jones 2000; Jones and Smith 1985; McNulty 1972; Miller and Sullivan 1984; Newman 1970; Noël Hume 1961, 1969; White 1978). Some of these papers are published in a compilation edited by Michael Roland (2000). In addition, the Society for Historical Archaeology (Lindsey 2020) has a website that deals with bottle identification and dating, and this website was useful. Apart from two case bottle bases and an onion-shaped wine bottle base fragments from Supomu, which likely date to the eighteenth and early nineteenth century, very few of the bottle fragments likely predate the 1850s.

Glass fragments constitute the third majority of artifact category collected in this study, after local ceramics and metal fragments. The majority of the glass fragments came from utilitarian bottles for carrying liquor, beer, soda wine, water, and pharmaceuticals. A total of 305 glass fragments were collected in this research. The majority of these fragments were collected from Wawase (N=246), versus only 59 pieces from Supomu. Very few of these glass bottles were complete or almost complete (N=5). Most of the intact bottles were small pharmaceutical bottles (DeCorse 1984). However, as noted, their secondary context usage in the gin trade need to be considered particularly in twentieth-century context (Busch 1987; DeCorse 2001:161). The following attributes were considered: color, patination, mode of manufacture, the base form, bottle form, the finish, and decoration. The definitions of each attribute recorded, and their numerical codes are given below, and these can be referenced in the glass analysis summary that follows.

Glass color

Glass color provides clues to both vessel age and function. A few general observations can be made, particularly about the three major colors that are present in the assemblage 2, 3 and
5. Aside from other diagnostic attributes where applicable, it is reasonable to assume that the colorless and light green glasses date to the late nineteenth century until the site’s abandonment, *circa* 1960s, although it is notable that majority of them likely date to the twentieth century (Lindsey 2020). Admittedly, it was difficult to isolate the sun-colored amethyst colorless glass which would have been indicative of the presence of manganese as a decolorizing agent. This would have provided a far more precise date of between the 1870s-1920 (Lockhart 2006:54; Munsey 1970:55-56; Newman 1970:74). Nonetheless, given the possibility of continuous reuse, this point is moot as the bottles may have been used at the site until its abandonment. The dark green (code#3) and opaque black (code #19) glass fragments likely date earlier than all the other types of glass colors recovered. The majority of these colors were recovered from Supomu, and they likely date to the eighteenth or early nineteenth century (e.g., see Jones 2010).

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Uncertain, mixed glass</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>Colorless, clear and transparent</td>
<td>112</td>
</tr>
<tr>
<td>3</td>
<td>Dark green, transparent (e.g. wine bottles)</td>
<td>27</td>
</tr>
<tr>
<td>5</td>
<td>Light green, transparent</td>
<td>134</td>
</tr>
<tr>
<td>6</td>
<td>Light aquamarine, transparent</td>
<td>17</td>
</tr>
<tr>
<td>9</td>
<td>Blue or light blue opaque white mixture</td>
<td>1</td>
</tr>
<tr>
<td>16</td>
<td>Light brown transparent</td>
<td>4</td>
</tr>
<tr>
<td>17</td>
<td>Dark brown, transparent</td>
<td>1</td>
</tr>
<tr>
<td>18</td>
<td>Milky glass, opaque white at least 1869 (Miller et al. 2000:8)</td>
<td>2</td>
</tr>
<tr>
<td>19</td>
<td>Black opaque dated to between 1725-1850 (Jones 2010)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>305</td>
</tr>
</tbody>
</table>

**Patination**

The patination refers to a layered crust on the surface of the glass resulting from decomposition. Given equal environmental circumstances, the heavier the patina the older the glass. The glass fragments were sorted into those with heavy patination to moderate ones. Expectedly, because most of the glass likely date to the late nineteenth and twentieth centuries, the majority of the fragments have no patination on the surface.
### Patination attribute description

