

**Haven Geographies and the Indigenous Prestige Economies
of Spanish Colonial Philippines**

BY

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THESIS

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SUMMARY

This study uses archaeological methods to investigate the impact of Spanish colonization on indigenous Philippine prestige economies at the frontier of foreign rule. Pedestrian survey and excavation was conducted in the Malangwa watershed, which largely falls within the modern municipality of Bacong, Negros Oriental. The data collected from these field methods were incorporated into statistical and spatial analyses. The primary spatial analyses relied on measures of spatial autocorrelation, specifically global and local forms of Moran's Index. While spatial autocorrelation is not widely applied to archaeological datasets, this study demonstrates its utility in the interpretation of data collected in areas in which there are significant visibility impediments to full coverage survey.

Based on historical documents, ethnographic studies, and some archaeological research, the Spanish Colonial Period can be into two eras: the Early Colonial Period (mid-16th – 18th century) and the Late Colonial Period (19th-20th). During the Early Colonial Period, areas of the archipelago outside complete Spanish control were subjected to varying vectors of colonization. Records indicate that the Malangwa watershed was one such place, initially protected from significant Spanish interference due to its geographical relations to southern Islamic sultanates and its rugged terrain. Residents of the Malangwa watershed were subjected to *encomiendas*, a tribute system, and increasing slave raids from the Sulu and Mindanao sultanates to the south.

Study of the distribution of imported prestige wares from the preceding Early Historic Period into the Early Colonial period around the Malangwa River indicate, contrary to Spanish

SUMMARY (continued)

records, that elite residents retained indigenous modes of power into the Spanish period. With traditional routes to power in place and the added pressures of providing tribute to *encomenderos* and protecting their settlements from slave raids, the indigenous social organization established in the Early Historic Period intensified. Intensification, defined as increased social stratification, occurred as elites further integrated lesser and non-elites into the use of imported prestige wares to solidify loyalties and alliances to meet the increased demand for the production of surplus and increased need to defend their labor force against slave raiding pirates. These results suggest that contemporary debates regarding the relationship between geography and economy should define economic success as culturally relative and expand their conception of rugged terrain as an inherently negative economic influence.

Substantial disruption of the indigenous subsistence and prestige economies did not take place on Negros Oriental until the introduction of commercial agriculture for export beginning around the late 18th century. Theories of identity, practice, agency, and memory are applied to the spatial dataset to explore the changing cultural meanings of prestige objects during this economic overhaul. While imported wares continued to be used as prestige items, the significantly different spatial distribution of imported ceramics in the Late Colonial Period is indicative of a shift in the cultural meaning of prestige goods from one that emphasized social relationships to one that emphasized economic status.

1. INTRODUCTION

Historical archaeology faces the monumental task to “understand the global nature of modern life” (Orser 2004:19). I agree with Gosden’s (2004: 159) argument that “to understand the present in its unique form and its historical lineage we need to understand the past shapes that colonialism and power have taken through material culture.” The phrase “past shapes” refers to the varied colonial experiences which continue into modernity. Study of the negotiations of colonial and indigenous power is a vital academic field attuned to the importance of understanding the distinctive historical contexts of these processes. In this dissertation, I explore the impact of Spanish colonization in the Philippine archipelago, a region underrepresented in the colonial literature.

Scholars of the Spanish empire combine a rich documentary record and archaeological evidence to describe and explain the colonial processes in the Americas on the indigenous people, colonists, and Spain. However, explaining colonial process must “be contextualized through comparative and diachronic research on other comparable regions” (Skowronek 2009: 498). Skowronek offers such a study in his regional comparison that reaches to the outermost frontiers of the Spanish empire, comparing on the regional scale the colonization of the Philippines, the American Northwest, Guam, and Micronesia. Similarities among the regions and their immediate production value to the empire meant that the early colonial experience in these areas were as “ecclesiastical, insular frontiers” which developed with the evolving capitalist transition into “secular, wage-based plantation economies intended for the nascent Atlantic/West European-centered global economy” (499).

I study the indigenous Philippine social organizational responses to varying colonial pressures over time and how geography plays a role in these processes. Those familiar with Spanish American history and archaeology will recognize Spanish colonial measures such as *reducción*, *encomiendas*, and *haciendas*; and the development of new local social classes, such as the *principalia* and *mestizos*. The implementation of these processes differs in the Philippines, however, given the very different indigenous social organizations at contact, geography, and time periods of colonization. In this dissertation, I focus on the local Philippine response in a frontier area not under direct Spanish control until the late 18th century. Before introducing the socioeconomic impact of Spanish colonization in the Philippines, however, I will draw out one example in which a comparative study between my findings and the colonial processes in the Americas create new avenues for understanding “the global nature of modern life.”

Resettlement, or *reducción*, where and when it occurred in the Philippines, resulted in many deaths and the breakdown of the indigenous social organization. The result was similar in the Americas, as Wolf ([1982]2010: 134) summarizes: resettlement promoted the already fast moving diseases introduced by the Europeans and further broke the familial and tribute organizations that operated to produce food, trade resources, and manage water supplies. The operation of a state level organization and relatively high population density meant that the interruption of trade networks caused serious repercussions for previous interconnected communities (Feinman 1978). Comparatively, the communities that were not resettled in the Philippines were not dependent on trade networks for basic resources – with most families engaged in subsistence farming or local attached craft specialization (Abinales and Amoroso 2005; Corpuz 2005; Constantino 1975; Wolthers 1999; Nadeau 2008). It was the trade for exotic

or luxury items that suffered the most, allowing Philippine communities at the fringes the benefit of maintaining access to basic needs through much of the Early Colonial Period, although hardships in meeting *encomienda* quotas was a growing concern. In fact, I found that the inhabitants of the Malangwa watershed of Negros Oriental were able to circumvent Spanish authorities in gaining access to foreign luxury wares. This enabled local elites to intensify their prestige economies, broaden access to imported goods to cement alliances in the face of increasing raiding attacks from Sulu and Mindanao, and meet new tribute demands from the Spanish.

This example of difference in the colonization process is interesting in regards “to understand[ing] the present in its unique form” because while the geography and terrain of Negros Oriental created a socioeconomic haven for its residents during the Early Colonial Period, as I discuss in detail in this dissertation, Spain’s transitioning through aggressive mercantilism and onto capitalism effectively diminished what socioeconomic resources that were left available to the indigenous communities. Thus while the more fragmentary nature of the Philippine archipelago’s political economy aided their resistance to early colonial pressures – in a manner impossible to the more integrated Mesoamerican and Andean societies – the introduction of wage labor and a money economy promoted increasing poverty in both the Spanish Philippines and Americas; a finding that underscores the strength of the intensifying global socioeconomic system. Thus, this research is of interest not only to scholars of Southeast Asia, but also to those studying colonial processes.

The following sections introduce the significant role of archaeology in understanding the Spanish Colonial Philippines and how my theoretical perspectives, grounded in agency, practice,

and memory, enrich my quantitative spatial analysis of the material cultures left by indigenous communities. The chapter continues with a discussion of my hypotheses, material evidence, and methods.

1.1 **The Socioeconomic Impact of Spanish Colonization in the Philippines**

European conquest of the Philippine archipelago was devastating to the indigenous population. The Spanish slowly incorporated new coastlines into their purview, subduing local resistance through force, religion, and economic pressure. The death toll was significant, and the hardships faced by survivors immense. Amplifying these new burdens in the Visayas region was the increase in slave raids by the southern islands. Facing these realities, many islanders chose to flee Spanish controlled zones into the rugged terrain of the *bundok* - the mountains - and neighboring islands free from the crown's reach. These rugged landscapes served as havens with minimal, though increasing, Spanish interference.

In this dissertation I investigate one these zones along the Malangwa watershed of modern Bacong, Negros Oriental to identify (1) how its geographic characteristics protected indigenous socioeconomic practices during early Spanish colonization, and (2) how externally wrought changes to Philippine economies affected the meanings of status goods that were integral to the prestige economies maintained by the indigenous elite class previous to Spanish colonization. Locals living around the Malangwa River were subjected to the *encomienda* tribute system. *Encomiendas* facilitated systematic abuses and resulted in severe population declines, but not everywhere. Unlike other areas, like Luzon and Cebu, in the Malangwa watershed military force was not applied when resettlement efforts were unsuccessful because of the danger posed by Mindanao and Sulu pirates and because the rugged terrain lacked fertile

alluvial plains or rice terraces, rendering it unattractive as a supply base for the Spanish in Manila. It is the effects of this slow inclusion into Spanish administration upon the regional operation of the elite prestige goods economy that is the focus of this study. To address these research interests, theories and methods from archaeology, geography, and statistics are integrated to explore the relationship between terrain and geography with colonial economies and the relationship between economy and the social meaning of status objects at the communal scale.

Working within the historical period, I follow three central objectives of historical archaeology. First, to “understand the global nature of modern life” (Orser 2004:19). Second, to “measur[e] the rate of cultural continuity and change” within the context of modernization (Skowronek 2009: 499). Third, to understand “the changed lives of people,” particularly those that did not create historical records (ibid). I used quantitatively and qualitatively derived evidence to pursue these objectives. I adopt the perspective (Castree and Macmillan 2004; Dewsbury et al 2002; Doel 2010; Huciguzeller 2012; Latour 2004) that positivist and non-positivist knowledge are partial representations of reality; thus, one should not be subsumed below another, and incorporating both into social science exploration enriches interpretation of observed phenomena. My quantitatively derived evidence is based on spatial analyses conducted within a geographic information system (GIS), with the assumption that the spatial patterning of material culture from the Early Historic and Colonial Period Philippines correlate to social organization and the economic impact of rugged terrain. I also use the Peer Polity Interaction Model and World Systems Theory to contextualize the social exchanges characteristic among Philippine Chiefdoms and with the Spanish colonizers. My qualitatively

derived evidence is an interpretation of the material culture recovered for the spatial analyses with the assumption that theories of practice, agency, and memory are integral to understanding the nature of object meaning (Silliman 2009; Nilsson Stutz 2003; Lightfoot et al 1998; Ortner 1984; Robb 2010). From this theoretical base, I investigate four hypotheses regarding the archaeological record of the prestige economy in the Malangwa watershed on Negros Oriental (Table I).

TABLE I
HYPOTHESES OF THE INDIGENOUS PRESTIGE ECONOMY OF THE MALANGWA WATERSHED

1. Fewer ceramics were imported after colonization.
2. A continuity of indigenous social organization through the Early Colonial Period will be represented in a continuation of the distribution of imported ceramics from the Early Historic through the Early Colonial Period.
3. More ceramics were imported after the 18th century.
4. Increased socioeconomic disparity after the 18th century will be represented in an increased disparity in access to imported ceramics.

To test these hypotheses, archaeological survey and excavation was conducted in the Malangwa watershed. From the survey a GIS was created that included the field from which each sherd was found, the time period from which the sherd originated, sherd weight, and region of origin. I applied spatial analyses, including descriptive statistics and measures of spatial autocorrelation, to identify patterns in the data. The following sections introduce in

more detail my theoretical perspectives, how I developed my hypotheses, and how I connect archaeological evidence to my interpretations.

1.2 **Investigating Colonial Impacts on Indigenous Prestige Economies: Geography and Meaning**

The process of Spanish colonization in the Philippines is historically documented by the explorers, military officers, businessmen, and missionaries who recorded their movements and actions in the archipelago (Abinales and Amoroso 2005; Scott 1992; Reid 1993). Understanding indigenous responses from these documents is difficult at best, as the written evidence presents a European perspective that demonstrates little understanding of the intricacies of the cultures they encountered. Indigenous writings that may have offered additional understanding were recorded on organic materials that generally did not outlast Spanish efforts to wipe out any practice conceived as uncivilized or heathen. To further complicate the understanding of indigenous responses to colonization, Spanish records focus heavily on areas of greatest economic interest to the empire. Therefore, our understanding of capture and redevelopment of Maynila into Manila – the base of the Spanish Galleon trade – is much fuller than of areas outside of Spain’s economic interests, such as on Negros Oriental in the Visayas.

This research investigates a specific theme, the maintenance and use of the prestige goods economy indigenous to the Philippines, in a ‘frontier’ region, in which Spanish control was weak, but increasing from the 16th to the 20th century. Beyond filling the gap of historical knowledge of the effect of Spanish tribute demands, and later economic and social reorganization, this research explores the potential for understanding socioeconomic organizational change under varying pressures. We know that Manila and Cebu underwent

direct organizational restructuring, with the most obvious method being forced resettlement, the implementation of the *encomienda* system, and conversion to Catholicism (Abinales and Amoroso 2005; Corpuz 1997; Borrinaga and Kobak 2006). We do not know how indigenous organizations changed after colonization at the ‘frontier’ or the edges of colonial power.

Spanish accounts of indigenous societies was presented from an etic perspective with, at best, cursory knowledge of the landscape, population sizes, and social organization. While there is a descriptive nature to many of these accounts, they were often recorded for specific purposes, such as population estimates for the divvying of islands into *encomiendas*. Archaeological study of the remaining material cultural is, therefore, the primary source of evidence of socioeconomic developments even after colonization. Archaeological research of the colonial Philippines beyond primary Spanish centers is not yet a developed field of study.

This research also investigates the role of physical geography in these socioeconomic developments from an indigenous perspective. Contemporary geographic literature discusses rugged geographies in terms of the degree of difficulty they pose for agriculturalists and the development of infrastructure, as well as the financial and labor costs required for their effective integration into productive economies (Nunn and Pug 2012). As discussed in Chapter 5, this literature is written largely in regards to post-colonial contexts, but does not address the biased nature of the term ‘rugged’ with its negative economic connotation usually attached in the discussion. Of central concern to the field of geography is identifying geography’s key relationship to economics. On the one hand, some geographers argue that its most important relationship to economy is its contemporary articulation with the world (Sachs 2005). The argument is that poor countries are so because they are hindered by their terrain and

geography in relation to the world powers; and therefore, monetary aid given to these countries would allow them to overcome their difficulties and participate on a more equal footing in world commerce. The opposing view is that geography's most important relationship to the modern global economy is its ties to historical events (Easterly 2007). The argument is that 'undeveloped' or 'underdeveloped' countries are not succeeding in world markets because of historical missteps and unfortunate coincidences; such that aid from other countries would not help, as those countries would simply not make effective use of it. These discussions center upon an understanding of so-called 'irregular' terrain as inherently negative because it is more difficult to be productive in the context of the globalized marketplace. As such there is an opportunity to develop an anthropological understanding of rugged terrain as a positive asset beyond defensive purposes, thus understanding the negative connotation of rugged terrain in economic contexts to be culturally dependent.

The third line of inquiry involves the cultural meaning of objects (Silliman 2009; Nilsson Stutz 2003; Lightfoot et al 1998; Ortner 1984; Robb 2010). Historical archaeology continues to investigate how objects are used and what their associated meanings are, a study often discussed in terms of practice (e.g., et passim Loren 2008). Ethnographic studies show how within a single generation the practices associated with an object can change; and that simple binary analyses dividing objects in colonial settings into "indigenous/native" and "colonist/European" do not account for the great diversity of how populations understand and use objects (Silliman 2009). The use of prestigious goods to create, maintain, and grow elite status in a society is common in the archaeological literature (e.g. Peebles and Kus 1977; Shennan 1997). Less developed are methods for understanding how objects, particularly

prestige items, that continue to be used after substantial socioeconomic organizational changes have changed meanings that can be recognized at a regional or community scale.

1.3 **Introduction to Historical and Theoretical Background**

Early Spanish records describe village communities in the Philippines associated with varying degrees of political integration and allegiance. Described in detail in Chapter 2, the low lying coastal regions practiced a socioeconomic organization in which the majority of people, the – *tao* in Tagalog, practiced a subsistence strategy of farming, fishing, hunting, and gathering (Abinales and Amoroso 2005; Corpuz 2005; Constantino 1975; Wolthers 1999; Nadeau 2008). Elite leaders of the *datu* class achieved community leader status through a combination of birth, charisma, and achievements. Personal economic hardships were overcome by receiving loans in kind and labor that could be repaid over time. If the debt was extensive, the debtor became a slave until the debt was fulfilled.

As in other parts of Southeast Asia, the Philippines before European contact had a low population density (Hall 1985; Reid 1988; Newson 2009). Power and economic wealth was based in the number of people working land under your authority, and not amount of territory. As such, raiding other villages for slave labor was common and a traditional source of power. Slaves or their offspring were usually free to join the *tao* class after years of service. In this system there was a substantial degree of flexibility in the social status system, and movement among the various rungs of hierarchy. The Peer Polity Interaction Model, developed by Renfrew (1975), is useful for understanding the competing and allying dynamics of exchange that helped spur the development of the indigenous prestige economy, which is described in Chapter 4.

The elite *datu* class used prestige items to signal their social standing, as gifts to develop and maintain alliances, to demonstrate generosity, and as an economic currency in maintaining trade relationships (Junker 1999; Skowronek 1998; Bacus 1999; Gunn 1997; Salcedo 1998; Scott 2004). While domestic wares were produced exclusively for elite consumption, imported wares – particularly those foreign to the Philippine region – symbolized the greatest level of prestige. Archaeological and historical evidence point to robust trade networks in Southeast Asia that linked indigenous Filipinos with finished products of mainland Southeast Asia, China, Japan, South and Western Asia; and those regions with the natural resources found mostly in the highlands of the Philippines (Nadeau 2008; Abinales and Amoroso 2005; Reid 1988; Hutterer 1973; Nishimura 1992; Solheim 1981; Skowronek 1998).

When the Spanish arrived to colonize the Philippines, Manila was established as their main interest (Abinales and Amoroso 2005: 49; Scott 1992). As one of the largest of the Philippine polities, Manila was strategically located along the archipelago's traditional north-south trade route linking it with the spice-bearing Maluku islands to the south and mainland Asian traders across the South China Sea to the north. Contact period records indicate Manila chiefs were directly connected by marriage and possibly the shared identity of Islam (Abinales and Amoroso 2005: 50; Patanne 1996) to the powerful polities of Brunei, Sulu, Maluku, and possibly Melaka, which made this a key port of trade for island Southeast Asia. Merchants from these areas, as well as China, Japan, and Southeast Asia frequented Manila and other ports in the archipelago to trade their wares.

In Manila, the Spanish primarily focused on trading with Chinese merchants for their wares which they loaded onto galleons heading for Spanish Mexico (Abinales and Amoroso

2005; Ch'en 1968; Wickberg 1965), drawing the Philippines into a developing world system in which the archipelago served as a colonial periphery to Spain's economic "core." The Philippines, and the areas of modern Mexico, Florida, Spanish Luisiana, Texas, New Mexico, Arizona, and California formed the Viceroyalty of New Spain, receiving direction from the colonial power base in Mexico City. Other interests in the Philippines during the Early Colonial Period were restricted to supporting colonial life in Manila, some extraction of natural resources, and defense against the indigenous raids from areas beyond Spanish control – particular in Muslim Sulu and Mindanao. Areas of Luzon and Cebu were forcibly resettled and brought into the *encomienda* system, in which indigenous population owed yearly tribute and labor to the crown via their respective *encomenderos*. The *datu* of the villages were made responsible for tribute collection, and allowed privileges in return, transforming them into the wealthy, landed *principalia* class (Abinales and Amoroso 200; Aguilar 1998). Part of these privileges included the ability to pass wealth exclusively to one's offspring at death, creating a previously unknown degree of wealth surplus among the indigenous populations. At the same time, the slave raiding by the Sulu and Mindanao escalated as their economies became increasing dependent upon the practice (Warren 1985).