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>None–no patina present on surface</td>
<td>245</td>
</tr>
<tr>
<td>2</td>
<td>Moderate–minor patina present</td>
<td>57</td>
</tr>
<tr>
<td>3</td>
<td>Heavy–entire surface covered in patina</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>305</td>
</tr>
</tbody>
</table>

### Bottle form

The shape of the bottles provides indications of their function. However, as pointed out this indication is of limited utility for this exercise than the age indications of the glass fragments. As the glass pieces are fragmentary, in most cases, it is difficult to identify their forms. Although, in the summary the majority of the bottle forms are listed as undiagnostic, again, because most of the light green machine-made glass pieces likely came from beer or liquor bottles.

### Base attribute description

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Indeterminate</td>
<td>282</td>
</tr>
<tr>
<td>3</td>
<td>Bell-shaped, domed base, common on wine bottle usually with a pontil scar (Jones and Sullivan 1989:113) (Jones 2000:157) (Noël Hume 1969:63-65)</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Molded circular cross-section flat base (Jones and Sullivan 1989:112)</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Molded circular or squared cross section, abrupt heel on dark green glasses (Jones and Sullivan 1989:110-112)</td>
<td>15</td>
</tr>
<tr>
<td>8</td>
<td>Molded circular cross section on Vaseline container; fairly flat base (Jones and Sullivan 1989:115)</td>
<td>5</td>
</tr>
<tr>
<td>11</td>
<td>Conical wine, sand pontil (large circular mark) (Jones 1986:95) dated to the late 18th to early 19th century)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>305</td>
</tr>
</tbody>
</table>

### Mode of manufacture

Despite the fragmentary nature of the glass, where the finish (refers to the rim and neck of the bottle), mold seam or base is present, it is possible to identify the mode of manufacture which can in turn provide indications about the age of the bottle. As a side note most of the light green glass fragments dated to the twentieth century are most likely fully automatic machine-made bottles patented in 1904 and became popular after 1917 (Miller 2000:8; Miller and Sullivan 2000:172). A few of the crowns were collected from the archaeological excavations. The broad
categories of manufacturing techniques noted include free-blown, molded, and machine-made. There are variations in these broad categories, which outlined and coded below.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>undiagnostic</td>
<td>253</td>
</tr>
<tr>
<td>3</td>
<td>Free-blown with no pontil mark likely date to the late 18th and early 19th centuries at Supomu or Wawase (Jones 1986; 2000:156-159; 2010)</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>Free-blown, solid/bare iron pontil distinct circular marks that distorts the push-up (Jones 1971:71) dates range is late 18th and 19th centuries (Jones 1986; 2000:156-159; 2010)</td>
<td>1</td>
</tr>
<tr>
<td>9</td>
<td>Free-blown, blow-pipe pontil excess glass of circular nature remains at the base and do not obscure any mold seam (Jones 1971:71) dated to the late 18th and 19th centuries (Jones 1986; 2000:156-159; 2010) (McNulty 1971; Noël Hume 1961)</td>
<td>2</td>
</tr>
<tr>
<td>11</td>
<td>Mold-blown, blow-back finish; screw top; top is ground to remove excess glass (Jones and Sullivan 1989:41-42) dated to 1858 (Miller et al. 2000)</td>
<td>1</td>
</tr>
<tr>
<td>17</td>
<td>Post-bottom mold, no seam at base; vertical seam rest on the base; oval or circular mold run along the corner of base dated to between 1850 and 1890 (Lindsey 2020), Miller et. al. date it to c. 1825 (Miller et al. 2000).</td>
<td>1</td>
</tr>
<tr>
<td>19</td>
<td>Two-piece mold, snap-case, finishing tool; drug bottle; seam extends from below the finish to the neck c. 1850 (Miller et al. 2000:8).</td>
<td>2</td>
</tr>
<tr>
<td>22</td>
<td>Turn-molded circa 1870s (Miller et al. 2000:8).</td>
<td>2</td>
</tr>
<tr>
<td>25</td>
<td>Two- three-piece mold several seam presents c. 1810 or 1820s to about 1910 (Lindsey 2020; Newman 1970:72).</td>
<td>27</td>
</tr>
<tr>
<td>28</td>
<td>Optic-molding – common on tableware</td>
<td>1</td>
</tr>
</tbody>
</table>