The ability to obtain concentrated wealth in conjunction with the increasing economic demands placed on the *tao* created a more inflexible socioeconomic structure, meaning it was much more difficult to elevate one's social standing. Still in this system, Asian wares predominated as the most prestigious, even among the European colonists who had developed an elite appreciation for Chinese goods. In Philippine regions of Spanish interest, traditional trade routes were disrupted and local economies devastated by Spanish actions (Abinales and

Amoroso 2005: 60-65; Ch'en 1968; Alonso 2003: 68; Corpuz 1997: 36). Many areas were outside or at the edges of Spanish control; however, and the nature of their socioeconomic organizations in response to colonization are not well understood. The Malangwa watershed is one such place (Cuesta 1980: 46). Forced resettlement and large scale influence of Catholic missionaries did not take root, although the Spanish were successful in establishing *encomiendas*.

This minimal amount of interference changed dramatically by the end of the 18th century, when the Spanish changed their economic interests in the Philippines from the galleon trade based in Manila to intensive exploitation of most low lying coastal regions for cash crops for export (Abinales and Amoroso 2005; Tracy 1995; Legarda 1999). This time, the Malangwa watershed was economically reorganized to concentrate on corn and coconut plantations, and logging (Cuesta 1980: 364-365; Billig 2003: 32-35). The socioeconomic disparities developing during the Early Colonial Period drastically intensified from the 19th to the 20th century. The communal ties that bound the elite class to the *tao* disintegrated with absentee landlordism, the removal of patriarchal working relations, and a money economy that made neighbors less and less responsible for the wellbeing of one another (Billig 2003). While Asian imports still marked elite status, European goods were also used as highly prestigious wares. Movement upward in socioeconomic terms became even more difficult than in the preceding period, and largely improbable.

One focus of this study is the changing meaning of particular prestige items - imported ceramics - that are used as indicators of elite status over time periods with different socioeconomic organizations. Embracing the historical archaeological definition, as borrowed

from anthropology and sociology, of identity as being overdetermined makes this exploration possible (Voss 2008; Voss and Allen 2008). Traditional archaeological investigation of status and social stratification focused on comparing quantitative and qualitative descriptions of objects to identify social statuses and their relation to one another (Sax 1970; Peebles and Kus 1977; Shannon 1997). The theory of overdetermination conceives identity as created by multiple factors at the same time, and that there can many meanings concurrently assigned to a single object. Factors that influence identity and the cultural meaning of objects include agency, practice and memory. This work takes the definition of agency as “a socially significant quality of action” (Dobres and Robb 2000: 8-9) that is inherently linked to social structure (Giddens 1984). Practice is the way in which an item is used. And in this case, the term memory incorporates social memory, which can change as quickly as a generation in regarding to the meaning of an object. Together these conceptions, which are discussed in detail in Chapter 3, create the possibility to move beyond evaluating the quality and quantity of goods as indicative of a particular elite status, to think about how objects are perceived through different time periods, and how that perception may be understood through an analysis of their spatial distribution.

Several theoretical perspectives related to the field of geography were important in this work. The first is defense of the utility of geographic information systems (GIS) in the social sciences and the humanities. Since the ‘spatial turn,’ beginning in the 1980’s for archaeology, serious debate regarding the validity of knowledge derived from GIS has been waged in social science. At its heart, post-positivists argue that spatial technologies are intrinsically positivist and are not appropriate representation of lived human experience (Chadwick 2004; Cummings

2008; Thomas 1993, 2001, 2004; Tilley 2004, 2008). This trend was exacerbated by positivists embracing the New Geography and New Archaeology and all the data-producing potential it promised, and therefore the potential for identifying previously unavailable trends and patterns in behavioral data. This conflation of positivist and spatial technology is currently dissipating, which is evident in the popularity of fields of study like “digital humanities,” which a decade ago would have been an oxymoron. More productive is to understand that while GIS produces a partial representation of human experience, so does any type of academic or humanistic analysis – it is not possible to reproduce experience as a whole. Thus because all views are partial, qualitative studies cannot be better than quantitative, they only reveal a piece of the lived reality (Huciguzeller 2012).

In this study, I also relies on Exploratory Spatial Data Analysis to produce data. ESDA is akin to studying descriptive statistics for a numeric dataset, but it includes geographic relationships of spatial data (Cressie 1984; Haining 1990, 2003). Of particular import to this study is spatial autocorrelation, which is the idea introduced by Tobler (1970) that things that are close together are usually more closely related than things that are far apart – this is positive spatial autocorrelation and usually how things are related in the “natural” world. For instance, the elevation of one area is usually more similar to a nearby area than to one that is far away, the same goes for land cover and biodiversity. Anthropogenic objects cannot be assumed to be positively spatially autocorrelated. For example, in central place theory, primary centers are negatively spatially autocorrelated. This means that primary centers seem to repel one another – they are dispersed. Not having spatial autocorrelation means that the items are randomly distributed over the landscape.

Measures of spatial autocorrelation, such as the Moran's Index, are used in this study for two central reasons. First, just like regular statistics, spatial statistics provide a measure of confidence in identifying patterns unlike a simple visual assessment. In other words, spatial statistics allow me to test hypotheses I have regarding the relationships of archaeological sites across the region using confidence measures to qualify my findings. The second reason I use measures of spatial autocorrelation, and closely related to the first, is because of the strength of the equations to find patterns that would be difficult to assess visually. Due to the nature of the rugged terrain in the Malangwa watershed, a full coverage survey was impractical. The results of the survey was the identification of a number of closely located sites with varying ranges of imported ware densities. While regular statistics identified numeric outliers, the relationship of sites to one another was difficult to assess. Spatial statistics identify the relationship of each site to its neighboring sites and to the overall dataset.

Finally, there is an ongoing debate in geography regarding the fundamental relationship between the economy and physical geography that informed my understanding of the relationship between terrain and the Philippine socioeconomic responses to colonization (Nunn and Pug 2012). One side of the debate argues that the fundamental characteristic of the geography-economy relationship is the contemporaneous location and physical irregularity of a region as related to its position in the global economy (Kamarck 1976; Mellinger, Sachs, and Gallup 2000; Rappaport and Sachs 2003). Following this characterization, if poor countries were given aid substantial enough to overcome these hardships, like the lack of flat fertile fields for easy production of cash crops, then they will perform better in the marketplace and lift their citizens from poverty (Sachs 2005). The counter argument is that the key articulation of

geography and economy is that geography is tied to historical events (Acemoglu, Johnson, and Robinson 2001). Thus areas of rugged topography or those seemingly positioned in inopportune locations, suffer economically because of poor decisions or corruption in the area resulting in an inability to achieve economic success. The argument follows that aid to poor countries would only be wasted because these areas are the inheritors of past mistakes and misguidance and would not be able to leverage aid into real economic changes (Easterly 2007). In this conception, while the fault lies in faulty leadership or the inheritance of unfortunate coincidence, rugged terrain or seemingly bad geographic location, is something that cannot be overcome.

This is an interesting debate, as it construes the rugged territory of the Malangwa watershed as a hardship from a European, mercantilist, or capitalist perspective which focuses on intensive exploitation for the creation of profit. In light of this reasoning, this conception of rugged territory as something to be overcome is culturally biased: an idea which some geographers are coming closer to as they investigate the *positive* effects of rugged terrain on protecting some African villages from the slave raids (Nunn 2008), yet this idea cannot be fully realized outside of an anthropological perspective. This is because, it is not just that rugged geography can be good or bad economically, but that difficult terrain is a culturally relative and not inherent in the geography itself.

I use this line of reasoning to discuss the haven-like qualities of the Malangwa watershed for the indigenous socioeconomic organization during the Early Colonial Period. That the geography was unattractive for major Spanish intervention during the early colonization allowed the continuation of primarily traditional socioeconomic organization,

including the prestige good economy, resulting in a continuous archaeologically recognized distribution of imported wares from the Early Historic Period through the Early Colonial Period. It was not until the Spanish turned to an intensely exploitative agricultural economy in the Philippines, that Negros was finally brought into near complete Spanish control.

1.4 **Hypotheses on Indigenous Philippine Prestige Economies during Colonial Periods**

This research explores each of these issues developed in archaeological, historical, and geographical literature in the context of the Malangwa watershed of Negros Oriental, Philippines. To understand the socioeconomic changes wrought to an indigenous region of the Philippines in an area under only partial Spanish administration I suggest four hypotheses based in the works presented in Chapters 2-5. My first hypothesis was that due to the general disruption of local and foreign trade networks described in historical documents, there would have been fewer imported ceramics after colonization in the Malangwa watershed. Second, that due to the rugged terrain, which is historically known to have been economically unattractive to early Spanish colonists, and the lack of forced resettlement and successful conversion efforts, that the socioeconomic organization in this region continued in regards to its prestige good economy and status symbol use in its form from the Early Historic period into the Early Colonial Period. On the ground, this would appear as fewer imported goods during the Early Colonial Period than in the preceding period, but with a distribution that resembles the previous period. That terrain played a part in the area's prolonged protection from Spanish incursion is historically known, and my investigation of its relationship to the organization of the prestige good economy will be in the degree to which the terrain may have effected these changes.

My next hypotheses are based in the drastic remodeling of the Philippine economy beginning in the late 18th century toward export agriculture economy and the ethnographic evidence that imported ceramics continued to be used as status symbols through the end of Spanish rule. Thus, my third hypothesis is that more ceramics were imported into the Malangwa watershed after the 18th century because Philippine ports were opened to direct international trade and the new money economy allowed access to these goods. My fourth hypothesis is that because Negros was extensively developed into commercial plantations during the later colonial period, and as a direct result there was a substantial increase in socioeconomic disparity that accompanied the reorganization, that this disparity would be reflected in the imported ceramics after the start of the 19th century. In addition, that any potential elite areas identified during the preceding periods would be likely areas for the continuation of elites, as the indigenous elite developed into the *principalia* class who collected tribute on behalf of the Spanish administration, but that overall the pattern of imported ceramic distribution across the landscape would differ significantly in a commercial economy that no longer required the strong communal ties that characterizes the traditional integration of imported wares into the community.

Deriving from this hypothesis is the idea that as a money economy, based in export crops, was implemented in the Philippines, and as ports were open to international trade, luxury items were no longer procured in traditional ways. Instead of receiving goods as a result of personal trading relationships, or via gifts, luxury items could be purchased. I investigate the potential that under the socioeconomic reorganization in the Malangwa watershed in the Late Colonial Period, the meaning of elite objects changes as the practice of their use changed.

While a complete indigenous meaning of these items is not possible to test, it is possible to explore potential ways in which changes in the meaning of prestige objects may be indicated in their spatial distribution.

1.5 **Significance of Study**

This study directly reveals a portion of history for the central Visayas and its relationship to Spanish colonization, which is neglected in primary sources. In addition to understanding the history, this project develops three theoretical frameworks. First, this study informs on the question of how indigenous socioeconomic practices change within colonial frontier contexts, particularly how varying vectors of colonization effect prestige economy and status symbol systems. It also demonstrates the effect of commercial economies upon those systems, and explores how changes to these systems may indicate changes in the meanings of status symbols. Finally this study suggests that the negative connotation of rugged terrain upon economy as debated in geography, when incorporated into an anthropological perspective is a culturally relative trait.

1.6 **Methods**

Historical documents, first written by Spanish colonists, outline from the European perspective the exploration and skirmishes with the populations of Negros. Prior to this study, not much was known of the details of settlement locations and changes to social and economic organization after Spanish arrival on the southeast coast. Some archaeological investigation concentrating on Early Historic Periods had been undertaken. From that work, and from excavation carried out by local colleges, stories of pot hunters, and coincidental finds by locals, we know that there had been a significant Metal Age (500 BC and 900 AD) presence in the

modern municipality of Bacong, Negros Oriental. With the goal of understanding the burial activities and potential settlement systems of the Metal Age inhabitants, a joint program of the National Museum of the Philippines and the University of Illinois at Chicago started the Bacong Archaeological Project (BAP) (Dizon et al. 2010). Beginning in 2010 the BAP team began excavation of highland burials and conducting archaeological survey of low land areas for evidence of prehistoric occupation.

Survey yielded significant quantities of post-Metal Age, Porcelain Period (AD 900 – 1521) and colonial period artifacts. The location of artifacts were recorded with a GPS unit. I created a database that included date ranges, descriptions, and measurements for each of the artifacts found on survey, as well as lowland excavations conducted to verify potential settlements identified via survey and to refine settlement chronology. Descriptions included the type of artifact (porcelain, earthenware, stone tool, etc.). Measurements included the artifact's weight and size. Detailed descriptions of this data collection and summary tables of the artifacts collected are presented in Chapter 6. The database was imported into a geographic information system (GIS). In the GIS the densities of imported wares was calculated for each site. The distribution of these values was used in Student's T-tests to compare the overall differences in distributions among the pre-Hispanic, Early Colonial Period, and Late Colonial Period. These site densities were also used in an analysis of spatial autocorrelation, which is a measure of the spatial patterning in the data. This statistic provided a measure for understanding the distribution pattern of trade ware densities across the surveyed region. Together, the descriptive statistics of the imported ware distributions and the spatial autocorrelation measures provide the basis for understanding the differences between the

amounts of imported wares entering the area through time and the differences in the way in which those wares were distributed.

1.7 **Limitations**

Limitations with the data frustrated some of the analysis results, and therefore the connection of the data to the theoretical aims of this study. The ephemeral nature of the archaeological remains in the region make the location of specific activity areas difficult and the overall number of sherds relatively small compared to other regions, such as those found in the Tanjay area 35 km north of the Malangwa watershed. Full survey coverage of the area was not possible due to impediments to visibility, including rugged terrain, heavy vegetation, contemporary settlement and farming activities, impeded access to some areas due to transportation challenges, and disturbance by active meteorological and geological processes (monsoonal rains, mudslides, human-wrought erosion, earthquakes and volcanism). While these impediments make interpretation of the regional pattern more difficult, using measures of spatial autocorrelation help to detect patterns in the data that would be difficult, if not impossible to see visually. A further complication was the identification of only nine sites dating to the Early Historic Period. The low number of sites removes the strength of statistical tests designed to compare distributions, either numerically or spatially. However, greater number of sites dating to the colonial periods made the sites statistically comparable.

1.8 **Overview of Thesis**

In the chapter following this introduction, I draw on historical, archaeological, and ethnographic records to discuss what is known about the trajectory of indigenous socioeconomic organization in the Philippines previous to Spanish arrival through the Early and

Late Colonial Periods. Chapter 2 presents several historical possibilities as to how the socioeconomic organizations on Negros Oriental changed over time and demonstrates the depth of understanding that archaeological approaches can provide regarding how indigenous polities responded to encroaching colonial rule. The role of terrain and geography are clearly established as primary reasons for the early colonial strategy of implementing relatively minimal influence in the study area. It also establishes the role of luxury goods, including imported items, in indigenous economies during the Early Historic Period.

Chapter 3 discusses anthropological theories regarding the reconstruction of social complexity and inequality of past societies. These theories have been applied in previous studies to material culture recovered via archaeological methods to explain how pre-Hispanic Philippine polities operated. I apply these same methods and theories to the time periods represented in the archaeological remains of the Malangwa watershed (Chapters 6 and 7). However, I also discuss how historical archaeology explores not only how objects indicate status, but also the cultural meaning of those objects. Incorporating theories of overdetermined identity, practice, agency, and memory, moves this study beyond identifying socioeconomic organization to a study of how the cultural meaning of luxury goods changed with significant economic transitions.

I apply the theories described in Chapter 3 to a regional archaeological dataset; therefore, I rely heavily on spatial analyses (Chapter 7) to derive information regarding the social organization of past communities. Chapter 5 describes the validity of spatial approaches, particularly in light of “post-positivist” critiques of their utility. The core argument is that quantitative and qualitative representations are unable to fully explain or replicate life

experience; thus, because both types of inquiry provide only a partial perspective, neither should be perceived as inherently better than the other as a tool for understanding living or past cultures. With the validity of spatial analyses and technologies established, the chapter moves on to a discussion of theories developed in the field of geography regarding the relationship between geography and economy. I argue both sides of the debate are biased in their definition of a “successful economy” as a region’s profitable articulation with the global capitalist market. Instead, I suggest that economic success is culturally relative. While geographers assume that “rugged geographies” are directly negative on economies, in particular contexts, like the Malangwa watershed during the Early Colonial Period, rugged geographies may have direct positive effects for indigenous economies.

In Chapter 6 I explain my data collection process, including a background of archaeological work previously carried out in my study area, and my survey and excavation methods. Chapter 7 presents the statistical and spatial analytical methods I applied to the data presented in the previous chapter. I discuss the decisions in choosing each analysis, including why measures of spatial autocorrelation – which are not often applied to archaeological datasets – are particularly useful when applied to data from areas in which visibility impediments, such as those described above, prevent full coverage survey. In Chapter 8 I present a detailed interpretation of the results recorded in Chapter 7. I find that in the Malangwa watershed the socioeconomic organization during the Early Historic Period is similar to other contemporary areas of the Philippines. During this time there is complex social stratification, with imported goods being controlled by elite centers. However, this region did not show evidence of a primate port center on the coast, and was likely receiving its imported

luxury wares via trade and gifts from elite in other areas with connections to primate centers, perhaps to Dumaguete in the north or Dauin in the south. In any case, I suggest that increased tributary requirements by the Spanish and increased slave raiding from Sulu and Mindanao likely influenced an intensification of the regional settlement pattern in the Malangwa watershed during the early colonial period. And finally, that the complete disruption of the traditional spatial distribution of imported ceramics during the Late Colonial Period indicates a substantive shift in the cultural meaning of those items, in which the emphasis from social standing moved to an emphasis on economic status. The final chapter, Chapter 9, provides a summary of the study and its significance for understanding Philippine history and incorporating spatial, geographic, and evolving anthropological theories in understanding socioeconomic transitions at colonial frontiers.

2. THE SOCIOECONOMIC HISTORY OF THE PHILIPPINES AND THE NEGROS ORIENTAL REGION

2.1 Introduction: Reconstructing Philippine Social Organization from the 13th to 19th

Century

This chapter reviews broader social organizational responses by indigenous Philippine societies to Spanish conquest and subsequent political economic restructuring. This overview of the social and economic history of the Philippines during this critical transition is a means of situating the focus of this thesis on changing social organization and economy of Southeast Negros Oriental, using historical, archaeological, ethnographic, and geographic approaches. The Philippines are an archipelago composed of over 7,000 islands to the southeast of mainland Southeast Asia. Their location in the Pacific has been a desirable staging position for Spanish, British, and American governments as an access point to Asian trade. In pre-Hispanic periods the islands were occupied by communities varying in their scale, forms of social complexity, and political centralization. The islands were also not united by ethnicity or language, with the regions speaking many different dialects of Austronesian-based languages. These societies varied from small-scale foraging societies, to small-scale farming communities loosely integrated by language and interaction, to what had been categorized by cultural evolutionary models as socially-stratified and politically hierarchical “chiefdoms” or even “states.”

Early Spanish description of the region include three different zones loosely characterized by culture groups. The most northerly zone includes the island of Luzon, the islands north, and the smaller islands surrounding Luzon. These areas are populated by a majority of Tagalog speakers. The larger islands in the center of the archipelago, and the small

islands in their immediate vicinity, known as the Visayas, were occupied by a majority of Cebuano Visayan speakers. The study area of this project is on the southeast coast of Negros Oriental in the central Visayas. Mindanao to the south was also composed of a majority of Visayan speakers, but differentiated by its Islamic religion and ties with Islamic Indonesia. Figure 1 indicates the locations of known maritime trading polities that existed between the 10th and the 16th centuries. Almost all of these polities had strong inter-regional exchange relations with interior groups on their islands, who often spoke different languages and had unique histories, including small-scale upland farming societies and specialized foragers.



Figure 1. This map indicates the locations of known 10th – 16th century maritime trading polities in black (adapted from Junker 2013: 1). The study region of the Malangwa watershed is outlined in red on southern Negros Oriental. Calubcub Segundo, a burial site dating to the 15th-16th century, was likely a comparatively much smaller polity.

By the 13th century South and Southeast Asian, Indonesian, Arabian, and East African traders were heavily invested in a growing trade network of precious goods and raw materials. Early Chinese texts, European writers, and archaeological sites document the complexity and variation of Philippine communities, which remained largely undisturbed by Spanish intents to move into the lucrative spice trade until the capture of Maynila (enclosed today within modern Manila) on Luzon's coast in 1571. The early phase of the Spanish Colonial period (1521 - late 18th century) is characterized primarily as an uneven application of Spanish force and economics over the region and the estimated 500,000 people living on the islands (Nadeau 2008: 15; Zafra 1993:4).

Forgoing their initial interest in Indonesian spices, the Spanish concentrated on utilizing Manila - an interregional pre-Hispanic entrepôt - as a strategic base for trading operations between Europe, China, and Mexico (Skowronek 1998: 47-48). Despite being subjected to a great deal of political and military stress, the general populous is reported to mostly have continued traditional economic practices involving subsistence farming and resource procurement. This changed significantly in the late 18th century when Spain turned to exploiting the Philippine countryside for its agricultural export potential (Borrinaga and Kobak 2006:49; Skowronek 1998), forcing thousands of subsistence farmers into a money-based capitalist system. It is also at this time that Skowronek suggests a substantial decrease in the degree to which Chinese wares were used as indicators of prestigious socio-economic status, and an increase in the use of European wares being embraced by Spanish colonists and mestizo elites as symbols of political and economic power – a material shift that alludes to the changing

bases of power from the traditional trade and political alliances of the elite to the financial ties of an increasingly global capitalist system.

In this chapter, periods of changes in social dynamics and political power structures are referred to as the Early Historic Period, Early Colonial Period, and Late Colonial Period. The following section discusses the nature of the various historical and archaeological sources used in this chapter to describe Philippine socioeconomic organization from the Early Historic Period through the Late Colonial Period. Next, the changes in indigenous and colonial economies, and social roles are discussed with particular interest paid to socioeconomic inequality and the relative fluidity of social hierarchies. The discussion makes apparent that there remains much to be understood in terms of local responses to incorporation into European mercantilist and later capitalist economies.

2.2 **Historical Sources for Philippine Society in the 13th – 19th Centuries**

2.2.1 **Early Historic Period: 13th to mid-16th Centuries**

The earliest Chinese sources are official trade records and Chinese Voyager accounts noting trade in Tang porcelains, as well as silks and other prestige goods, in exchange for forest products as early as the 10th century (Chan 1978; Majul 1966; Scott 1984, 1989; Wu 1959). By the early 11th century and continuing until the 16th century, there are detailed descriptions of specific Philippine chiefs' missions to the Chinese court aimed at obtaining formal recognition as a "tributary" trade polity, including Pu-tuan, Ma-i (probably Mindoro), Sulu, Ma-li-lu (Manila), Magindanao and other polities, resulting in some of the best descriptions of social hierarchies and the prestige goods economy of the period, and it emphasizes the great costs that chiefs were willing to bear (Junker 1999:212-219) to obtain regular porcelain cargos (e.g.

Scott 1984: 66-77; Chen 1966: 272-273; Wu 1962: 477-478). These sources demonstrate the great value of regular access to porcelain during the Early Historic Period. Two Chinese treatises on Philippine society and culture that are very important sources of information are: (1) an account written by the Superintendent of Maritime Trade in Quanzhou (Fujian Province) titled *Chu Fan Chih* (Or “Account of the Various Barbarians”) in AD 1225 (see Junker 1999:34) and (2) Chinese explorer Wang Ta-yuan wrote a treatise on Philippine society and culture known as the *Tao I Chih Lueh* in AD 1349 (see Junker 1999:34).

More than 20 book-length Spanish *relaciones* (cultural and natural histories of the Philippines) and 1000s of other documents were written between the mid-16th century and 17th century, providing tremendous detail on the social organization, political authority, and political economy of Philippine chiefdoms and the impacts of early Spanish rule. These sources are useful because they emphasize both Philippine societies at contact and also Spanish influences. These primary sources are summarized in some synthetic works such as Abinales et al. (2005), Junker (1999), Hutterer (1973), and Jocano (1979).

2.2.2 **Early Colonial Period: mid-16th -18th Centuries**

Letters and reports written by the earliest Spanish explorers and colonists, and by *encomenderos*, businessmen, and other colonists constitute much of what is known regarding the Early Colonial Period. The Archivo General de Indias and the Archivo Historico Nacional are Spanish archives with substantial references to the civil and economic workings of the early colonial system. The Archivo del Museu Naval provides documentation of Spain’s naval activity in the region. Scholars like Cuesta (1980), Nadeau (2008), Abinales and Amoroso (2005), Lopez-Gonzaga (1991, 1994), and Corpus (1997, 2005) synthesize these archives for descriptions of

the installation of the *encomiendas*, forced resettlement, and the ensuing abuses. Cuesta (1980) provides a particularly useful collection of primary sources, including early reports from Miguel Lopez de Legaspi, who captured Maynila, and a history written by Antonia de Herrera. Jocano (1975) also provides an overview of some of the major references written by early Spanish colonizers, including Miguel de Loarca and Antonio Pigafetta based in part on these archives.

Primary sources available for estimating the population of the Philippines, and Negros Oriental in particular, over the Early and Late Colonial Periods are available from letters and reports from the earliest Spanish explorers, the civil and financial records developed from the encomienda system, and ecclesiastical records (Newson 2009: 37-41). Of particular importance are the Spanish Archive Archivo General de Indias, mentioned above, and Esteban Rodriguez' excerpts in the *Colección de documentos ineditos relativos al descubrimiento, conquista y organización de las antiguas posesiones españolas de ultramar 1885-1932* for estimating Negros population sizes.

2.2.3 **Late Colonial Period: 19th-20th Centuries**

The archives listed above also include information regarding the Philippines after the 18th century, with the notable addition of the Philippine National Archives. A number of early works on the history and new agricultural economy, in particular the sugar plantations of Negros, were written in the 19th and 20th centuries (Bowring 1859, Jagor 1875, Loney 1860, Mallet 1846, Ruiz 1925, San Jose 1879, Araneta 1918, Perez 1887, Tarrosa 1916, Blair and Robertson 1903). Blair and Robertson provide a substantial multi-volume study of the Philippines from the 15th to the 19th centuries. Negros is discussed in particular by Echaz

(1894) and Ferrero (1889). Many of the above documents and histories are the basis of secondary explanations of the social and economic changes wrought by the Spanish after the late 18th century (Abinales and Amoroso 2005; Mckenna 1998; Tracy 1995; Legarda 1999; Doeppers and Xenos 1998; Caoili 1999; Corpuz 2005; Sturtevant 1976).

2.3 **Early Historic Philippine Social Organization 13th-16th Centuries**

2.3.1 **Historical Sociopolitical Development**

Southeast of mainland Asia, between Taiwan and Borneo, the Philippine archipelago was a hub of maritime trade for centuries (Nadeau 2008; Abinales and Amoroso 2005; Reid 1988; Hutterer 1973; Nishimura 1992; Solheim 1981; Skowronek 1998: 48). Sailing through the scattered islands, Europeans describe sparsely populated communities living along the coasts and waterways (Abinales and Amoroso 2005:20; Corpuz 2005: 11, 20; Constantino 1975; Wolthers 1999: 18; Nadeau 2008: 5). The islanders spoke a collection of Austronesian-based languages with Malay influences from contact with traders from Indonesia (Scott 1984; Abinales and Amoroso 2005: 34; Borrinaga and Kobak 2006: 16). The terrain they inhabited was largely rugged and mountainous toward the island interiors and covered with forest.

The larger coastal communities were connected through trade with interior smaller-scale farming and foraging societies, forming allied and competing polities composed of settlements of various levels of social stratification and economic strategies (Hall 1985; Reid 1988; Junker 1999). Regional political integration and the identification of centralized decision making demonstrates a coordination among the various hierarchical tiers within and among the settlements (Junker 1999: 6). That the communities of the Early Historic Period never unified under central leadership is attributed to the diversity of ecosystems and geographies of the

archipelago combined with small populations (Junker 1999: 57). Cultural practices of polygamy and rank being determined by both parents' lineages prevented clear dynasties from forming, and encouraged "fragmented polities in which leadership was ephemeral and political coalescence a relatively temporary state within endless cycles of political consolidation and fragmentation" (Junker 1999: 57; Andaya 1992; Winzeler 1976). While the reasons that state level social organization did not occur by the time of Spanish arrival is not of particular concern to this study; however, the results of "ephemeral leadership" and "political cycling" factor significantly. Junker (1999) uses this trend to argue that the intensification of interregional trade and the rise of attached craft specialization was very important to maintaining political power – to use the goods as elite symbols, but also as a means to solidify alliances and internal trade connections. The potential continued use of these prestige economies to maintain political power and solidify regional alliances into the Spanish Colonial Period is of particular interest to this study.

Unlike the rigidity of European hierarchy, Philippine hierarchies were fluid, with a great deal of movement between the ranks. As part of a patron-client system (Junker 1999: 39, 76, 130-131) the *tao*, or commoners, were responsible for paying tribute in kind and labor, supporting the military and feasting activities sponsored by their *datu*. The *datu* was the political and military leader of a community. While charisma and success in trade and battle might propel a warrior to leader of his community, misfortune – such as capture in a raid or owing substantial labor or goods – could subject families of *tao* to field labor or slavery if the obligation was significant. However, even slaves with significant obligations or those enslaved during battle could potentially repay their debt in labor allowing themselves, or perhaps their

offspring, to become part of the common class again. The fluidity of this system of social movement was such that the majority of the population was engaged in some form of labor at some point their lives, in which both the *datu* or other elite and the *tao* were obliged to perform responsibilities. This system supported *datu* political obligations and ambitions, ensured a community or polity leader who provided protection and civil justice, and was beneficial to families who were able to offer future goods or services in return for immediate assistance.

2.3.2 **Economy**

For the majority of the population, much of their time was spent engaged in subsistence work (Skowronek 1998: 49). Settlements, usually concentrated on the coasts or rivers, took advantage of marine resources for food (Scott 1994). Many farmed the land for staples like rice and coconut, and maintained root crops and domesticated animals such as the chicken and pig. Settled communities, although primarily concerned with feeding their families, also paid tribute to elites with their produce. Tribute allowed the *datu* to engage in competitive feasting and support the production of locally manufacture luxury items, such as decorated earthenware and metalwork. The goods produced by attached craft specialists were luxury items, but they were also used beyond elite households, being traded into interior settlements for natural resources. The resources of the interior would be traded to foreign merchants at the coast in return for exotic goods. Foraging communities relied more heavily on gathering resources and hunting small game, moving to different areas of a common territory as needed to find these resources. As will be discussed below, there are two descriptions of the Negros Oriental economy during the following Early Colonial Period (mid-16th - 18th centuries) that appear at

odds with one another: (1) that the subsistence economy of the Early Historic Period remained the same during the Early Colonial Period, and (2) that the *encomienda* system came to define the Negros Oriental economy (Cuesta 1980). This study focuses on only one part of the economy, the prestige economy of the Malangwa watershed, to ascertain the effect of Spanish colonization on how indigenous communities at the outskirts of the Early Colonial Period responded to encroaching Spanish control and the potential reasons for those effects. It will be argued that, without substantial social reorganization at the hands of the Spanish, increased pressure to produce goods for tributes to the *encomenderos* and a continued or increased access to foreign goods influenced an intensification of the indigenous sociopolitical system described here.

Like many other Southeast Asian regions, before European contact, the Philippines were sparsely populated. Families cleared farmland within walking distance from their homes, with their rights to that land recognized by the community until they discontinued working the area. Abinales and Amoroso (2005: 27) note that the Filipino term for community is *barangay*, which implied a political affiliation to the community's leader, not to a physical territory (Aguilar 1998; Borrinaga and Kobak 2006: 41). In this way, community politics revolved around relationships between people and not simply to the location in which one lived. As we will see, this is a particularly important point in regards to community leadership. Power came not from land owned, but largely derived from the labor pool under the leader's command – a significant reason for raiding non-allied communities for slave labor. Warren (1985: 185-189) writes that "A *datu* who could acquire large numbers of captives could engage more people in procurement activities and trade; and, with the wealth they produced, he could attract others

to him.” This linkage between a *datu*’s power and his ability to attract and maintain loyal followers, as opposed to the control of territory, is particularly important for understanding the continuation of an indigenous prestige economy well into the Spanish colonial period, and its termination with the shift to commercial agriculture in the 19th century.

Philippine community or polity leaders, the *datu*, based their power not only in their ability to mobilize a labor or military force, but also in ideological manipulation. This took its form, in part, through the display of status with prestige goods and ritual feasting (Bacus 1999; Gunn 1997; Salcedo 1998; Scott 2004; Junker 1999), practices common in other parts of Southeast Asia and the world. They were also influenced by Hindu and Buddhist traders, integrating titles like *Rajah* as a way to form ideological links with foreign religions and political systems, increasing both their local and foreign prominence (Nadeau 2008: 5).

By the 14th century, the Sulu archipelago and Mindanao were increasingly influenced by Islam as Muslim traders, scholars, and proselytizers spread east across Indonesia (Reid 1993; McKenna 1998). During this time, trade in Southeast Asia and Indonesia intensified (Hall 1985: 258), creating greater impetus for polity leaders to invest in production efficiency, for trade and for subsistence for those involved with production and trade. As Abinales and Amoroso (2005: 43) summarize, Islam allowed leaders new avenues of increasing their power base. Economically speaking, new sultanates were allowed “greater access” to an increasingly Islamic trade network stretching from Arabia. Sultanates refer a sociopolitical organization that is hierarchical and tributary based. This trade advantage brought with it other advantages. The new spiritual influence mixed with traditional beliefs that enriched the moral and spiritual authority claimed by the community leaders. Islamic sultanates in the Philippines, like those in

Melaka borrowed elite titles, such as sultan – establishing themselves as “nobility” (43). In this way dynastic rule was increasingly solidified. While taking a firm root in Sulu and Mindanao, conversion to Islam was at an intermediate stage toward the north on Luzon (50; Patanne 1996). With strong trading ties to the Muslim sultanate of Brunei, the Islamic religion was of growing interest to Maynila locals. The strong ties between Brunei and Maynila at the time it was captured by the Spanish is evidenced by the ancestry of its *datu*, who was descendant of the *datu* class and a Brunei king (50). Muslim conversion and influence on Luzon and in much of the Visayas was impeded by the Spanish, who had only recently rejected Muslim conquest and assimilation on the Iberian Peninsula. While the conversion of southerly Philippine regions to Islam continues to have a significant effect on intra-regional relationships, it was not until the arrival of the Spanish that the archipelago was brought under a single hierarchical rule. As discussed above, the lack of regional unification was likely related to the diverse ecosystem, dynamic topography, sparse population, and lack of strong, direct inheritance practices on the archipelago – creating a system in which political power must be continually reaffirmed. Thus prestige items were increasingly produced and acquired – in addition to other modes of power such as slave acquisition, display of magic, and ritual feasting – to maintain and cultivate sociopolitical strength.

2.3.3 **Socioeconomic Classes and Material Evidence of Inequality**

Each community, or *barangay*, looked to its *datu* for political leadership (Abinales and Amoroso 2005: 28; Scott 1994: 128-131). The *datu* was member of the highest ranking hereditary socio-political class, the *maginoo* in Tagalog (Kelly 2000: 19). The hereditary component to the *maginoo* rank was colored by polygamous marriages and cognate kinship

practices, leaving room for charisma and achievements to influence one's social standing.

Families in the *maginoo* class were often the ones that community members in need would turn to if they had a bad harvest or were otherwise unable to feed themselves. Those with surplus were in a position to share their resources, for which the receiving families would be indebted (Reid 1988: 121). Debts were paid either in kind or via labor. In addition, the community also paid tribute to the *datu* for his governance and continued protection (Abinales and Amoroso 2005: 30; Scott 1994).

A *datu* secured and maintained his position through several political vectors (Junker 1999: 73-75; Scott 1994: 129). Ethnographic accounts indicate that there was a gradation between "true *datus*" and "self-made *datus*" (Junker 1999: 123), indicating the potential for particularly aspiring individuals to achieve community leader status. A combination of accomplishments and alliances were required both to serve his community and attain the necessary charismatic aura that would garner new alliances, military allegiance, and community loyalty. Accomplishments included success in warfare, which was utilized to not only demonstrate power, but to secure slaves, which were used to increase the labor pool of sparsely populated settlements (Abinales and Amoroso 2005: 22). The *datu* was also required to control important spiritual elements in order to mete out justice, or protect himself and his community (Scott 1994: 83; Junker 1999:80-82); because like other "big men" throughout pre-colonial Southeast Asia, the *datu* was ultimately responsible for the governance of his community (Scott 1994:130; Reid 1988: 137).

To keep the public trust in his ability to lead, it was important for the *datu* to create alliances (Junker 1999: 76). Because his leadership was not simply inherited, others seeking the

power to lead local warriors into battle and to enrich their economic positions could jockey for his political role (Abinales and Amoroso 2005: 22). Other threats to a *datu's* position included neighboring *datu* with greater economic means, larger military, and more political connections. Because of these threats, it was in a *datu's* best interest to secure alliances with other powerful *datu*. This was often done through trade partnerships and marriages (Scott 1994: 128). These actions also added to the economic wealth of the *datu* by increasing the amount and types of goods he brought into his household and, in larger settlements, into his community (Abinales and Amoroso 2005:29; Junker 1999). This allowed him to showcase his success and prowess to his community, allies, and enemies.

The demonstration of *datu* class status was critical to maintaining and increasing socio-political power (Abinales and Amoroso 2005: 32; Junker 1999, 311-12; Corpuz 2005: 22). Trade networks within the archipelago were significantly expanded by the *datu* class in its efforts to demonstrate, ally, and shore up their power base. Archaeological excavation of port communities (Junker 1999; Nishimura 1988; Solheim 1981) indicate regular and increasing trade with the Chinese from the 12th to the 16th century (Abinales and Amoroso 2005: 32). Junker found that the large settlement of Tanjay at the mouth of the Tanjay River on Negros Oriental, argued to represent the a “chiefly center” of the Tanjay chiefdom, was connected via trade to communities along the river in a dendritic settlement pattern. Her analysis indicates that elites living in the coastal community along the river were facilitating the movement of natural resources of the island’s interior through the riverside communities to the coast – allowing the *datu* and other elite to trade those goods for imports from China, Indonesia, Japan, mainland Southeast Asia, India, and Arabia (Reid 1993). In return, imports were traded back up

river; however, the greatest proportion and finest quality items remained in the control of the elite – providing increased economic means and the ability to demonstrate their power and inter-regional alliances.