305
**Finish**

The finish refers to the neck formation that is that part of the bottle between the shoulder and the top, and often refers to where the closure is affixed (White 2000:143). Because it was not until fully automatic machine-made bottles were perfected, the finish was made as a separate attachment to the main body of the bottle (Miller and Sullivan 2000:161-164). The identification of the finish is a diagnostic attribute. Aside from the machine-made screw or crown top finish bottles, very few diagnostic finish pieces were present in the glass collection. Only one finish fragment which was made out of lipping tool and was achieved by an addition of added molten glass to the main body of the bottle. Many of the screw to finish were from pharmaceutical and cosmetic container.

### Bottle finish attribute description

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Indeterminate</td>
<td>262</td>
</tr>
<tr>
<td>2</td>
<td>Straight finish without curvature on the lip, polished lip on colorless glass fragments</td>
<td>13</td>
</tr>
<tr>
<td>6</td>
<td>Finishing tool, added glass, blob top (Jones and Sullivan 1989:90, Fig. 57)</td>
<td>1</td>
</tr>
<tr>
<td>10</td>
<td>Finishing tool, added glass, u-tooled string similar to form in (Jones 1986:71, see Fig. 57)</td>
<td>1</td>
</tr>
<tr>
<td>16</td>
<td>Crown top, machine-made (see Jones and Sullivan 1989:38)</td>
<td>10</td>
</tr>
<tr>
<td>17</td>
<td>Finishing tool, added glass, Eno’s shape; fit Eno stoppers, (see Jones and Sullivan 1989:42-43, Fig. 57)</td>
<td>16</td>
</tr>
<tr>
<td>21</td>
<td>Eno top, finishing tool</td>
<td>2</td>
</tr>
</tbody>
</table>

**Base forms**

This category describes the base (portion of the bottles that sits on the ground) fragments. Very few bases were present in the assemblage. The majority of the base forms has circular cross-section with an abrupt heels. The base provides indications on the mode of manufacture, bottle form, and dating clues.
## Base form attribute description

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Indeterminate</td>
<td>282</td>
</tr>
<tr>
<td>3</td>
<td>Bell-shaped, domed base, common on wine bottle usually with a pontil scar (Jones and Sullivan 1989:113) (Jones 2000:157) (Noël Hume 1969:63-65)</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Molded circular cross-section flat base (Jones and Sullivan 1989:112)</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Molded circular or squared cross section, abrupt heel on dark green glasses (Jones and Sullivan 1989:110-112)</td>
<td>15</td>
</tr>
<tr>
<td>8</td>
<td>Molded circular cross section on Vaseline container; fairly flat base (Jones and Sullivan 1989:115)</td>
<td>5</td>
</tr>
<tr>
<td>11</td>
<td>Conical wine, sand pontil (large circular mark) (Jones 1986:95) dated to the late 18th to early 19th century)</td>
<td>1</td>
</tr>
</tbody>
</table>

## Decoration

Decoration refers to marks on the glass fragments that may or may not represent marker’s mark on the glass. Decorations are defined by the mode of delivery of the marks. Embossing and pressed decorations were noted. Embossing occurs when the marks are attached to the glass while pressed decorations refer to a situation where part of the glass seem to have been carved out. Individual seals or marks cannot be identified since in most cases the bottles are not complete. However, some of the light green glasses with letters H and E on the fragments undoubtedly come from J.H. Henkes Schnapp bottles.