The status display of the *datu* class included the maintenance of their households, feast participation, dress, and, in the Visayas, having numerous tattoos (Scott 1994: 20-22, 28-34). Elite homes were larger (Junker 1999), and were associated with evidence of elaborate feasting events (described in Chapter 3), including large serving dishes and meals featuring the highest quality local meats (Junker 1999; Mudar 1997). Feasting was an integral, and often public, display of status and alliances - contributing the most copious and obvious material evidence of prestige in the archaeological record of the Philippines: Chinese porcelain. They dressed in clothing that set them as distinct from common folk by securing fine silks and other clothes from the Chinese, and wearing jewelry made from regional gold and imported beads and metals (Abinales and Amoroso 2005: 29; Borrinaga and Kobak 2006: 7).

Providing the *datu's* military support were the *maharlika* and *timawa* classes (Abinales and Amoroso 2005: 30; Scott: 1992). These warriors were usually related to the *datu* and provided him with protection and served in battle as required by their leader. In some areas, such as on Luzon, the warrior class was divided into two groups. The *maharlika* were of superior status, only rarely were they required to work in the fields, whereas the *timawa* were required to do so on a more regular basis. The warrior class was required to pay tribute in kind or by labor to their *datu*; any wealth they accrued was left to the *datu* upon their death – privileging only the *datu* class with the ability to leave an inheritance to their descendants. Successful warriors could jockey for the *datu* position and become community

leader. Equally possible paths for a warrior were capture as a slave and the loss of warrior status due to debt.

If leadership positions were held by women, their roles have been obscured – with European authors referring only to male *datu*, and colonial era leadership being restricted to men (Andaya 2000). Elderly women could hold powerful social positions in pre-contact Philippines (Aguilar 1998), heading animistic rituals for the benefit of her solicitors. The role of the Tagalog *catalonan* or Visayan *baylan* was for older, high status women or for transvestite men (Abinales and Amoroso 2005: 28). Later, the Spanish would attempt to completely expunge these powerful female positions.

The *tao*, meaning people in Tagalog and Visayan, existed a socio-political rung below the *timawa* and *maharlika* class (Scott 1994). Making up a majority of the population, the *tao* fished, farmed, gathered, hunted, and traded for their subsistence. Tribute payments to the *datu* ensured continued protection and greater likelihood of being approved for a loan in the future. While it was common to borrow food in times of scarcity, it was also common to borrow food and supplies for the rituals associated with major life events, such as weddings and funerals. As discussed in the previous chapter, such display of generous giving of food to visitors during a feast occasion was an indication of good standing in the community.

Socially ranked below the *tao* were those enslaved by debt, capture, or crime. A family or individual who was heavily indebted to another, and unable to pay in kind, were forced to spend most of their time in the service of their debtor – a form of indentured servitude. Capture during battle or as the result of a raid was also quite common, as neighboring *datu* looked to increase the number of field and craft workers and warriors, which

would both secure a larger economic base and impart the appearance of economic and spiritual success. As mentioned above, it was also the *datu's* and his subordinates' responsibility to punish criminal activity and keep order in the community. To do this he could inflict fines upon those found guilty of such trespasses and upon their families, with heavy fines requiring an essentially enslaved status to pay off the balance. The system of Philippine debt and slavery was complex, but certainly one in which there was the potential for movement among the various ranks (Warren 1985; Scott 1994).

Much of what is known about the inequality of social relationships via archaeology derives from the excavation of burials (for example Locsin and Locsin 1967; Fox 1964; Nishimura 1992; Salcedo 1979). Mortuary remains demonstrate differential access to goods within and among settlements prior to Spanish contact. Junker (1999: 177-179) compares Salcedo's (1979) excavation of the burial at the Calubcub Segundo Site in Batangas, Luzon to her excavation of a cemetery at Tanjay, Negros Oriental to draw conclusions regarding socio-political organization based on the differences in goods distribution between the two contemporaneous sites (15th-16th century). The burials at the small settlement at the Calubcub Segundo Site only contained earthenware, with the exception of one burial containing a man and woman with Chinese porcelain, water buffalo teeth, glass beads, gold fragments, and additional earthenware. Burials from Tanjay at the same time period showed a greater distribution of imported goods, which Junker argues is an indication of more complex social ranking, with more than the two socioeconomic divisions which were indicated in the smaller polity at the Calubcub Segundo Site. Junker suggests that the *datu* of this smaller polity likely received his luxury items as a gift from more powerful *datu* with strong trading relationships.

Grace Barretto-Tesoro (2003) provides a thorough review of items, that when found in a burial context, are considered an elite or status item, including: gold, silver, ivory, semi-precious stones, Chinese silk and cotton, flower diadems, pegged teeth, beaded and gold ornaments, iron and bronze weaponry, brass and copper gongs and drums, metal swords with wooden scabbards, imported ceramics, and elaborate tattoos (299). Ornaments included “earrings, necklaces, anklets, [and] bracelets” (308). Iron implements included bolos (a blade attached to a staff), daggers, spearheads, and knives (309). Imported ceramics included porcelain from China and Siamese and Sawankhalok wares from Thailand and Anamese wares from Vietnam. Barretto-Tesoro moves beyond the formulation of “prestige item” = “elite status,” to quantify how an item was considered as a social signal of status, what she refers to as “prestige value” (301). By assigning a rank value to each burial item she created a relative assessment of how prestigious a burial good was. Her “Prestige Factors and Values” include the ease or difficulty of acquiring an item, the scarcity of the raw material, the time and energy required to produce the object, and if the item was used in a utilitarian or non-utilitarian manner. In this way she identified that bronze ornaments were the most prestigious items during the protohistoric period, followed by iron implements, glass beads, glass bracelets, stoneware, porcelain, gold ornaments, copper ornaments, bone ornaments, spindle whorls, earthenware vessels, and stone implements.

Perhaps linked more directly with an individual’s socioeconomic status in life, is the material nature of their residence and its contents. Early Europeans described the houses of the *datu* to be of larger size than the common *tao*. Within them contained the trappings of elite luxury – imported ceramics, textiles, metals, and locally produced crafts sponsored by the

datu class. Lavish feasts in the home accompanied by imported dishes and a large supply of high quality foods were also described. Excavations on Negros Oriental and Cebu corroborate these descriptions (Junker 1999; Mudar 1997; Nishimura 1993), where elite residences were recognized by large postholes that would have supported huts larger than those found in other areas of the settlement, an increased density of imported items, and faunal remains indicative of a high level of feasting participation with the inclusion of numerous domesticates.

2.4 **Early Spanish Colonial Period Philippine Social Organization 16th – late 18th Century AD**

2.4.1 **Historical Sociopolitical Development**

Having fought fiercely against the Christian Portuguese for New World territories and to be the first to wrest control of spice production in Maluku, Spain agreed to the Treaties of Tordesillas (1494) and Zaragoza (1529) demarcating territories of operation – with Spain receiving the Philippines within their territorial assignment, under the condition that the local communities be Christianized. By the 16th century European polities were already looking for more agricultural space; gold and silver; and luxury goods to support themselves as they consolidated into larger, more powerful states (Wolf [1982] 2010:101-129). Spain used its pastoral economy, silver from its colonial holdings in Americas, and foreign loans to pay for court life and military expenditures, but was not enough to stave off bankruptcy in the late 16th century. And it was in this context that Miguel Lopez de Legazpi sailing for Spain returns to the Philippines in 1564. It was under Legazpi's leadership, several expeditions after Magellan's fateful arrival, that Spain captured Cebu in 1565 (Abinales and Amoroso 2005: 49; Scott 1992). He quickly set about making local alliances and continuing the conversion process to

Catholicism begun by Magellan in 1521. Learning about the Chinese traders that regularly travelled to Maynila on Luzon, he moved in 1571 to capture the entrepôt. Success in the renamed Manila area meant Spanish control of incoming Chinese goods, and the first time that a political entity attempted control of the entire archipelago.

As Legazpi was famously advised, however, “There is not king and no sole authority in this land; but everyone holds his own view and opinion, and does as he prefers” (Abinales and Amoroso 2005: 50; Reid 1993: 252). Given the diverse political and linguistic affiliations scattered about the rugged topography of the islands, an even distribution of power was impossible because of Spain’s inability to convince lay civilian citizens of the crown to travel to the new colony to represent the government. Since Spain’s claim to the region stemmed from the authority of the Catholic pope, friar missionaries traveled with Spanish military to the new colony to begin the conversion process. Unlike lay civilians who were banned in the provinces outside Manila, the friars were instructed to set up missions, learn the local languages, convert the animistic communities to Christianity, and reorganize their settlements. *Reducción* was a consolidation of the organically settled barangays into towns, villages, and hamlets based on a grid system of streets organized in the classic western tradition of a large open plaza containing a grand stone church, bureaucratic offices, and homes of the religious, political, and economic elite (Skowronek 1998: 52). Outcast from these new settlements, were locals rejecting political and religious conversion, including Chinese and Indonesian immigrants (Abinales and Amoroso 2005: 55; Javellana 1998). Faced with resettlement, many indigenous people fled the encroachment of Spanish control to the *bunbok*, or mountains, and to other islands. Therefore, this period not only saw the reorganization of regional settlement patterns and a new blueprint

for the structuring of major political centers, but also large-scale population redistributions between islands and lowland-upland regions within the archipelago.

As Abinales and Amoroso (2005:67) point out that, in addition to organizing the settlements for easier conversion and moral admonishment, population counts of newly formed settlements formed the basis of tribute collection, making friars local representatives of the state. *Encomiendas* were later organized by the Spanish state, intended as administrative units from which labor pools and tribute could be collected (55; Corpuz 1997). However, as the crown began to organize *encomiendas*, the parish friars came to odds with their *encomenderos*. *Encomenderos* were mostly retired conquistadores who agreed to protect their assigned territory and facilitate Christian teachings to their subjects, and in return could collect tribute – ensuring their pension for past services rendered to the Spanish government.

Without access to money, newly resettled Philippine communities were exposed to political corruption. Tribute was paid in material goods, easily undervalued by Spanish *encomenderos* (Abinales and Amoroso 2005:57; Corpuz 1997: 33-35, 2005: 90-118; Cuesta 1980: 33), further taxing the strained indigenous populous. Inability to pay excessive tribute requirements usually resulted in debt payable through labor. Forty days of donated labor was also required of every man living in the *encomienda*, but the law establishing the maximum number of service days was often ignored. Corruption of the *encomienda* system (Borrinaga and Kobak 2006: 66) was publicly exposed in Spain by the parish priests administering in the resettled communities. The friars were guilty of their own corruption, however, charging absorbent fees for administering sacred rites, such as marriages and baptisms, and extorting labor without pay. The administrative system was not dismantled until the 18th century, by

which time commercial enterprises and taxation had surpassed the tribute system for collecting wealth for the Spanish government. The structural abuses of the priesthood would continue on well into the Late Colonial Period.

2.4.2 **Subsistence Economy**

Outside of Manila, the traditional methods of procuring basic resources remained largely unchanged. While the Spanish were reaping the benefits of the Spanish Galleon trade, which used the Philippines as a strategic station for purchasing Chinese goods with Mexican silver (Skowronek 1998: 48), the general Philippine populous largely continued to fish, farm, gather, hunt, and produce craft goods for familial use. One reported substantial economic change at the community level was the disruption of inter-island trade, which will be described below. Beyond subsistence work, however, the *encomenderos* and friars were asserting increasing pressure for goods and services. The population was victimized by epidemics and Spanish military action for noncompliance. In combination with forced resettlement resulting in difficulties with sedentary farming, these stresses resulted in a severe population drop in the Luzon area, from an estimated 750,000 residences in 1521 to 166,903 in 1591 (Abinales and Amoroso 2005: 64; Newsom 1998: 26).

2.4.3 **Socio-economic Classes and Material Evidence of Inequality**

The *maginoo* class of elites in Tagalog-speaking polities, and likely nobility in other Philippine polities, lost their socio-economic power base (Abinales and Amoroso 2005: 57; Scott 1994). The Spanish demanded that the population provide goods and labor for the colonial state – which only required food and craft production from concentrated settlements; the Spanish were not interested in the movement of laborers from one area to another, which

would keep the collection of goods and services for both the *encomenderos* and the parish friars in flux (61; Alonso 2003). The need for stability meant that the Spanish banned traditional warfare to procure slave labor. Unable to obtain more slaves, the *datu* was unable to retain his military force, nor was he able to offer slaves as part of marriage negotiations or to help create or solidify alliances. His economic ties also eroded, with Chinese trade largely cut off outside of Manila, and the impetus to strengthen regional alliances eroded without the need to grow individual power. The *datu's* social power was also greatly reduced with the attempts at eradicating local pagan magical beliefs which held that military and economic success implied a *datu* was endowed with mysterious knowledge of black magic.

Ripped from the ability to maintain a military, expand his economic base in traditional ways, and openly demonstrate spiritual power – the *datu's* power base disintegrated. The Spanish enrolled their help, however, by promising supervised political leadership for the *datu* that adopted Spanish and Christian goals. For example, the *datu* that willingly brought his community to participate in *reducción* were assigned the title “little governor” or village head. By becoming a tool of the Spanish state the *maginoo* transitioned into the *principalia*, an officially recognized class of socio-economic superior to the common *tao* (Abinales and Amoroso 2005: 57; Aguilar 1998). The *datu* was assigned the role of tribute collector, and promised that if his job was conducted satisfactorily, his eldest son would be free from the burden of tribute and state labor. While all tribute goods and services were legally intended for the encomienda and church, it was relatively simple for the *principalia* to overcharge clients in goods and labor to enlarge his own economic resources (Borrinaga and Kobak 2006: 80).

Wealth could also be stolen by exploiting the newly introduced Spanish concept of land ownership. Previous to Spanish arrival, western concepts of land ownership were not held by the Philippine populous. Rather, land was loosely held in common and recognized as a particular *barangay's* territory. Families claimed common rights when they worked the land, with the same fields often being worked for generations by that family's descendants. The *principalia* quickly recognized the desire for formal ownership of land by *hacenderos* and friars who were looking to grow crops for intra-regional trade (Abinales and Amoroso 2005: 57; Aguilar 1998). The *datu* would assume ownership of land which his *barangay* had held in common and sell it to the *hacenderos* or either sell or donate it to the friars, which garnered the favor from local church representatives.

In this way, traditional routes to power – inter-island and intra-regional trading and alliances, increasing the labor pool through warfare, demonstrating his charisma through success in battle and the demonstration of spiritual power –were no longer available to the *maginoo*. Groping for status in the new colonial socio-economic environment, their choices were to flee into the mountain areas outside the immediate reach of Spain and the Church or become a part of the *principalia* – whose power came from the enlargement of wealth through extortion, cementing bonds with the colonizers, passing their status and wealth directly to their descendants, and the recognition of a circumscribed and supervised authority from the *encomendero* and the parish priest.

The *tao* lost their common rights to the land their families worked prior to resettlement (Abinales and Amoroso 2005: 61; Alonso 2003). They lost their ability to move freely across the land and were restricted until friar permission was granted, to leave their new village. These

limitations were key to Spanish success in converting and soliciting tribute from the population. And as a result, previously cleared fields were lost and difficulties arose in working new areas without the ability to choose the land themselves. In addition to the burden of paying tribute and for the necessary rites that would keep them in good standing with the church, extortion by the *principalia*, priests, and state was a routine occurrence. Other routes for sustaining a livelihood such as intra-regional trade and direct trade with foreign regions, such as China, were cut off so that the Spanish could focus the newly sedentary population on the production of tribute, while keeping the benefits of intra-regional trade to themselves (Abinales and Amoroso 2005: 62; Corpuz 1997). The spiritual power women were able to exercise in the pre-contact period was removed almost completely. The *baylan* and the *catalonan* were rejected by the friars (58; Brewer 2000), forcing most to flee to the mountains and islands beyond Spanish control. Even those that attempted to bring Catholic belief into their rituals were found to be an abomination to church doctrine. Social unrest was crushed in areas of Spanish control, either through military action or when state or religious pressure resulted in escape to areas outside Spanish control.

Material evidence of social organizational shifts in the 16th century are most obvious in the aftermath of *reducción*. Open plazas surrounded by stone churches and large houses laid on a 90 degree grid are still apparent today. Resettlement was a process, so the installation of western city planning took years to reach much of the archipelago. Written sources indicate a reduction in the accessibility to Chinese porcelain when direct Chinese trade was restricted to the Spanish in Manila. Skowronek (1998) does observe that in Manila the local interest in Chinese items continued to make Spanish ownership of Chinese crafts, such as porcelain and

silks, important indicators of elite socio-economic status. Interestingly, Skowronek (1998: 54, 63) writes that during this time the emerging *principalia* built large homes in which only the facade was of Spanish influence to appear connected to the new political power. The interior of the homes remained largely Asian, with open multipurpose spaces that did not incorporate the ground level into living space; a pattern that did not change until well into the Late Colonial Period when this rising class merges with Chinese and Spanish mestizos in their capacity for land ownership, and incorporated new western influences. Outside Manila, the resettled indigenous populations were supposedly cut off from Chinese luxury goods (Wolf 1997; Flynn and Girildez 2004; Min 2013; Abinales and Amoroso 2005: 60-65; Ch'en 1968; Alonso 2003: 68; Further Corpuz 1997: 36). Without the ability to trade with neighboring settlements, they were also unable to procure luxury goods produced in other areas of the Philippines as their respective regions became subjected to *reducción*.

When the Spanish stilled the organic movement of the native population, the disruption of local trade became a serious issue in not only in the provinces, but also in rapidly urbanizing Manila. Chinese immigrants, some who had settled before European contact to facilitate Chinese trade, were initially free of the restrictions placed on the Philippine population (Abinales and Amoroso 2005: 64-65; Ch'en 1968). This allowed them to gather and distribute goods produced on the archipelago within the region. A cycle of distrust and violence resulted in the segregation of the Chinese population, and at least two devastating massacres at the hands of the Spanish military. In 1589 the Chinese, with the exception of farmers, carpenters, and mechanics were exiled (65; Wickberg 1965). Anticipating further potential problems with the Spanish state, many of the remaining Chinese converted to Catholicism. With most of their

countrymen gone, the immigrant Chinese increasingly married Filipinas. As the population of mixed Chinese-Filipino, or *mestizos*, grew they developed a strong Spanish loyalty, securing a foothold in the agricultural economy that would rise after the late 18th century.

In general, these accounts paint the picture of a gradual reduction in the ability to organize labor and reduced access to the personal affiliations and objects traditionally recognized as holding “prestige value.” It is clear from excavations on Luzon (Salcedo 1979), and the Visayas (Junker 1999; Nishimura 1992), however, that access was never completely removed. The *datu* class continued to use traditionally recognized prestige items to demonstrate their status as they transitioned into the *principalia*. How these material items operated within the new social organizational structure, in which the *principalia* ensured superior rank to the *tao* by exploiting the Spanish tribute system, stealing community land, and allying with the parish priests is less clear. Reinhard Wendt (1988) suggests that the prominent feasting displays were channeled into the pageantry of Catholic festivals and rituals. The church’s power, and by extension the power of those sponsoring these activities, was placed on public display at parades, fiestas, and other public functions. If this is indeed the case, then the displayed Chinese porcelains would take on a meaning different from the traditional demonstration of foreign ties and strong trading relationships.

From excavations of *datu* residences dating from the late 18th to the late 19th century on Sulu, Spoehr (1973: 88-102; also see Junker 1999: 160-164) identified evidence of the continued use of Chinese porcelain and other imported wares as status symbols. The Islamic polities of Sulu did not surrender control of their territory until the early 20th century, after colonial rule had been passed on to the Americans. However, the continued use of traditional status

symbols through the Early Colonial Period into the Late Colonial Period by polities beyond Spanish colonial control suggests that other areas at the colonial frontier also continued to use imported ceramics and other goods as status symbols.

Interestingly, this study demonstrates that during the Early Colonial Period around the Malangwa River, porcelains and other imported ceramics maintain a similar, but intensified spatial distribution from the preceding Early Historic Period. Protected by local geography and terrain, the settlements of the Malangwa watershed were subjected only to the application of increased tribute demands through the *encomienda* system. The residents were not removed from their traditional routes to power, such as access to labor, tribute, prestige objects, political alliances, and hereditary rank. With the added pressure to produce tribute, and as the threat of slave raids increased (Warren 1985), the lowland communities of the Malangwa watershed intensified their prestige economies and social organization during the Early Colonial Period; perhaps to bolster their surplus for *encomendero* tribute and as communal resistance strategy against raiders. It is not until the transition to a cash crop economy after the late 18th century and the traditional routes to power are removed, that the distribution, and therefore the use and meaning, of imported ceramics and other luxury goods changed.

2.5 **Late Spanish Colonial Period Philippine Social Organization Late 18th - 19th Centuries**

AD

2.5.1 **Historical Sociopolitical Development**

In the early 18th century, the Sulu archipelago and Maguindanao were independent sultanates that competed, not only with one another, but also with the Spanish held Luzon and Visayas regions (Abinales and Amoroso 2005: 70; McKenna 1998). The sultanates operated

much in the way other areas of the Philippines operated before European contact, with community leadership dependent upon their ability to procure a labor force. The Spanish had wrecked the Islamic trading power in Brunei, such that smaller-scale communities were integrated into existing polities, creating entities like the multi-ethnic Sulu polity known after the Spanish Period. Repeated Spanish attacks on the southerly Islamic polities, and the continual raiding by the Sulu and Maguindanao on Spanish zones of control for slaves created a strong dislike on both sides of the north-south divide. The fighting between the Spanish and the Islamic south opened the door for another European power to interfere with the Philippine based Chinese-Spanish trade route, helping to set in motion a complete economic overhaul of the Philippines.

2.5.2 **Economy**

The British, looking for direct access to the much sought after Chinese tea, armed the Sulu sultanate in return for raw materials that the Chinese desired (Abinales and Amoroso 2005: 71), and made some inroads into the Galleon trade. The start of the Seven Years War allowed Britain to capture Manila in 1762 and keep the regional peace while traders did business directly with China at Philippine ports (75; Tracy 1995). After regaining their colonial possession, Spain was looking to capitalize on new industrial markets, and set about developing its export markets in agricultural produce. Cash crops of sugar, tobacco, abaca, indigo, coffee, and cotton were developed for export. In 1834 Manila was officially opened to direct international commerce (77; Legarda 1999). By 1830, money had replaced tribute in nearly all Spanish controlled areas. By 1840, 90% of export revenue came from Philippine products, in

contrast to the 10% between 1800 and 1810. And by the 1860's Visayan ports were open to international trade, and large tracts of Negros forests being cleared for sugarcane.

Spain also attempted to rectify informal land ownership in 1880 and 1894 to lessen local abuses and generate revenue through property taxes (Abinales and Amoroso 2005: 82). This largely resulted in the concentration of land ownership by land grabbing *hacenderos* - now composed largely of the *principalia* and Chinese and Spanish mestizo classes. While many other reforms were attempted to improve "accountability and centralization" (87; Robles 1969), Spain was largely unable to truly financially capitalize on its colonial possession. In fact, it was the foreign investors, largely from the United States and Britain, that influenced the development of commercial agriculture and which were benefitting from this economic turn (83; Legarda 1999). Alfred McCoy (8) writes that it was the diversity of investors directing disparate local engagements with the world market that lent a fragmented "pattern of production."

Since 1849, the general populace was increasingly allowed movement within the archipelago, again encouraging intra-regional trade (Abinales and Amoroso 2005: 90; Doeppers and Xenos: 1998). New taxes were introduced that involved payments per household and set percentages of individual earnings, which frustrated the *principalia*. Acting as tribute collectors for the Spanish state, the *principalia* had largely operated with minimal supervision from the state, but new regulations brought state oversight to the local level. This made it increasingly difficult to demand excessive tribute and labor via tax collection, especially as an influx of Spanish immigrants moved into the countryside and took over administrative duties (91-92);

this pattern also motivated the relatively wealthy *principalia* to transition from administrative duties to increasing their land and produce cash crops for export.

This study compares the spatial distribution of imported ceramics – a significant component of indigenous prestige economies since the Early Historic Period – between the Early Colonial Period (which I hypothesize had a similar pattern to the preceding Early Historical Period) and the Late Colonial Period. I also suggest that strong disparities in the distribution of foreign wares between the two colonial periods will be indicative of different cultural meanings and uses assigned to these objects. Anthropological theories of practice, which include use and meaning, are discussed in the following chapter to link the spatial patterning of imported ceramics around the Malangwa River to the changing cultural meaning of status objects.

2.5.3 **Socio-economic Classes and Material Evidence of Inequality**

Abinales and Amoroso (78; Caoili 1999) note a sharp increase in economic complexity as Manila received an influx of migrants, immigrants, and capital; with transactions now taking place in money and not goods or services. Increased gender disparities were seen following European influence was seen in the increasingly educated sons of wealthy families and absences of female community authority (99; Corpuz 2005). Skowronek (1998) notes that it is during this time that two events cause a shift in the prestige value of cultural material: First is an increasing flow of immigrants from Spain, Britain, and the United States hoping to capitalize on the growing export economy. Second was a change in the Western perception of Chinese culture following their defeat in the Opium Wars, from a “high civilization” to a “less evolved” society from which a profit might be procured. As such, the elite no longer looked to Chinese products as the most prestigious status items, but turned to European imports and building

styles, both their facades and interiors. Common families were increasingly pressured with larger participation fees for church activities, and turned to cash cropping to meet those demands. This required that they no longer spend time raising their own rice, but purchased it for their daily meals. Loans to cover bad harvests or other costs of living, like medical expenses, usually involved approaching a wealthy *principalia* or *mestizo* to enter into an agreement to repurchase, or *pacto de retroventa*. This entailed that the lender purchase the land with the promise to sell it back at the same price at an agreed upon date. A pattern of renewals, incredibly high interest rates, and ultimate dispossession were the norm (81; Corpuz 1997; Sturtevant 1976). Families losing their land in this fashion often stayed on as tenant farmers who rented farming rights, or sharecroppers who maintained only a portion of the harvest proceeds. In this way, the majority of the agricultural populous was slowly dispossessed of their land, while enriching the *principalia* and *mestizo* classes. In addition to tenant farming, the dispossessed turned to seasonal hacienda labor, moving to larger communities (particularly Manila), or retreating into the mountain communities (82; Corpuz 1997). Abinales and Amoroso (2005) note that keeping the civil peace was the initial paternalistic system of landowner and tenant; as this system degraded, and landowners became increasingly wealthy and moved away to metropolitan Manila, abuses at the hands of farm managers became rampant. The friars increased their agricultural holdings, referred to as friar estates, through fraudulent land surveys and arbitrary demands of rent (81). Even today, poverty in the Philippines is undeniably tied to landlessness and the inability to engage in subsistence farming (Balisacan 1993; Putzel 1992; Gutierrez and Borras 2004).

New classes evolved in the Spanish Philippine hierarchy from three groups during this time (Abinales and Amoroso 2005: 99; Corpuz 2005): the Chinese mestizos who had largely gained their economic power from their trading connections with China and their ability, even if at times highly limited, to move about the islands to collect and distribute goods; Spanish mestizos who were able to rely on the relative wealth of their fathers to invest in commercial agriculture; and the wealthy indigenous families, derived from the *datu* class, who were able to leverage administrative positions into economic wealth. This class demonstrated its wealth with large European style residences located near the community's main plaza, fine clothing and jewelry, large donations to the church which allowed them to conspicuously be incorporated into public rituals and ceremonies, and sending their sons to Manila and Europe to receive an education. This new class eventually came to refer to itself as Filipino, a group divided into occupational and economic groups – as opposed to ethnic or linguistic groups. Highest among them were the *caciques* (owners of large haciendas), then merchants, and finally the professional and working classes. The Filipino class was wealthy enough to be educated, understand their history, and the corruption of the Spanish colonial power; and they also had the means to educate and organize others in informal and organized dissent. And tensions remained high between the Filipino class and the Spanish through the transfer of power to the United States in 1898 (113).

2.6 **The Socioeconomic History of Negros Oriental and the Malangwa River Area of Bacong as a Specific Case Study**

Previous to colonization, the communities of Negros Oriental followed the social organization patterns described above. The island was characterized by numerous settlements

interconnected through family relations, economic partnerships, and political allegiances.

Archaeological research has been conducted on the island for a number of decades, focusing on the “Porcelain Period,” so named for the large number of ceramics imported from China previous to Spanish colonization in 1521 (Hutterer and McDonald 1982). Junker (1999) found a settlement system on the southern coast of Negros Oriental dating to the late prehistoric period, in which a primary center was located on the mouth of the Tanjay River. While the archipelago was not politically united, settlement systems such as the one at Tanjay had interconnected economies and politics. Their economy was largely subsistence based, although the prestige goods economy was growing significantly in the 15th and 16th centuries before the Spanish arrived.

First Spanish contact with the inhabitants of Negros was in 1565 when Legazpi ordered a ship to search for supplies to support the initial base of operations on nearby Cebu (Cuesta 1980). That same year, Legazpi headed north to reposition Spain’s Philippine base in Manila to capture the busy interregional trade port. Programs instituted in other regions of the Philippines by the Spanish to resettle indigenous populations into gridded towns did not take hold for several reasons. First, the southeast coast of Negros Oriental is in close proximity to the Sulu archipelago and Mindanao. By this time Islamic sultanates were operating in these areas and continuing to engage in traditional means of labor organization by raiding other regions for slaves and other resources. Setting up headquarters on Negros would mean constant skirmishes with the raiding groups from the south, particularly as the Spanish-built Fort La Caldera at Zamboanga was left in 1599 (Cuesta 1980: 124), removing local military and naval protection. Second, while large volumes of interregional trade were reported in Manila,

particularly Chinese trade, no such trade ports of interest were rumored on Negros. In fact, their mapping efforts soon identified a lack of well protected ports on the eastern coast of Negros.

After Manila was captured, the Spanish needed to provide supplies to its growing population, for which they turned to provinces outside of Manila. The small population density, suggested to be around 2.3 people per kilometer at contact (Newsom 2009: 74), and the subsistence economy sustained on Negros – in addition to its distance from Manila and lack of protective harbors – made Negros an uneconomical choice as a food supplier for Manila (Cuesta 1980: 46). If the Malangwa watershed were to be chosen as a supplier of a staple like rice, it would have taken considerable land development, as the lowland is not nearly as wide as in other areas and the highlands slope steeply upward; nor does the Malangwa River provide a large, flat alluvial plain for staple crops as found in other regions of the Philippines. The cash crops that would be grown later in this area resulted from intensive efforts of equipment, labor organization, and land development. However, in 1571 Negros was divided into 17 *encomiendas*. The *encomenderos* assigned to each *encomienda* were entitled by the Spanish government to exact tribute from each family living within his jurisdiction. It was shortly realized that population and settlement estimates were incorrect and the number of *encomiendas* and their boundaries fluctuated in order to be profitable. Thus, in 1576 there were 10, in 1591 there were eight, and in 1600 there were nine (Cuesta 1980: 9).

The *encomiendas* were initially only on the south and west coasts, as the hinterlands remained outside of Spanish control, populated with indigenous foraging communities and lowlanders fleeing Spanish authority (Cuesta 1980: 38). The northern coasts were not

populated until the 19th century. Towns on Negros were often placed five kilometers off the coast to avoid Moros raids (Cuesta 1980: 38), which were common until the 19th century. Although resettlement was not successful, there are indications that movement was restricted to some degree on Negros (Cuesta 1980: 123). Routine communication with Manila came through the comings and goings of the provincial governor. When missionaries were in the area they discouraged contact with indigenous populations outside of Spanish control to prevent ungodly influences. *Encomenderos* also demanded tribute goods, limited the amount of surplus goods available to indigenous families that could be used for trade – discouraging maintenance of trade partnerships. Those that refused to participate in the tribute system who were within Spanish controlled zones often fled into the uplands – the *bundok* – being referred to as *remontados* (Cuesta 1980: 111). And certainly there were a number of such individuals who fled Spanish influence for various reason living on Negros, as Spanish administrators recorded a “rebel presence” in the region previous to the 18th century (Cuesta 1980: 110).

The coastal communities were subject to raiding pirates from Sulu and Mindanao, with particularly devastating effects in 1722, 1754, and 1784. While these events were difficult to deal with, the overall population losses were relatively minimal. Newson (2009), relying on first hand estimations and government accountings of tributes paid each year, estimates that Negro’s population of 30,000 changed little through the 19th century. She writes that the small rate of population growth, due to low population density, was sometimes thwarted by incidences such as Moro slave raids and at least one potential epidemic (Newson 2009: 104). This relatively stagnant population size was not ubiquitous, but rather the result of some areas losing and others gaining population (Cuesta 1980: 44). Losses are usually explained as the

result of Moro raids, death from disease, and people fleeing Spanish authority. Gains during the Early Colonial Period are usually attributed to growing Christian communities, as people move from other areas to be a part of the new communities.

In 1751 provincial governors were allowed to trade directly with the indigenous communities with their provinces (Cuesta 1980). They were previously banned, under Ordinance 6 of the Ordenanzas of 1696, from direct trade with their residents to allow indigenous trade to continue as it did before contact, but the fulfillment of that ban was largely dampened by the restriction in movements described above. Once the provincial governors could openly trade with their residents they quickly established ways of using their influences to make sure their residents only traded with themselves, in return purchasing the goods for much less than they were worth. This continued on Negros through the 18th century.

While the Augustinians were the first missionaries to arrive on Negros, their initial efforts were largely unsuccessful (Cuesta 1980: 35-37). The Jesuits are markedly more successful in 1630 when they establish their mission at Ilog. Building from the initial work of the Augustinians, the Jesuits claim that almost all the indigenous populations near the coast were converted to Christianity by 1650 (Cuesta 1980: 66). While resettlement was not enforced by the Spanish military, conversion to Christianity in the Philippines usually involved living within walking distance to a Catholic Church. The *encomenderos* actually did not like the settlement into towns because working the lands that the indigenous farmers had grown up with were the most immediately profitable in terms of collecting tribute. Further, within the town setting, the developing *principalia*, with their increased privilege compared to the other indigenous families, would be evident on a daily basis. Whereas, *encomenderos* of areas not in

incorporated townships, need not necessarily share their authority with an indigenous official.

Therefore, Cuesta (1980: 116) writes that as the number of towns increased, the strength of the *encomienda* system on Negros waned.

While not exploited to their fullest, some commercial agricultural projects began on Negros during the early 18th century, during which time Negros helped to support Cebu with rice and rope making materials (Cuesta 1980: 130). They also produced cacao, tobacco, coconut, wax, and fish for trade. Other goods produced, though not yet extensively for trade or for purchase, included rice, corn, buri, and root crops (Cuesta 1980: 361). By the mid-19th century tobacco was an important cash crop, abaca and fish were on the rise as trade products, logging was increasing, and perhaps most influential of all, investors interested in exploiting Negros' potential for sugar production were taking interest (Cuesta 1980: 364-365).

Negros Island was identified as a place well suited to sugar production early on by Spanish colonialists, but no action was taken in this direction as its low population density required imported labor. However, in 1856 British Vice Consul Nicholas Loney flooded the Philippine market with cheap textiles, putting weavers on the nearby, more populous island of Panay out of business (Billig 2003: 32-35). He arranged for those workers to be shipped to Negros to work developing sugarcane fields. These fields were owned by *hacenderos*, who were relatively wealthy, and were often Chinese mestizos, Chinese, Spanish political refugees, Spanish mestizos, or other Europeans. *Hacenderos* were sold farming equipment at cost by the British and lent money at low interest rates as long as the sugar producers promised to sell their sugar only to England. Planters also began to obtain credit by borrowing against future harvests. This effectively made Negros sugar plantations dependent on foreign capital.

Thousands of workers were convinced or forced economically to travel from Panay to Negros to work the sugar fields (Billig 2003: 32-35). Although in the past there was security through sharecropping or tenant farming because the landowner was traditionally responsible for providing housing, food, and medical care; workers were now paid with small wages so that land would not be “wasted” by workers’ subsistence crops and so that the workers could purchase food and supplies from stores owned by the *hacenderos*. To maximize profits, planters began to lay off workers during the off seasons, leaving thousands unemployed and susceptible to malnutrition and debt. Physical abuse was a common occurrence when weak workers had difficulty completing tasks or when runaways were recovered. To make matters worse, plantation owners saw themselves as business men and not farmers. They would, therefore, take up residence in Manila, leaving managers in charge of daily farm operations with the promise of a profit shares. With little contact with field workers, their needs and deprivations were even more easily ignored by land owners.

By the time the Philippines are purchased by the United States, socioeconomic disparity is on the rise. Poverty on Negros, as is the story with the rest of the country, became tied to landlessness. Those able to maintain homes, or even succeed in owning land and keeping surplus, continued to maintain heirloom porcelains or purchase new Chinese and European wares. Skowronek (1998) writes that Chinese wares at this time began to decline in popularity as status markers, with European wares becoming more predominant. Wares from China, Japan, Southeast Asia and other areas were not completely abandoned, however; as Warren (1985: 6) writes that there were reported illicit trading stops by Chinese merchants in the Visayas peddling their wares for staples like rice to trade or sell in the Sulu archipelago through

the mid-19th century, when the Spanish finally had enough naval force to curtail merchant movements in the Sulu Sea.

2.7 **Conclusion**

In comparing the colonial events that transpired in Manila and areas like Cebu, with those that occurred on Negros Oriental, there are several points germane to my study of the relationships between terrain and economy and between object meaning and economy. The first point is that several authors explicitly relate that Spanish records indicate an unwillingness to set up substantial bases on southern Negros due to several factors: (1) it was close to raiding sultanates (2) the rugged terrain in some areas made it difficult to traverse, and thus control (3) the rugged terrain would make intensive agricultural efforts in some areas difficult and (4) the southern coast of the island was relatively far from the quickly established Spanish base in Manila, particularly as there was a lack of immediately desirable resources in the area outside of potential tribute payers.