## Decoration attribute description

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>None</td>
<td>278</td>
</tr>
<tr>
<td>3</td>
<td>Embossed lettering date to from about 1860 (Newman 1970:74)</td>
<td>25</td>
</tr>
<tr>
<td>5</td>
<td>Pressed decoration</td>
<td>2</td>
</tr>
</tbody>
</table>

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Appendix Table 1 Wawase: A catalog of glass fragments description. The figures under each attribute refer to a code, which has been described under each heading above.

<table>
<thead>
<tr>
<th>WAWASE</th>
<th>COLOR</th>
<th>PATINA</th>
<th>MANUFACTURE</th>
<th>FORM</th>
<th>BASE</th>
<th>FINISH</th>
<th>DECORATION</th>
<th>WEIGHT</th>
<th>COUNT</th>
<th>PROBABLE DATE RANGE AND OTHER REMARKS</th>
</tr>
</thead>
<tbody>
<tr>
<td>L2/STP R140/3</td>
<td>5</td>
<td>1</td>
<td>25</td>
<td>2</td>
<td>7</td>
<td>1</td>
<td>3</td>
<td>0.375</td>
<td>0</td>
<td>1850s-1970</td>
</tr>
<tr>
<td>L2/STP P210/3</td>
<td>5</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0.035</td>
<td>1</td>
<td>19th century to 1970</td>
</tr>
<tr>
<td>L2/U3/3</td>
<td>5</td>
<td>2</td>
<td>25</td>
<td>19</td>
<td>8</td>
<td>21</td>
<td>1</td>
<td>0.1</td>
<td>1</td>
<td>1850s-1970</td>
</tr>
<tr>
<td>L1/STP Q40/2</td>
<td>3</td>
<td>2</td>
<td>19</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>0.06</td>
<td>1</td>
<td>1700s to 1800</td>
</tr>
<tr>
<td>L2/STP E170/6</td>
<td>5</td>
<td>2</td>
<td>25</td>
<td>7</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>0.285</td>
<td>12</td>
<td>1880s-1900 E embossed on the shoulder. Likely to be a Schnapp bottle. Molded because</td>
</tr>
<tr>
<td>L2/STP E170/5</td>
<td>5</td>
<td>1</td>
<td>26</td>
<td>10</td>
<td>1</td>
<td>16</td>
<td>1</td>
<td>0.16</td>
<td>5</td>
<td>1892-1970 (Miller et al. 2000:8)</td>
</tr>
<tr>
<td>L2/STP F270/3</td>
<td>5</td>
<td>1</td>
<td>26</td>
<td>10</td>
<td>1</td>
<td>16</td>
<td>1</td>
<td>0.17</td>
<td>5</td>
<td>1892-1970 (Miller et al. 2000:8)</td>
</tr>
<tr>
<td>L2/STP F270/3</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0.065</td>
<td>3</td>
<td>1800s to 1970 based on the color</td>
</tr>
<tr>
<td>L2/STP N300/4</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>14</td>
<td>1</td>
<td>17</td>
<td>1</td>
<td>0.21</td>
<td>13</td>
<td>Late 19th century to 1970 (Miller et al. 2000:8)</td>
</tr>
<tr>
<td>L2/U3/3</td>
<td>2</td>
<td>1</td>
<td>11</td>
<td>19</td>
<td>1</td>
<td>21</td>
<td>1</td>
<td>0.08</td>
<td>1</td>
<td>Late 19th century-1970 (DeCorse 2009:89)</td>
</tr>
<tr>
<td>L2/U3/3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1910-1970</td>
</tr>
<tr>
<td>L2/U3/3</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>Late 19th century-1970</td>
</tr>
<tr>
<td>L2/STP F270/1</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0.06</td>
<td>3</td>
<td>Late 19th century-1970</td>
</tr>
<tr>
<td>L2/STP F270/1</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0.07</td>
<td>2</td>
<td>Late 19th century-1970</td>
</tr>
<tr>
<td>L2/STP F270/1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>9</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0.005</td>
<td>1</td>
<td>Late 19th century-1970</td>
</tr>
<tr>
<td>Code</td>
<td>Value 1</td>
<td>Value 2</td>
<td>Value 3</td>
<td>Value 4</td>
<td>Value 5</td>
<td>Value 6</td>
<td>Frequency</td>
<td>Late 19th century-1970</td>
<td>1800s to 1970 based on the color</td>
<td>1893-1970; At Wawase, these bottles likely date to between 1930s and 1970</td>
</tr>
<tr>
<td>--------------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>---------</td>
<td>-----------</td>
<td>------------------------</td>
<td>-------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>L2/STP F270/1</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0.015</td>
<td>2</td>
<td>1800s to 1970 based on the color</td>
<td></td>
</tr>
<tr>
<td>L2/STP R140/2</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0.08</td>
<td>3</td>
<td>1893-1970; At Wawase, these bottles likely date to between 1930s and 1970</td>
<td></td>
</tr>
<tr>
<td>L2/STP F250/2</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>11</td>
<td>1</td>
<td>0.07</td>
<td>1</td>
<td>1800s to 1970 (DeCorse 2009:73)</td>
<td></td>
</tr>
<tr>
<td>L2/STP R210/2</td>
<td>16</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0.01</td>
<td>2</td>
<td>1840s to 1970 (Lindsey 2020 see section on colors)</td>
<td></td>
</tr>
<tr>
<td>L2/STP R210/2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0.02</td>
<td>3</td>
<td>Late 19th century-1970</td>
<td></td>
</tr>
<tr>
<td>L2/STP F250/3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0.025</td>
<td>17</td>
<td>Late 19th century-1970</td>
<td></td>
</tr>
<tr>
<td>L1/STP Q10/5</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0.005</td>
<td>1</td>
<td>Late 19th century-1970</td>
<td></td>
</tr>
<tr>
<td>L1/STP Q10/5</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0.03</td>
<td>1</td>
<td>1800s to 1970</td>
<td></td>
</tr>
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## Appendix Table 2 A catalogue of glass fragments description from Supomu