Second, forced resettlement of Negros Oriental, unlike other areas of the Philippines, was not implemented for the above reasons. Third, early missionary efforts were not successful and conversion of Negros Oriental was not largely fulfilled until roughly 100 years after initial Spanish arrival. Fourth, the *encomienda* system was successfully established on Negros Oriental, as in other areas. In this way the geography and terrain of Negros Oriental provided early protection from two colonial vectors. How the terrain and geography local to the Malangwa watershed on the southeast coast of Negros Oriental will be of particular interest to this study. Specifically, the ways in which the lack of a port, the close proximity to the Moro community, lack of an alluvial plain, steep slopes, and location a relatively short

distance from larger population centers, affected the indigenous prestige economy after Spanish arrival.

Fifth, when the Visayan ports were opened to international trade in the 19th century, imported ceramics continued to be an indicator of socio-economic status. Although, unlike previous periods, Chinese, Mainland Southeast Asian, and European ceramics could be purchased with money. No longer did people obtain foreign goods via direct trade partnerships or personal debts or gifts. This change in the process of acquiring socioeconomic indicators will have a significant role in interpreting potentially different spatial patterns in imported ceramics between the early and later colonial periods.

The following chapter will discuss the archaeology of social organization. The discussion begins with a brief overview of archaeological theories dealing with social organization and social inequality. This discussion is important for explaining the intensification of social organization suggested by the data in Chapter 7. I also emphasize the role of prestige and luxury goods as social indicators of status and also as tools to create and maintain social rank. Traditional Philippine prestige goods, particularly imported ceramics, are also discussed, to link how the history of socioeconomic organization the Philippines can be recognized archeologically. Of particular importance to my analysis in Chapter 7, is my discussion of the idea that status can be conceived of as “overdetermined,” meaning that perceived social status as well as the cultural meaning of objects, such as prestige items, is determined by many things at once and is dynamic. This discussion influences my interpretation of how the meaning of imported ceramics in the Late Colonial Period changed with the introduction of a capitalist economy, and the communal links required to obtain prestige items dissipate.

3. THE ARCHAEOLOGY OF SOCIAL ORGANIZATION IN THE SPANISH PHILIPPINES

The archaeology of social organization has a well-developed literature exploring why and how societies organize into statuses of differential ranks. Drawing from these theories that categorize ranked societies, archaeologists investigating pre-Hispanic polities in the Philippines emphasize evidence of differential access to food, attached craft specialization, and political positions with access to mobilized labor and military when describing them as socially complex, stratified societies. Substantial changes to pre-Hispanic social organization are clearly introduced with initial Spanish colonization, and again with the onset of a new capitalist economy based largely on commercial agricultural exports. Through these changes there are categories of material culture that endured as status indicators, but their cultural meaning and their uses through these time periods are yet to be well understood in terms of social theory and materialized social landscapes, especially in geographic terms. The move, particularly in historical archaeology, to accept the “overdetermined” nature of social identity is effective for helping us investigate how material culture is related to local social organizational changes, and thus to social inequality, implemented by colonization and subsequent involvement with the global capitalist system. In the Philippines, the relative quantity and ubiquity of imported ceramics beginning around the 10th century AD is prominent evidence of social status in a way not reflected by the other, mostly ephemeral evidence. The durability and visibility of stoneware and porcelain from China, Japan, and Southeast Asia in the Philippine archaeological record make ceramics the logical choice for studying the changing use of materials as indicators of elite or prestigious status.

3.1 Archaeological Theories of Inequality

Decades of research have contributed to the current theoretical and methodological approaches to understanding the development of institutionalized social disparity. Ames (2008: 487) summarizes today's popularly held definition of inequality as "differences with cultural and social meanings" that are unevenly "prized and rewarded." It takes on a social nature when behaviors are enacted based on this differential regard for differences, i.e. when "dominance" is exercised (Berreman 1981). Status, therefore, has traditionally been defined as one's standing within a system of social inequality. In this light, archaeologists pay special attention to indicators of status, such as prestige, power, and access to basic necessities to categorize the nature of social inequality of a given culture. Most of this research relies on identifying "differential access" to goods and labor, meaning that some people have greater access than others to things like positions of power, to luxury goods, food, and labor.

Much interest is focused on how and why inequality becomes institutionalized within social organizations (for examples see: Hayden 1994; Childe 1942; Service 1975; Haas 1982; Clark and Blake 1994; Earle 2002; Ames 1985; Bar-Yosef 2002; Binford 1980; Price and Brown 1985; Maschner 1991). The literature in this vein has matured, with the understanding that a natural state of egalitarianism likely never existed (Boehm 1999), and that it takes monumental effort to suppress the ranking and stratification that seems to be the status quo of human groups (Trigger 2003; Hayden 2001). Archaeologists, however, continue to use differing classificatory schemes in describing social organization based upon an idealized spectrum of egalitarian organization at one end, and highly ranked, or stratified social organization at the other. Supposed rungs on this spectrum, traditionally labeled as *bands*, *tribes*, *chiefdoms*, and

states (Service 1962); are often now recognized as unfairly evolutionary and constraining when it comes to understanding the diversity of socio-political organizations (Drennan 1996). Some archaeologists have turned to using the more flexible terms *transegalitarian*, *middle range*, and *complex societies* to allow for recognition of mixed strategy societies, however, this formation does not truly alleviate the tendency to place these categories on an evolutionary trajectory of advancement. The most skewed distribution of access to power, labor, and goods, is present in stratified, or complex societies - including those concerning this study. Ames (2008: 489) summarizes the common characteristics defining stratified societies as the presence of differential access to positions of high status and prestige; differential access to means of production and life sustaining resources; and usually small groups that enjoy tactical and structural power. Leaders of many stratified, or socially complex societies, gain power and authority because it is bestowed by the position and they may add to their power by increasing their economic wealth without cultivating a generous persona.

A more robust approach to understanding social complexity is offered by placing societies on a continuum of socioeconomic strategies (Feinman et al 2000; Blanton et al. 1996), formally allowing recognition of societies that practice mixed forms of social and economic organizations, and helping to further remove the tendency to place social organization types along a scale of advanced down to not advanced. This framework also helps alleviate the need to focus a study on socio-economic strategies on pinpointing the origins of its complexity. Included in stratified societies is the network social organization (Feinman et al. 2000), in which a minority base their power in economic and cultural wealth that they grow by creating alliances. On the opposite pole of the socio-economic strategy spectrum is corporate

social organization, in which communal ritual and leader generosity is integral to maintain a position of authority. The theoretical room provided by the continuum concept of socio-economic strategies is useful for understanding the categorization of the pre-Hispanic Philippines as socially complex, or stratified.

Material evidence of social inequality is obviously a key concern to archaeologists interested in rank and status, and there are numerous established lines of evidence that can qualify social organization and the inequalities within those organizations, including mortuary evidence (Sax 1970; Peebles and Kus 1977; Shennan 1997) and evidence from daily life practices (Maschner and Bentley 2003; Danforth 1999; Marcus and Flannery 1996). Care must be taken to ensure that cultural meaning is appropriately assigned to artifacts in the construction of social status to avoid *a priori* assumptions such as a direct relationship between socioeconomic status and associated grave goods (Hodder 1986; Shanks and Tilley 1982; Chapman et al. 1981). Given the ephemeral nature of the archaeological record in the study area of Negros Oriental, the role that durable prestige items play in social inequality are of particular importance to this research. Feinman et al. (1996) summarize potentially archaeologically “visible” evidence of network leadership strategies, including: concentrated wealth, ostentatious consumption, prestige goods, attached specialization, wealth finance, princely burials, ostentatious elite adornment, and personal glorification. Absence of these indicators, and the presence of locally produced mundane goods with evidence of restricted access to basic resources is often used as evidence of comparatively lower status individuals.

The explanations for relationships between prestige items and prestigious or elite status vary by social organization, but also by theoretical frameworks. Conspicuous consumption

entails committing wealth or activities to objectives unrelated or in excess of procuring basic resources and survival (Neiman 1997; Kornbacher and Madsen 1999), to “gain, increase, or reinforce social position and prestige” (Boone 2000: 85). Like conspicuous consumption, costly signaling involves the excessive use of wealth and energy to maintain or increase social power (Grafen 1990; Zahavi and Zahavi 1997; Bird and Smith 2005). It also stipulates, however, that more than signaling to observers that it is within the consumer’s power to support their allies and communities, the continued ability to produce this signal demonstrates control of resources. For example, McGuire and Hildebrandt (2005) use costly signaling to explain “prestige hunting” in the Great Basin. Instead of explaining hunting activities in terms of optimal foraging theory, which implies behavioral efficiency, costly signaling interprets hunting beyond need as a way to demonstrate success, and ultimately increased reproductive rights.

Hayden’s (1998) argument for prestige technologies is one of the more controversial theories of conspicuous consumption, in which supposed naturally egalitarian societies contain individuals with “aggrandizer” personalities. These aggrandizers invest in technologies that are “non-utilitarian” in order to gain authority and power. Olausson (2008: 28) recently implemented this theory as a way to suggest that aggrandizers with talent for knapping could control prestige goods by “accru[ing] social capital.” Potential issues with this perspective involve the adherence to an egalitarian social organization as a natural state for human societies and that the presence of a small selection of personality types, the aggrandizers, is enough to cause social change at the organizational level.

Thus, conspicuous consumption and costly signaling, without the need to assign “aggrandizers” personalities to each region, are more helpful in explaining the increase in wares

imported to the Philippines and rise of attached craft specialization in the 15th and 16th centuries. The display and use of luxury goods entail conspicuous consumption, with competitive feasting providing a strong example of demonstrating a continued ability to control resources, or costly signaling. This study explores how increased pressure from *encomenderos* to produce agricultural goods and other materials affected indigenous prestige economies on a regional scale by identifying changes in the spatial distribution of imported ceramics through time. I argue that, without the removal of traditional routes to power, the pressure of *encomiendas* during the Early Colonial Period on Negros Oriental heightened reliance on the prestige economies so that more individuals could be integrated into the higher levels of social hierarchy as the *datu* became more reliant on incorporating more aids in procuring tribute for the Spanish and tribute for himself. Conspicuous consumption and costly signaling of status would only grow in importance as the *datu*, now responsible for tribute to the *encomendero*, attempted to maintain loyalty from his people.

In addition, the historical sources of the Late Colonial Period discussed in the previous chapter clearly indicate a significantly different socioeconomic system introduced by the Spanish after the late 18th century, and this involvement in an increasingly global capitalist system certainly incorporated aspects of conspicuous consumption and costly signaling (Veblen 1899; Bourdieu 1985; Trigg 2001). While these status indicators are at working during all three time periods in this study, I argue that different spatial distribution of prestige objects are indicative of different cultural meanings. Thus while conspicuous consumption and costly signaling may indicate elevated status, that status will have significantly different connotations that can be interpreted from spatial patterning of prestige goods on a regional scale.

3.2 **Philippine Social Inequality and Prestige Resources: 13th-16th Century**

Details of Philippine social organization before European contact were described in Chapter 2. It is important to emphasize here how archaeological evidence combined with ethnohistorical literature, identified the level of social complexity in the Philippines. I hope to demonstrate the benefits of recent developments in theories of social identity to established conceptions of social inequality. Particularly important to this study is how these theories allow investigation into how material objects are entwined with the development and transitions of social inequality.

Combining written Chinese and European texts with archaeological research in the Philippines brings to light a patchwork of communities around the archipelago that while interconnected, did not form a single socio-political unit (Abinales and Amoroso 2005:20; Corpuz 2005: 11, 20; Constantino 1975; Wolters 1999: 18; Nadeau 2008: 5). Several large communities are indicated in texts and material evidence to have been primary centers for stratified societies demonstrating two tiered and three tiered settlement systems (Junker 1999; Nishimura 1988). This means that through the 16th century, settlements spanning various ecological zones were increasingly integrated through centralized control of chiefly centers. The primary center was usually a coastal river port, an excellent staging location for intra and inter regional trade, both with traders from off island bringing finished products and foreign goods, and those from the island's interior who gathered the raw materials sought after by people from other regions. Evidence of this trade has been documented by a number of researchers (Bacus 1999; Gunn 1997; Salcedo 1998; Scott 2004; Junker 1999; Reid 1993; McKenna 1998; Reid 1993; McKenna 1998; Hall 1985).

Orchestrating the trade were the highest ranking members of society, those of the *datu* class. This control of trade was of particular importance to chiefly power in the Philippines, in which relatively sparse populations meant that power was derived not from control of territory, but rather through the control of labor and the elite symbolism and political currency derived from luxury goods. There are many kinds of historically known contexts for chiefly displays of status and authority that served to consolidate their power (e.g. funerary rites, household furnishings, elaborately equipped trade voyages and raiding expeditions, ritual feasting activities), but porcelain is the most visible element of these activities in terms of archaeological contexts (e.g. burial, feasting pits, household middens, and shipwrecks of trade voyages).

Differential access to prestige goods is clearly marked historically and archaeologically, and forms the basis of this study. Many of the categories of a leader's use of prestige goods in a network social organization are found in pre-Hispanic Philippine archaeological sites.

Concentrated wealth in the form of prestige goods is found at different degrees. In some large settlements, the levels of status were more varied and more people had a graduated access to prestige items. In other smaller areas only the ruling *datu* had access to a few prestige items that may have been gifted from more powerful allies. In every community there were those however, who did not have access to such goods.

Ostentatious or conspicuous consumption, concentrated wealth, display of prestige goods, ostentatious elite adornment, and personal glorification were leadership characteristics most notably displayed in the form of competitive feasting, a common activity with many variations around the world. In the pre-Hispanic Philippines, feasts were mostly held by the *datu* class. Regular feasting events were scheduled for seasonal harvests and annual calendric

dates. Feasts were also held for important life events, like birth, marriage, and death. The elderly female *babaylan* and *katulunan* were responsible for leading religious rites and sacrifice of essential feast animals. Important social and political maneuvering was enacted by the hosts and attendees of a feast.

A *datu* demonstrated his economic wealth, access to resources, and strong alliances by providing large quantities of food and drink presented on Chinese, Siamese, Annamese, and locally produced serving bowls and dishes (Junker 1999: 313, 318, 331). By hosting larger and more elaborate feasts than other *datu* in the area, he asserted his high positioning within the local *datu* hierarchy. Elite guests were offered gifts helping to strengthen alliances, but also place the guest in social debt to the sponsor. Division of the choicest cuts of meat was also an important activity that indicated a *datu's* rank among the other elite, an activity that could result in arguments if someone believes that he did not receive their fair share (321). The divvying of select cuts and bestowal of gifts was done in front of all the guests, including those of the common class, which Junker (1999: 313) points out both reified social inequality, but helped to build community bonds. All guests, including the common people, were required to bring food for the feast and ritual offerings (317), which was a method of collecting tribute. Many guests representing the common class were able to partake in foods beyond what they were able to bring to the feast, placing them in debt to their host and likely increasing their loyalty to their leader who kept them well fed (319).

The competitive nature of the feasting tradition required that those of the elite class that would be *datu* or those wishing to maintain or increase their power as *datu* must attempt to outshine the ostentatious feasts of other elites (Junker 1994, 2001; Hayden 2001; Peterson

2005). At times the desire for lavish meals and rituals was beyond an individual's economic means. Food and goods could be borrowed from elite allies, for which later goods and labor would be required for payment. So not only are the elite demonstrating their access and command of goods and cementing socio-political relationships with prestigious gifts, social commitments were being struck between common people and an elite host, and between the elite host and other elite of various levels of economic and political strength.

The competitive nature of feasting also required increasing amounts of prestige goods for gifting and display. Locally, the elite sponsored craftspeople to produce goods only for elite use, a system of attached craft specialization. Even more prestigious than local luxury items, were goods brought from other regions. Elite with trade connections from China, Southeast and South Asia, Indonesia, and Arabia were able to increase their economic base and lavish feasting demonstrations. For *datu* without direct foreign trade connections, allegiances to such leaders would help ensure their success. Evidence of both attached craft specialists and intensified foreign trade is present in the 15th and 16th centuries (Junker 1999: 333).

In addition to feasting, material display of social inequality during life comes from the homes of the *datu* class, which were larger. At Tanjay and Cebu City some posthole clusters were significantly larger than neighboring supports, an indication that some had larger homes (Junker 1999; Nishimura 1988). In association with these larger postholes were imported ceramics, quality locally produced ceramics, and evidence of high quality food remains consumed in large quantities – evidence of feasting. In death, the *datu* were buried with items related to life, fine imported wares (including Chinese porcelain and textiles, and stoneware from Thailand and Vietnam), gold and beaded jewelry, and metal implements, among

others. There is also archaeological evidence of attached craft specialization in these areas, in which elites would sponsor the local production of luxury goods for elite use (Junker 1994; Bacus 1996; Niziolek 2011).

While this evidence of more luxurious living points to rank, it is differential access to basic needs associated with survival that ultimately classify a society as stratified, or complex. An investigation of food remains in middens near residences in Tanjay, indicated that larger homes were associated with larger amounts of high quality food remains, mostly domesticates. Smaller homes were associated with lesser amounts of food remains in which wild species were more prominently represented (Junker 1999). Upon these findings, it is concluded that in some areas, there was differential access to food resources, confirming their classification as stratified societies.

As discussed in Chapter 2, Junker (1999: 222-231) writes that lowland elites facilitated the movement of natural resources from the island's interior through the riverside communities to the coast. This settlement system is described as dendritic, in which a primate center is the home to many of the sociopolitical elite. These elite were able to exert political and economic influence within the primate center, and to lesser degrees outside the primate center into the interior communities. Secondary centers, outside the primate center, but not yet in the upland, were connected via politics and economy to the primary center. Alliances between leaders of the primate and secondary centers, and physical and supernatural threats against the lesser elites of the secondary centers helped secure the movements of goods from the inland to the coast (Junker 1999: 225; Andaya 1995: 545-547; Gullick 1958: 48-49; Hall 1976: 90-100; Wolters 1967: 341:342). In some cases, secondary centers also served as

production centers for products to be traded to interior communities in return for resources to be moved to the primate trading center. The difficulty in subduing mobile groups in rugged terrain prevented political dominance of the upland communities. Instead, Junker writes that it was most likely through individual agreements between lowland elite and upland leaders that facilitated the trade of interior resources down to the coasts (1999: 226; Miksic 1984: 241). In return, leaders of upland communities were promised prestige goods and political titles from the coastal settlement. The stability of these trading relationships was integral, and thus of great importance to the elite, to prevent outsiders from cutting the primate centers out of the trading process in their search for natural resources of the Philippine interior.

As will be discussed in Chapters 7 and 8, the results of survey around the Malangwa River do not indicate control of imported ceramic distribution through settlements at the coast during any time period, and thus they are not similar to the dendritic settlement pattern found in other areas. The lack of a port or navigable waterway in the immediate area combined with the more densely settled Tanjay chiefdom region to the north (there is also a potential that the closer Dumaguete area supported a primate center as well (Bacus 1996, 1999), likely influenced the comparatively smaller scale of settlement systems in the Malangwa watershed during the Early Colonial Period. As will be discussed, the potential elite areas in the Malangwa region are located roughly 5 km inland from the coast, a practice that is described as a defense against the slave raider of Mindanao and Sulu (Cuesta 1980: 38). It may be that regions with weaker political organization and integration were less able to defend themselves from attack, and without the economic potential of large commercial ports at the coasts, elites maintained residences well inland.