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November 01, 2018

Mr. Samuel Amatey
Syracuse University
P. O. Box AN19786 Accra-North
Accra, Greater Accra 02233
Ghana

RE: Radiocarbon Dating Results

Dear Mr. Amatey,

Enclosed are the radiocarbon dating results for four samples recently sent to us. The report sheet contains the Conventional Radiocarbon Age (BP), the method used, material type, and applied pre-treatments, any sample specific comments and, where applicable, the two-sigma calendar calibration ranges. The Conventional Radiocarbon ages have been corrected for total isotopic fractionation effects (natural and laboratory induced).

All results (excluding some inappropriate material types) which fall within the range of available calibration data are calibrated to calendar years (call BC/AD) and calibrated radiocarbon years (call BP). Calibration was calculated using one of the databases associated with the 2013 INTCAL program (cited in the references on the bottom of the calibration graph page provided for each sample). Multiple probability ranges may appear in some cases, due to short-term variations in the atmospheric 14C contents at certain time periods. Looking closely at the calibration graph provided and where the BP sigma limits intercept the calibration curve will help you understand this phenomenon.

Conventional Radiocarbon Ages and sigmas are rounded to the nearest 10 years per the conventions of the 1977 International Radiocarbon Conference. When counting statistics produce sigmas lower than +/- 30 years, a conservative +/- 30 BP is cited for the result.

All work on these samples was performed in our laboratories in Miami under strict chain of custody and quality control under ISO/IEC 17025:2005 Testing Accreditation P/L #59423 accreditation protocols. Sample, standards, and blanks were all analyzed in the same chemistry lines by qualified professional technicians using identical reagents and counting parameters within our own particle accelerators. A quality assurance report is posted to your directory for each result.

Our invoice will be emailed separately. Please forward it to the appropriate officer or send a credit card authorization. Thank you. As always, if you have any questions or would like to discuss the results, don’t hesitate to contact us.

Sincerely,

[Signature]

Mr. Darden Hood
President

Mr. Ronald Hatfield
Mr. Christopher Patrick
Deputy Directors
REPORT OF RADIOCARBON DATING ANALYSES

Samuel Anarzay          Report Date: November 01, 2016
Syracuse University     Material Received: October 17, 2018

Laboratory Number: Beta - 597086
Sample Code Number: WARRIABE 2016 UNIT2 LEVEL9

Conventional Radiocarbon Age (BP) or
Percent Modern Carbon (PMC) & Delta isotopes

Calibrated Results: 84.4 % Probability
High Probability Density Range Method (HPD)

440 60 30 BP IRMS O13C: -27.1 000

(92.0%) 142.3 - 1500 cal AD (927 - 460 cal BP)
(3.4%) 1597 - 1610 cal AD (735 - 340 cal BP)

Submitter Material: Charcoal
Pre-treatment: (charred material) acid/alkali/wood
Analyzed Material: Charred material
Analysis Service: AMS-Standard delivery
Percent Modern Carbon: 54.32 +/- 0.25 pMC
Fraction Modern Carbon: 0.9432 +/- 0.0036
D14C: -58.83 +/- 3.52 000
D14C: -54.56 +/- 3.52 000 (1950:2.2566 000)

With radiocarbon correction: 500 +/- 30 BP
Calibration: BetaCal3.2.1; HPD method: SHCAL13

Results are ISO/IEC-17025:2005 accredited. No sub-contracting or sublet labor was used in the analyses. All work was done at Beta in a 10,000 sq.-ft. laboratory. The "Conventional Radiocarbon Age" was calculated using the Libby radiocarbon (AD/year) system and was used for calendar calibration. The "Modern" reference value is reported as percent modern carbon (PMC). The modern reference standard was 96% for the 14C signature of NIST SRM-612c. Excel sheets included with this report contain the data used in the calculation of radiocarbon ages.
REPORT OF RADIOCARBON DATING ANALYSES

Samuel Amateau
Syracuse University

Report Date: November 01, 2016
Material Received: October 17, 2018

Laboratory Number: Beta - 587087
Sample Code Number: WINNABE 2016 UNIT 2 LEVEL A4

Conventional Radiocarbon Age (BP) or
Percent Modern Carbon (%MC) & Delta 13C

Calibrated Result(s): 84.4 % Probability
High Probability Density Range Method (HPD)

Beta - 587087
WINNABE 2016 UNIT 2 LEVEL A4

1220 +/- 30 BP

(78.5%)
776 - 955 cal AD
(1100 - 1245 cal BP)

(19.5%)
916 - 565 cal AD
(1034 - 501 cal BP)

Submitter Material: Charcoal
 Pretreatment: charred material and alkaline

Processed Material: Charred material

Analysis Service: AMS - Standard delivery

Percent Modern Carbon: 0.91 +/- 0.32 %MC

Fraction Modern Carbon: 0.9891 +/- 0.0032

D14C: -140.90 +/- 3.21 e‰

D18O: -147.94 +/- 3.61 e‰

Measured Radiocarbon Age: 1240 +/- 30 BP

Calibration: BetaCal 3.21; HPD method: SHCAL13

Results are ISO/IEC 17025:2005 accredited. No sub-contraction or aliquot labor was used in the analysis. All work was done at Beta in a no-carbon HTC accelerator mass spectrometer and a Thermo Flash. The "Conventional Radiocarbon Age" was calculated using the Libby half-life (5568 years), it is corrected for tree age and treatment and was used for calendar calibration where applicable. The Age is reported in years and is reported as radiocarbon years before present (BP). "Present" = AD 1950.