3.3 **Philippine Social Inequality and Continuity of Prestige Resources: 17th-20th Century**

With Spanish Colonization, beginning in force in the late 16th century, marked changes to social organization began to occur unevenly across the archipelago. Drastic changes were first strongly felt in Manila where the Spanish based their Galleon Trade, but influence spread outward to different lowland population centers, and later further into the countryside with the introduction of commercial agriculture and the creation of an export moneyed economy. The restructured system of classes marking the emergence of this new social organization, as well as the motivations and economic roles of the social actors, were detailed in Chapter 2; however, it is important to understand that many of the same materials used as indicators of prestige in the pre-contact period remained indicators of elevated social status long after the introduction of *reducción*, *encomienda*, and later *hacienda* systems that completely altered the landscape of the Philippine provinces, devastated the subsistence based population, and destroyed traditional power bases (Skowronek 1998: 54, 63) .

While literature is available on the changing social structure of traditional Philippine social, political, and economic systems, the involvement of particular classes of material culture as indicators and tools of status in the transitioning organization of social inequality is less established (Villanueva 2009). We know that before colonization feasting, gift giving, personal display, and ornate burial were avenues in which to demonstrate socio-economic and political strength of family and of self. After the arrival of a western state hierarchy whose power ultimately derived from a land based king and Catholicism, whose political structure mimics the state with the exception that authority ultimately flowed from a divinely appointed spiritual

leader, the same material classes continued to be used by the local population to indicate status higher than the common people. The changing uses and meanings of these contiguous material classes is the central focus of this study, particularly as understood within transitioning political economies.

As we have seen in Chapter 2, the labor and prestige trade economy of the pre-Hispanic era was perpetuated by an elite class whose power base also relied on a combination of heredity, personal relationships, and achievements. While sudden, drastic changes were introduced to this political economy on Luzon and other regions, in others, like Negros, little more than administrative boundaries and tribute collection were enforced before the 19th century; and yet archipelago trade networks and socio-political networks were seriously disrupted, all the while an increasing number of raids perpetuated by the consolidating sultanates of Mindanao and Sulu plagued the southern Negros coast. Substantial direct interference with subsistence and trade economy did occur on Negros at the end of the 18th century with the intensification of the *hacienda* system for export of agricultural produce.

During and following forceful resettlement, tribute requirements, and oppressive behavioral restrictions imposed by the church, and being forced into a cash crop economy, traditional prestige materials no longer indicated bonds with other elite families and *datu*, control of inter and intra-regional trade, or the responsibility to take care of community members. Nor would they be used in traditionally fashioned competitive feasting events, but would rather take places of prominence in Catholic feasts, ceremonies, and rituals; as well as community and personal functions, which also held highly competitive aspects. Wendt (1998: 3) writes that the purpose of the Catholic Philippine fiesta was to “promote the grandeur of the

church,” “anchor [the church’s] purpose in minds,” and “outshine precolonial festivals, culture, and customs.” Locals and visitors, including those still clinging to their traditional animistic beliefs and supposedly Muslim invitees, attended fiestas. In this way the competition was aimed at past lifeways, but also at neighboring communities. Wendt writes (1998: 13) that the fiesta event is a “social system [of] personal, mutually dependent relationships based on reciprocity” in addition to the competitive tones of the ritual. An identical description can be applied to pre-Hispanic feasting. Fiestas and feasting, however, are not one in the same or one a continuation of the other. They are cultural activities that have overlapping themes and functions.

3.4 **Status as Process and its Material Evidence**

Trends in historical archaeology that acknowledge the complicated creation of identity allow us to deal theoretically with colonial contexts without falling into superficial status formulations. In other words, the archaeology of rank and status are very useful to identify social differences, but they are not explicit in handling the changing uses and meanings of material objects within transitions of how power is negotiated (Orser 2010: 126). For example, initial steps to understand culture change involved calculations of assimilation and acculturation (Deetz 1963; Farnsworth 1992; Smith 1987; White 1975); but which largely assumed a one-way street of culture change.

Embracing the anthropological understanding of social identity as overdetermined, meaning that identity (including social status) are composed of many factors simultaneously and that many cultural meanings can be simultaneously held regarding one object, moves archaeologists from categorizations or changing ratios of social organization and inequality to

what Voss (2008: 5) advocates as understanding status as a social process and not a static position; and further that identity is constructed via power negotiations situated in unique histories (Voss and Allen 2008). Understanding that status is a continual process (Orser 2010: 125), allows archaeologists to see theoretically the changing role of materials, that are seemingly identical, over time and space.

Silliman (2009: 213) refers to the issue of simplistic categorization of cultural material in colonial contexts, in which items are labeled as indicative of “Native/Indigenous,” “European/colonist,” or a hybrid artifact. For example, Quimby and Spoehr (1951) conducted a study based on museum objects, calculating the ratios of acculturation based upon these labels. The issue becomes complicated in situations in which a clear dividing line is not present, such as in the case of artifacts shared across ethnic boundaries. Silliman gives the example of glass beads from Europe that are often categorized by archaeologists as being from indigenous contexts, causing confusion in the labeling process between “origin” versus cultural identity. In a similar manner, Turgeon (1997) found that kettles found in archaeological contexts in Quebec are assigned as European in origin, but that this designation hides its incorporation into the cultural identity of the indigenous population.

In an attempt to move beyond the cultural identities of objects as “a given,” approaches that incorporate theories of agency, practice, and memory have been advanced (Silliman; 2009; Nilsson Stutz 2003; Lightfoot et al 1998; Ortner 1984; Robb 2010). As Hegmon (2003:219) summarizes, the writings of Bourdieu (1977), Giddens (1984), and Ortner (1984) are largely used to focus attention on agency in the archaeological record. Agency can be defined as “a socially significant quality of action” (Dobres and Robb 2000: 8-9), which Giddens (1984)

maintains is inherently linked to social structure. In this way, agency is not necessarily linked to motivation, but to an ability to act in a particular way. Discussion of agency is commonly used in understanding increasing social complexity, in veins similar to Hayden's aggrandizer's concept (Pauketat 2000; Cobb 2000; Arnold 2000), but also in understanding cultural change and continuity (Silliman 2009; van Dommelen 2006; Thomas 1994; Jones 2007).

Practice theory, in regard to the analysis of archaeological material, focuses attention on the way in which an item is used, as those uses can change considerably with time and between cultures, and the item will only have meaning within a particular cultural context. For example, Loren (2008) explores the cultural meaning of bells in French Louisiana, in which she presents as the study's focus the importance of the cultural practice - making sounds and their effect - while relegating the actual material to the background. Social memory is also an important consideration in determining the cultural meaning of an artifact (Moshenska 2009; Lillios 1999; Shakel 2001; Harrison 2005; Alcock 2002). Simple binary categorization does not take into account the duration of an artifact's use within a community, and thus if a community still recognizes it as foreign. Harrison (2002) presents an interesting study of metal artifacts from post-contact indigenous sites in Australia. While some of the metal studied was manufactured by the indigenous population, some items were of colonist origin. Harrison writes "Although these items could not be identified as 'Indigenous objects' on a basis of an analysis of their form or fabric, informants nonetheless perceived many of them to be 'Aboriginal' artefacts" (2002: 72). Thus in a relatively quick time span, foreign objects can be assimilated into cultural identity.

While facilitating a flourish of archaeological investigation, Hegmon (2003: 219) writes that studies of agency, practice, and we can include memory, often diminish the “embeddedness” of agency within structure. Thus it is important for the investigator to find avenues which allow movement between notions of agency, which involve practice and memory, and the social structure theories provided by the archaeology of rank and status.

3.5 **Conclusion: Investigating the Relationship between Philippine Prestige Goods and Social Organization over Time**

The theories described in this chapter are the basis for interpreting how the spatial distribution of prestige goods not only indicate social organization and social inequality, but suggest explanations for those changes and differences in the cultural meanings of prestige items within different socioeconomic contexts. The first step of my analysis, described in Chapter 7, is to describe the role of imported ceramics within the prestige economy of the Malangwa watershed over time. I suggest that the distribution pattern found during the Early Historic Period is similar to other regions of the same time period, in which conspicuous consumption and costly signaling were important aspects of developing and maintaining sociopolitical power. In addition to other vectors, signaling with imported ceramics was important in Early Historic chiefdoms. I further argue that pressures of the *encomienda* system intensify the spatial distribution of prestige wares during the Early Colonial Period in the Malangwa watershed because *datus* continued to have access to traditional routes of power and thus increased their use of conspicuous consumption and costly signaling with luxury items to secure their power – and thus their ability to organize tribute both for themselves and their

encomenderos with more laborers to produce goods and lesser elites to help orchestrate this process.

The complete disruption of this system during the Late Colonial Period is not surprising given the abundance of historical literature documenting the restructuring of indigenous subsistence, tribute, and prestige economies, including on Negros Oriental. Interestingly, although there is a trend after the 18th century away from the use of Chinese porcelains and towards the use of European wares as elite status markers, Chinese porcelains do continued to be used as luxury items – as do imported ceramics in general. The continued use of specific items as prestige markers over a significant economic transition allows an opportunity to explore how the meaning of prestige items change with changing economic bases.

While agency or the process of identity creation are not in and of themselves the focal point of my study, their formulations allow me the theoretical threads from which to explore the changing cultural uses and meanings of historically known prestige goods that indicate particular socio-economic statuses. Restricted to only theoretical frameworks of rank and political economy would circumscribe a study of prestige goods over time to categorizing what materials were available, and the quantity and quality of materials that correlated to particular ranks or statuses. Recognition that status is a process, that it is “overdetermined,” and involves agency, practice, and memory embedded and inseparable from social structure means that there is potential for that process to be examined, in this case the changes and continuance of objects uses and meanings in the colonial period that had been associated with elite status in the era before Spanish arrival.

I use the concept of overdetermined identity, which is represented in the practice of material culture, to argue that an understanding of the changing meaning of imported ceramics in the Malangwa watershed from the Early Historic through the Late Colonial period is possible to ascertain from the spatial patterning of their landscape distribution. While specific cultural meaning would require household level analysis, a regional scale analysis indicates the nature of goods distribution, and thus the social connections required to obtain foreign goods. I argue in Chapters 7 and 8 that the patterns of prestige good distribution during the Early Historic and Early Colonial Periods is akin to other Early Historic settlement systems, like at Tanjay and Cebu, where elites facilitated the importation of goods and distribute them to lesser elites. The spatial patterning of imported ceramics exhibited in the Early Historic and Early Colonial Periods is not detected during the Later Colonial Period. I argue that the new pattern indicates not only a change in prestige ware procurement, but also a shift in prestige good meaning, one which no longer emphasizes sociopolitical status, but which emphasized socioeconomic status; and that past connotations between luxury wares and community and interregional alliances were largely removed in the new money economy.

While this chapter focused on internal social relationships, in the following chapter I discuss models of societal interaction at the macro-regional scale. As will be drawn out in subsequent chapters, there are important correlations between social organization and the characteristics of a society's interaction with other regions. My findings described in Chapter 7 will demonstrate the immense influence of being drawn into the modern global system; as areas of the Philippines, like the Malangwa watershed, are able to better negotiate their peripheral position within the Spanish Colonial system while they are able to retain access to

indigenous routes to power. Their ability to negotiate their socioeconomic position with Spain and other international powers, however, is severely hampered when power in the archipelago is realigned to those owning the most land and amassing surplus monetary wealth.

4. THE ARCHAEOLOGY OF SOCIAL INTERACTION IN THE SPANISH PHILIPPINES

Archaeologists rely on a number of models to understand exchange relations among different polities. World Systems Theory, with its core-periphery model, and the Peer Polity Interaction Model are well known and are employed as models of polity interaction. There are others, such as interaction spheres and cluster interaction that made significant contributions, but have not proved as robust as modified versions of world systems theory and peer polity interaction. Previous to Spanish arrival, interaction among Philippine chiefdoms can be understood through the Peer Polity Interaction Model, with its power to explain the allying and competing characteristics of similar polities. The region was also engaged within the South China Sea-Indian Ocean trade network, lending it a peripheral position in an “Afro-Eurasian world economic system” (Skowronek 2009: 472). Expanding upon Immanuel Wallerstein’s World Systems model suggests core-periphery relationships were present among regions previous to the 15th century. These include a Chinese economic core between the 10th and 16th centuries with the Philippines as one of its peripheral regions, creating a “reciprocal minisystem.” The original, World Systems Theory, however, was initially developed to explain the beginnings and expansion of capitalism during the 16th century, and is a robust model for understanding the Philippines as a periphery to the European core, in which the archipelago was exploited largely for its geographical position during the Early Colonial Period and then for agricultural and natural resources by the Spanish after the 18th century. However, drawing the Philippines into the global world system took time, particularly in colonial frontiers, such as the Malangwa watershed. This means that the Peer Polity Interaction model is still informative in

explaining the socioeconomic trajectory of many Philippine polities well into the Early Colonial Period.

4.1 Peer Polity Interaction

Peer polity interaction is a model developed primarily by Colin Renfrew (1975; Renfrew and Cherry 1986) to deal with an “intermediary” level of interaction and as a way to provide an explanation of social change that gave equal weight to internal and external forces, what Renfrew and others refer to as endogenous and exogenous forces. The level of interaction that concerned Renfrew was between relatively similar polities, at least in regards to complexity, that were situated within an explicit, bounded region. Perhaps making this definition of “equivalent polities” more clear, is Renfrew’s inspiration of developing Greek city-states in the first millennium BC. These polities were separate, autonomous societies that shared many cultural characteristics. The intermediary descriptor of this model is apt because higher level interaction denotes an interdependence, and thus more frequent and involved interactions, than does the peer polity model; further, lower levels of interaction may deal with more dissimilar groups that do not share the degree of interaction as envisioned by Renfrew.

Peer polities are geographically close, yet separate sociopolitical groups forming an exchange network that includes goods and ideas. They are not necessarily interdependent, as one would expect at the level of a world system where there is a notable division of labor among polities. In fact, economic exchange accounts for only a portion of the interaction among peer polities. Renfrew (1975) observed that the emerging state level societies developed in regional groups. They also demonstrated parallel developments, such as: being close in size, having similarly structured political and social practices, and similar cultural values

and material styles (Cherry 2004). In order to explain the cultural changes that appear among related, yet autonomous and geographically related polities, the peer polity interaction model emphasizes the relationship between the polities, with focus on their interaction.

Examples of different types of interaction that led to parallel social changes include warfare and symbolic entrainment (Cherry 2005; Renfrew and Bahn 2001; Renfrew and Cherry 1986). If two related, yet autonomous polities engage in warfare with one another, the model posits that for both polities production of goods will intensify to support armies and to rebuild pillaged areas. The need to deal with both the organization and movements of armies and the direction of increased production will foster an atmosphere for hierarchical social structure. Thus, due to their warring interaction, similar social changes will arise at the same time in both polities. Symbolic entrainment is another type of interaction among peer polities in which one polity is more complex, in this case meaning having more internal social differentiation. The more complex society may have various innovations that the less complex society begins to implement after witnessing its stability within the more complex polity. Renfrew notes that these innovations can be symbolic or non-symbolic.

4.1.1 Material Culture Distribution and Peer Polity Interaction

These works (Cherry 2005; Renfrew and Cherry 1986) identify the archaeological evidence that accompany peer polity interaction as similar changes co-occurring within regional polities, such as analogous monuments, writing systems, status symbols, and rituals. Renfrew (Renfrew and Bahn 2001) neatly summarizes his and Cherry's 1986 publication, and its collection of articles, in textbook format to clearly explain the archaeological indicators of peer polity interaction. The eight indicators within archaeological evidence are: competition,

competitive emulation, warfare, transmission of innovation, symbolic entrainment, ceremonial exchange of variables, flow of commodities, and language and ethnicity. Just as with World Systems Theory, regional analysis of archeological remains, including settlement system analysis and spatial analysis, is the manner in which peer polity interaction and the nature of that interaction can be discerned.

The initial step of discerning peer polity interaction is to identify the geographic region of inquiry. Unlike world systems, peer polities are more highly correlated in geographic region; although the defined size of region may vary significantly (for example, valley basins may define the polity region or much larger macroregions), the boundaries of peer polities are usually relatively close. Large scale surveys designed to elucidate settlement patterns, and the analysis to understand the settlement system, are the first steps in identifying if polities are significantly similar, yet autonomous. Archaeologically, settlements may share a degree of cultural similarities (such as political structure and style of material culture), but will maintain their political autonomy and will not be completely interdependent economically. Thus there will not be evidence of an integrated governing hierarchy or of an economy so linked as to be considered as one unit. Regional settlement chronology will be imperative, as peer polity interaction is of course dependent on the sites being occupied at the same point in time.

There are a number of distributional analyses that can be undertaken to ascertain the distribution of traded and otherwise moved materials across the landscape. Analyses to determine differential access to goods at the polity scale, including spatial regression, spatial interaction models, and other strictly statistical tests can be employed on artifacts distributions as identified during settlement analysis. Cherry (2005: 150) notes that it is easy to get into

circular reasoning when attempting to use artifact distribution to support an argument of peer polity interaction—beginning with the assumption that societies are peer polities, and then arguing that because they trade with each other they are thus engaged in peer polity interaction, and so on. For this reason Cherry suggests that utilizing this model is best when historical records are available to validate the peer polity designation. He also warns that peer polity interaction is not a model that is intended to be used as a testable hypothesis, but rather a perspective of understanding how change occurred within polities.

4.1.2 Implementing the Peer Polity Interaction Model in Archaeology

Once settlement and spatial analysis of artifact distribution demonstrates evidence of co-existing settlements of roughly the same size that were politically autonomous and not completely interdependent within a dominance hierarchy, the nature of the interaction between polities can be assessed using Renfrew's guide. Here I will discuss two examples to demonstrate the model in action: Renfrew's original consideration of early Greek city-states and Laura Junker's investigation of Porcelain Period chiefdoms on the Philippine archipelago.

As mentioned above, the development of Greek city-states in the 1st millennium BC inspired Renfrew to consider interaction between polities (Cherry 2005; Renfrew 1975; Renfrew and Cherry 1984). The developing city-states were relatively small, individual polities. At this point in time, they were significantly uninvolved with large state entities in the Near East or Egypt, and could not be considered secondary state developments. The city-states were quite different in a number of ways, such as the resources that were locally available to each and their political traditions. They also had many similarities, such as social traditions and religious

ideology. Within this context and among many other indicators of different types of peer polity interaction, competitive emulation is readily apparent in their temple building programs.

Competitive emulation is the attempt to “outdo” your neighbor in “conspicuous consumption” (Renfrew and Cherry 1984). Sharing a number of cultural traits, and a demonstrated link through trade, the Greek city-states were obviously interacting with one another. Their temples even appeared very similar in form, such as being designed after the Doric or Ionic styles. This similarity helps to reinforce the notion that there was a movement of ideas and goods among the communities. The construction of a temple, particularly a monumental one, is an example of conspicuous consumption where materials and labor are channeled into the building of a prominent structure. Over time the polities built larger and larger temple constructions, while still remaining true to the traditional style and form. With many polities engaged in this goal, a number of co-occurring patterns are found in the material culture: their settlements had increasingly large temples, developments in engineering and design occurred, and social structures for the building and maintenance of temples also developed.