Results greater than the modern reference are reported as percent modern carbon (pMC). The modern reference standard was 1950 AD. The 14C signature of NIST SRM 4940C (marine shells calibrated using 1 sigma counting statistics) was 0.9891 +/- 0.0032. D14C and D18O values are in the range of -147.94 to -140.90 e‰. Standard errors for modern calibration are 1 sigma. Results of 20 BP on the conventional Radiocarbon Age are deterministic rounded to 50 BP. D14C values are on the standard scale (i.e. 1950 AD D14C, 0 D13C and 0.0 e‰ values are relative to V-PDB). Results for calendar calibrations are shown in the bottom of this report.
REPORT OF RADIOCARBON DATING ANALYSES

Samuel Amatay
Syracuse University

Report Date: November 01, 2018
Material Received: October 17, 2018

Laboratory Number: Beta - 587088
Sample Code Number: WARRABE 2018 UNIT 2 LEVEL III

Conventional Radiocarbon Age (BP) or
Percent Modern Carbon (pMC) & Delta 14C

Calibrated Results: 84.4 % Probability
High Probability Density Range Method (HPD)

Age: 2720 +/- 30 BP

IRMS 013C: -21.7 000

(MS.4) 95.5 - 758 cal B.C. (2651 - 2747 cal B.P.)

Submitter Material: Charcoal
Pre-treatment: Chipped material
Analysis Service: AMS - Standard Delivery
Percent Modern Carbon: 71.2% +/- 0.27 pMC
Fraction Modern Carbon: 0.7128 +/- 0.0027
Δ14C: 2877.24 +/- 2.59 cal 3000BC (1950, 2,018, 000)

Measured Radiocarbon Age: 2670 +/- 30 BP

Calibration: BetaCal 3.21. HPD method: SHCAL13

Results are ISO/IEC 17025:2005 accredited. No sub-contracting or skilled labor was used in the analyses. All work was done at Beta in a house NRC accredited mass spectrometer and a thermal reactor. The Conventional Radiocarbon Age was calculated using the Libby half-life (5568/years), corrected for tree age and time and used for calendar calibration where applicable. The Age is rounded to the nearest 10 years and is reported as radiocarbon years before present (BP). 'Present' = AD 1950. Results greater than the modern reference are reported as percent modern carbon (pMC). The modern reference standard was 0% for the 14C signature of NIST SRM 4990C. Results and calibrated errors are 1-sigma contour values. Calibration errors less than 10 BP on the conventional Radiocarbon Age are consistently rounded up to 10. Δ14C values are on the ln scale (half-life of 3,825 years). 013C and Δ14C values are relative to VPDB-1. Interferences for calendar calibrations are often in the section of calibration graphs.
REPORT OF RADIOCARBON DATING ANALYSES

Samuel Amosley
Syracuse University

Report Date: November 01, 2018
Material Received: October 17, 2018

<table>
<thead>
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<td>Beta - 507089</td>
<td>WARRAKEE 2016 UNIT2 LEVEL25</td>
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</tbody>
</table>

Conventional Radiocarbon Age (BP) or
Percent Modern Carbon (pmC) & Delta Values

Calibrated Result: 89.4 % Probability
High Probability Density Range Method (HPD)

<table>
<thead>
<tr>
<th>Beta - 507089</th>
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<th>2380 +/- 30 BP</th>
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<tr>
<td>198.1%</td>
<td>637 - 209 cal BC</td>
<td>(2496 - 2306 cal BP)</td>
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<tr>
<td>63.3%</td>
<td>265 - 245 cal BC</td>
<td>(2217 - 2214 cal BP)</td>
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</tbody>
</table>

Submitter Material: Charcoal
Pre-treatment: (charred material) acid/alkaline
Analysis Material: Charred material

Analysis Service: AMS-Standard delivery
Percent Modern Carbon: 74.36 +/- 0.20 pmC
Fraction Modern Carbon: 0.7436 +/- 0.0028

D14C: -256.42 +/- 7.76 c/oo
D18O: -262.51 +/- 7.79 c/o (1950.2018.00)

Measured Radiocarbon Age:
(without δ13C correction) 2410 +/- 30 BP

Results are ISO/IEC 17025:2005 accredited. No significant or unknown factor was used in the analysis. All error was done at Beta in 4 d-in-house NRC accredited mass spectrometers and 4 Thermo Finntools. The conventional radiocarbon age was calculated using the Libby half-life (5568 years), corrected for tree age and tree age was used for calendar calibration where applicable. The Age is rounded to the nearest 10 years and is reported as radiocarbon years before present (BP). "present" = AD 1950.

Results greater than the modern reference are reported as percent modern carbon (pmC). The modern reference standard was 90% for the 4C signature of NIST SRM612b. Radiocarbon calibration is shown as 2σ calibration error bars. Calculated 14C ages less than 60 BP on the conventionally radiocarbon age are estimated by rounding up to 30. δ13C values are on the PDB scale (not the AMS δ13C). δ13C and δ18O values are relative to V-1950. Interference for calendar calibrations are detailed in the manuals of the calibration software.
BetaCal 3.21
Calibration of Radiocarbon Age to Calendar Years
(highest probability ranges: SHCAL13)

(Variables: d13C = -27.1 o/oo)
Laboratory number Beta-507086
Conventional radiocarbon age 470 ± 30 BP

95.4% probability

(92%) 1423 - 1500 cal AD  (527 - 460 cal BP)
(3.4%) 1597 - 1610 cal AD  (363 - 349 cal BP)

68.2% probability

(68.2%) 1436 - 1478 cal AD  (514 - 472 cal BP)

Database used
SHCAL13

References
References to Probability Method

References to Database SHCAL13
BetaCal 3.21
Calibration of Radiocarbon Age to Calendar Years
(High Probability Density Range Method (HPD): SHCAL13)

(Variables: d13C = -26.4 o/oo)

Laboratory number   Beta-507087

Conventional radiocarbon age  1220 ± 30 BP

95.4% probability

(75.5%)  770 - 905 cal AD  (1180 - 1045 cal BP)
(19.9%)  916 - 969 cal AD  (1034 - 981 cal BP)

68.2% probability

(38.4%)  840 - 894 cal AD  (1110 - 1056 cal BP)
(21.3%)  776 - 813 cal AD  (1174 - 1137 cal BP)
(8%)     938 - 952 cal AD  (1012 - 998 cal BP)

WAWASEE 2016 UNIT2 LEVEL14

Database used
SHCAL13

References
References to Probability Method
References to Database SHCAL13
BetaCal 3.21

Calibration of Radiocarbon Age to Calendar Years

(High Probability Density Range Method (HPD): SHCAL13)

(Variables: δ13C = -21.7 o/oo)

Laboratory number: Beta-507088

Conventional radiocarbon age: 2720 ± 30 BP

95.4% probability

(95.4%) 902 - 798 cal BC (2851 - 2747 cal BP)

68.2% probability

(68.7%) 847 - 802 cal BC (2796 - 2751 cal BP)
(11.5%) 892 - 877 cal BC (2641 - 2626 cal BP)

Database used

SHCAL13

References

References to Probability Method

References to Database SHCAL13
BetaCal 3.21

Calibration of Radiocarbon Age to Calendar Years

(highest probability ranges: SHCAL13)

(Variables: d13C = -26.8 o/oo)

Laboratory number       Beta-507089

Conventional radiocarbon age  2380 ± 30 BP

95.4% probability

(95.1%) 530 - 359 cal BC       (2486 - 2308 cal BP)
(0.3%) 268 - 265 cal BC       (2217 - 2214 cal BP)

68.2% probability

(64.5%) 430 - 369 cal BC       (2379 - 2318 cal BP)
(1.8%) 471 - 466 cal BC       (2420 - 2415 cal BP)
(1.8%) 451 - 446 cal BC       (2400 - 2395 cal BP)

Database used
SHCAL13

References
References to Probability Method

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