Another example is Junker’s (1999) investigation of peer polity interaction in the Philippines primarily during the Protohistoric and Historic Phases (AD 600 -1600). Her study of chiefdoms indicated competitive peer polity interaction, which showed a repeating pattern of polity expansion followed by fragmentation. She identified this pattern as political cycling was also found elsewhere (Junker 1999: 8; Marcus 1992; Anderson 1994). In addition, the polities themselves demonstrated considerable decentralization, creating little long term stability as political units (Junker 1999: 14); this pattern is congruent with many other Southeast Asian

regions. Leadership in these societies was secured with visual display of status goods, feasts, gift giving, and bride wealth accumulation in via polygamous marriage.

After her archaeological research in conjunction with her findings in historic records, Junker established that there was a significant increase in competition among Philippine chiefdoms in the 15th and 16th centuries AD (1999:17). Increased competition was accompanied by an increased use of foreign goods as prestige items, political expansion, and an increase in the complexity (in part meaning increased types of status and entrenched differences among those statuses) of some of the chiefdoms along the coast that engaged in foreign trade. These changes brought an increased use of prestige items that were recognized across polities, more competitive feasts, and intensified peer polity competition via raiding and warfare. Using the model of peer polity interaction, Junker is able to neatly assemble the types and repercussions of peer polity interaction among chiefdoms in the Philippines.

Based on this analysis she then looked for reasons for this interaction, which is not explained by the perspective provided by the peer polity interaction model. She concludes that it is competition for foreign trade among the polities that encouraged such interactions, a process she notes occurred in other regions at various time periods. What is particularly interesting about this example is that, like some other Southeast Asian examples, the Philippine chiefdoms were different from those found elsewhere, such as in Iron Age Europe. In Europe the process of political cycling eventually resulted in the formation of state level societies; whereas, in the Philippines they do not develop (Junker 1999: 87).

Like Renfrew, Junker is able to rely on historic texts to guide her identification of peer polities. Through archaeological excavation she verified the types of interaction present, and

eventually concludes how those interaction types arose. Her archaeological work is largely based on survey techniques: an analysis of settlement systems and spatial distributions of artifacts within and among polities to identify relations among those polities, particularly their trade relationships and the differential access to resources indicating power dynamics.

4.2 World Systems Theory

World Systems Theory was developed by Immanuel Wallerstein as a way to model the relationship between developing states of Western Europe and the West Indies (1974). He explained their relationship as an unequal power dynamic in which both were reliant on the other for trade. Together these societies form the components of one economic unit, a world system. Johnson (1999:80) writes that this theory was in part an attempt to unify systems theory with Marxist theory. Its implementation was truly intended by Wallerstein to explain the development of the European capitalist system, and not to explain systems of social interaction or exchange in prehistory. When applied as such, there are specific limitations to the theory; however, a number of archaeologists have been successful in gleaning new understandings of ancient political economies by using modified versions of Wallerstein's original theory.

An integral part of World Systems Theory is the dominance hierarchy within the groups that compose any world system. The higher ranked is referred to as the core, which is able to extract raw material from the periphery. Political leadership is also orchestrated within the core. The periphery, as the term indicates, are areas that are subordinate to the core, although they may maintain their own political structure that is subordinate to that of the core. Ellis (2000: 132) notes that built within Wallerstein's theory is the notion that with the increasing

development of the core, the periphery will not also develop—as some of the evolutionary bent may hypothesize—but rather becomes increasingly underdeveloped. The relative positions of either zone become increasingly exaggerated through time until the system collapses or roles shift. Another Marxist element of this theory is the social implication of the uneven exchange relationship, in which the core would extract new luxury and prestige goods from the periphery; while the periphery would likely develop new categories of elite status and perhaps its own “nascent states” (Johnson 1999:80).

While all the nuanced categories grouped under Wallerstein’s World Systems Theory revolve around interdependence of exchange, he designated three types of systems. The first is the reciprocal minisystem. In a reciprocal minisystem all individuals have the same access to resources. Trade is done in a reciprocal manner, in which the acknowledged value of items exchanged is equal. Second are world empires. Empires are described as having a centralized authority and administrative system through which high status individuals are able to secure wares from those living in the periphery zones. Wallerstein writes that this is done through tribute systems in which the central authority or ruling elites receive goods via tribute, meaning that these wares are claimed via threat of force, either physical or ideological. Finally, Wallerstein outlines a capitalist world market. He describes these as inherently unstable, with only the one of our modern era existing for any substantial amount of time. In a capitalist world market, markets in core centers are used to economically dominate the periphery. In this arrangement, the core buys unprocessed material from the periphery area for manufacture. Once the materials are processed, the core then sells the goods to the periphery.

While World Systems Theory has been used productively by a number of archaeologists, as will be discussed in examples below, there are a number of issues with applying Wallerstein's theories directly to the archaeological record. First, and perhaps the biggest hurdle toward operationalizing World Systems Theory archaeologically is that it was not intended as an explanatory tool for all pre-capitalist societies. Its intended purpose was rather specific, in understanding the rise of capitalism, particularly in Western Europe within the greater world context.

The second issue with using World Systems Theory in archaeological contexts is its emphasis on "bulk commodities" being moved from the periphery to the core to establish it firmly as a world system (Ellis 2000: 132). This is not always a common occurrence as examples will show, and thus it has been suggested by Schneider (1977) that a greater emphasis be placed on the movement of "exotic and precious goods" of which there is more substantial evidence in the archaeological record. Kohl (1978, 1979, 1987) writes that the commonalities found between modern world systems and ancient ones are likely superficial. He proposed that ancient core-periphery dynamics were likely much less stable than they are in modernity. Kohl also suggests that more political force would have been necessary to hold the economic system together than in more recent examples. Perhaps related to this last difference is the idea that ancient world systems would be less integrated without access to modern transportation and communication. A final problem with World Systems Theory is the *a priori* assumption that two interdependent social groups are always placed within a dominance hierarchy.

A number of these issues are addressed by Chase-Dunn (Chase-Dunn et al. 1991, 1993, 1995) in his revisioning of World Systems Theory which has been used to better accommodate

archaeological data. He proposes approaching intersocial systems without the assumption of a dominance hierarchy. Instead, Chase-Dunn suggests that such a relationship must be proven and not simply assumed. And although he does not assume this power dynamic, or that relationships between such intersocial groups are not solely economical, he couches his description within economical terms, maintaining the original economic base of Wallerstein's theory. Even with these adjustments, many archaeologists continue to have difficulty implementing World Systems Theory. This is mostly due to the scalar issues inherent with the core-periphery model that seem to render World Systems Theory too simple for modeling archaeological patterns at various scales. However, it has been used successfully applied at specific scales (Ellis 2000: 134).

4.2.1 Implementing World Systems and Core-Periphery Models in Archaeology

A strong example of a World Systems Theory implementation as modified according to Schneider (1977) is found in Blanton and Feinman's (1984) work in Oaxaca, Mexico. They write that the evidence they found in the Oaxaca Valley was only partially explained at the regional scale of analysis. After considering theories of empire and interaction spheres, these were rejected for not completely explaining the pattern of material culture. Even together these theories did not explain the political and economic relationships demonstrated by the evidence; nor did regional scale or environmental considerations seem to indicate reasons for change within the culture.

Turning to World Systems Theory, they noted that the Oaxaca Valley did not fit into Wallerstein's definition of a world system because of the heavy emphasis on the "manipulation of flows of material, energy, and people at the macroregional level" (Blanton and Feinman

1984: 674). The spatial distribution of archaeological remains did not support this model, nor was there a relatively clear, stable, supraordinate and dependent relationship among the sites, as would be expected in an unmodified version of the Worlds Systems Theory (Wallerstein 1974: 162). The Oaxacan archaeological record did not demonstrate the bulk flows of material, or capitalist economy to garner the title of world system. However, Blanton and Feinman found that the interaction of these polities did earn this title when one considers the large and lasting economic system at the “macroregion” level, particularly if one included Schneider’s (1977) modification to Wallerstein which posits that the movement of prestige materials may replace the movement of bulk goods. For example, they posit that the increasing popularity of cacao and its production was likely to serve the need for more luxury commodities as the core-periphery dynamic encouraged the development of elites in core zones (Blanton and Feinman 1984: 678). In addition, the shifting distribution of archaeological materials demonstrated that not only was core-periphery a good explanatory model for the data, but also that there seemed to be shifting core-periphery titles among the settlements over time.

Parkinson and Galaty (2007: 117) have also used World Systems Theory to incorporate a geographic analysis within their situating of Bronze Age secondary state formation in the Aegean within several explanatory models. They use this framework to identify Minoan palace sites as peripheries to the Near East and Egypt. Kardulias (2009) developed a way to consider internal, intermediate, and long distance scales of analysis. In this way, it is possible to understand the societies within the Bronze Age Aegean world through a core-periphery explanation; and also zoom out to a larger scale of analysis, such that the entire Aegean region could also be understood as a subordinate periphery as described by Parkinson and Galaty

(2007). This method helps to overcome the multiscale difficulties inherent in the original World Systems approach.

Kardulias and Hall (2008) support the continued use of world systems analysis, arguing that many archaeologists have over generalized its original conception, and paid little attention over the years to the work put into modifying its application (Wallerstein 2004). For instance, they are leery of the criticism often leveled at the original theory when employed for archaeological explanation that it is too coarse a tool for understanding variation at different scales. As a counterpoint, Kardulias and Hall write that it is possible to understand nuance within the periphery context if one understands their role, not as monolithically received and created by the core zone, but rather as the result of a negotiation. Viewing their place as developed through negotiation, they argue, allows the researcher to envision the nuance of the various scales of interaction occurring within the peripheral state.

An important part of Kardulias and Hall's argument, is that particularly when using World Systems Theory within an archaeological context, it should not generally be applied as the causative agent. Instead, he maintains that core-periphery conditions are "contextual or catalytic." This assessment seems to take the pressure off of Wallerstein's theory to explain every archaeological development as the result of the distribution of core and peripheries across a region. Kardulias and Hall are also successful at showing how robust newer World Systems Analysis can be when employed at the appropriate scale of research, arguing that neither a "bottom-up" nor a "top-down" approach is more analytically meaningful than the other (2008: 578).

4.2.2 Material Culture Distribution and World Systems Theory

When employing world systems models, there are a number of markers that would leave material evidence of core-periphery relationships between polities. First, all of the versions of world systems theory suggest that a world system is composed by socio-politically distinct entities that rely on one another for goods and services. Second, Wallerstein's original conception specified that trade in bulk goods was mandatory for world system classification; however, this was modified by Schneider (1977) to include trade in prestige or luxury items, a modification which has a good deal of support from the archaeological literature. Third, world systems were originally assumed to be composed of a socio-political entity labeled a core, which was dominant over periphery areas. This dominance was enacted as tribute extraction, largely in the form of raw materials from the periphery zone, and the centralization of political authority in the core. And lastly, Chase-Dunn's (Chase-Dunn et al. 1991, 1993, 1995) reworking of the theory removes the assumption of a dominance hierarchy and posits the possibility of a world system in which the components of the overall economic unit are on equal footing.

From the foregoing, it is possible to envision the differential distribution of material culture across the landscape would allow the recognition of a world system. Recognizing the archaeological evidence of World Systems Theory requires a large regional or "macroregional" approach as a number of interdependent groups must be identified. Differences among regional settlements must differ significantly enough to indicate separate political and social practices. This is established by surveying a region to complete a settlement analysis in which the "functioning systems of economic, political and effective relationships" within social groupings of people is investigated (Trigger 1967:151). A settlement analysis begins with a

survey to identify archaeological sites. The result of this work is a settlement pattern, an understanding of “the geographic and physiographic relationship of a contemporaneous group of sites within a single culture” (Winters 1969: 10). The composition of a settlement pattern can be interrogated to understand how its compositional parts work together, resulting in an understanding of the settlement system (Johnson 1972, 1977, 1980; Kantner 2008; Neitzel 2000).

Such surveys can be accomplished in a number of different ways, utilizing various techniques appropriate to the research questions, and time, manpower, and funds available for such work. These methods include aerial (Whimster 1989) and pedestrian (Ammerman 1981; Cherry 2003) survey, remote sensing (Clark et al. 1998), full coverage (Baker 1978; Billman and Feinman 1999; Pryce et al. 2011), random and systematic sampling (Junker 1999; Plog 1978), among others. This data can be used to compare the political and cultural materials of sites found within and between regions. Separate socio-political entities will engage in their own administrative practices and may participate in different social practices. The absence of unifying features, particularly such as evidence of one integrated political hierarchy, indicates that the settlements are separate socio-political entities. Attached to the concept of identifying separate socio-political entities on the regional or macroregional level, is the need to identify the interdependence of the societies, particularly in regards to trade. A world system is one in which the parts depend on one another to such a degree that they can be considered one economic unit, in which there is a clear division of labor. A part of this concept is the second characteristic of bulk good exchange, modified by the addition or substitution of prestige goods.

Archaeology has multiple methods of reconstructing trade networks and the distribution of goods. Methods include distribution analysis, identification of production areas, understanding craft production, and sourcing techniques; all of which have significant spatial significance. First, there are a number of distribution analyses that can be applied to trade items to elucidate the nature of the exchange network through which they passed. Among these analyses include, trend surface analysis, regression analysis, and fall off analysis (see Hodder and Orton 1976). Trend surface analysis is a method of spatial analysis that uses statistical measures to identify patterns in the distribution of an artifact type. Particularly within a geographic information system (GIS), these patterns can be easily visualized in a simplified map of the actual distribution of artifacts (Connolly and Lake 2006). A graphic display of the relative frequencies of artifacts found in their geographic contexts allows for a comparably quick assessment of how goods are moving through a region and what kind of exchange system may be employed. Regression analysis can be used in a number of ways, for instance an artifact's provenience can be recorded according to the distance from its source to graphically illustrate how materials are moving through a landscape. Fall off analysis is another variant of these methods; an example includes graphically correlating the amount of a material found according to the distance from its source. Instances in which the resulting graph is not a smooth diminishing from the source is an indication that some exchange system other than down the line trade is operating.

Third, a dominance hierarchy exists among the socio-political entities in Wallerstein's original theory, with more power assumed by the core, and less for the peripheries. Power itself has indirect markers in the archaeological record. However, a close investigation of the

differential access to resources is a good indication of power differentials. People with more power, and likely more wealth and prestige, will have better access to natural, produced, and social resources. This is often identified archaeologically as an uneven distribution of materials across the landscape (Binford 1962). For instance, in an urban setting one would expect elite residential areas. Within the bounds of these areas, a greater quantity of artifacts and a higher quality of artifacts would be expected than in non-elite residential areas. A number of statistical analyses are useful at identifying the presence of unequal distributions; such analyses include chi-square and Mann-Whitney U tests (Kvamme 1990; Whallon 1987); and also spatial statistics—easily employed via many common GIS packages—such as spatial regressions and spatial interaction models (Connolly and Lake 2006; Gaffney and Stancic 1991; Hunt 1992; Wheatley and Gillings 2002).

The same methodological approach can be taken to the “macroregion” scale, where instead of comparing households or neighborhoods, entire regions can be compared. The goal is to identify significant differences in the distribution of goods, which would in turn indicate differential access to resources on a regional scale. If the areas have already been established as being interdependent economically, then differential access to resources indicates a power or dominance hierarchy within the group of sites within that larger region. The area with an increased access to resources would be labeled the core and the areas with less access, the peripheries. Archaeologically identified core-periphery relationships tend to engage heavily in exchange for items with prestige value for the elites in the core zone. Thus the movement of exotic and potentially prestigious goods must be traced to help identify a core-periphery relationship. Both distribution analysis and sourcing methods would be helpful in identifying

the movement of bulk and prestige goods within a potential world system. Although as some have pointed out, sometimes these relationships are more complex than the simplistic model of one core and its peripheries, such as the multiple, shifting cores found in the ancient Oaxaca Valley of Mexico (Blanton and Feinman 1984), or attempting to deal with negotiated power within periphery zones (Kardulias and Hall 2008; Morrison 2001).

As part of the core-periphery hierarchy established by Wallerstein, the concept of tribute is integral. To be a core area entails the extraction of goods and services from the periphery to the detriment of the periphery. Wallerstein makes clear that this is accomplished by imposing tribute systems in which the core forces the periphery to supply tribute in the form of goods, particularly raw materials, and prestigious items as suggested by Schneider, by physical, economic, or social threat. This would be indicated archaeologically by an unequal distribution of exotic goods, perhaps chiefly prestige goods, within the two zones. Thus the core would have a higher proportion of highly valued exotic raw or prestige goods from the periphery compared to any goods in the periphery that originated from the core. It is important to stress that there would likely be artifacts originating from the core in the periphery as World Systems Theory calls for the expansion of an elite class in the periphery once engaged in a world system with a core region. Wallerstein even suggests the development of nascent states in periphery zones due to this interaction.

Finally, Chase-Dunn suggested a modification to the original World Systems Theory that would significantly alter how an archaeologist would go about identifying one from material spatial distribution. He suggested that it was inappropriate to assume *a priori* a dominance hierarchy within every world system. He envisioned the possibility of separate socio-political

entities that were interdependent upon one another economically, but that shared equal power. According to Chase-Dunn, equal power must be assumed as the null hypothesis until evidence to the contrary is provided. Archaeological identification would require the regional settlement approach which identifies separate socio-political entities relying economically on one another, yet which do not display differential access to goods on the polity level or evidence of forced extraction via tribute.

Chase-Dunn's argument is useful for understanding the relationship between China and the Philippines between the 10th – 16th centuries, a period in which Bergesen (1995) and Franke (1995) argue that Asia dominated the world economy with China as a primary core region. The large scale state organization of China and mainland Southeast Asia assured socioeconomic dominance over the fragmented chiefdom polities of the Philippines previous to the 16th century. However, the significant distance between China and the Philippines impeded direct Chinese coercion of Philippine regions into true tributary relationships. Junker (1999: 96-113) summarizes Chinese records of various "tributary missions" from the Philippines to China, even though the Philippines were not under direct Chinese control. From the 10th to the 14th centuries, Chinese-Philippine trade increased (Junker: 1999: 189-194), with the Chinese producing a varied array of exports that would be of interest to Philippine *datu*. Chinese attention to the heterogeneous interests of the Philippine region and the Chinese state's tolerance of private trading vessels to conduct trade in the archipelago, support the absence of the coercive tributary relationship required for Wallerstein's original core-periphery relationship.

Rather, the social and economic pressures for both the Chinese and the Philippine polities to obtain foreign trade goods fostered a reciprocal minisystem in which people of both

regions retained relatively the same access to foreign resources. Chinese attempts to intensify state control of external trade (Junker 1999: 194-195) included homogenizing export products of lower quality, while continuing to offer high quality wares destined for foreign elite, and an endeavor to end private trade. While the Chinese demanded and received missions from their supposed tributary regions, they remained unable to enforce tribute via force. It is not, therefore, until the Philippines is subdued by the Spanish and drawn into Spain's efforts to capture Asian trade (Skowronek 2006: 472) that the archipelago becomes engaged in the World System envisioned by Wallerstein.

Spanish Colonial Philippines is clearly a peripheral region to Spain's core within Wallerstein's original formation of the World Systems Theory. As detailed in Chapter 2, Spain first sought to exploit natural resources from the region as it had in Mexico. Unable to find desirable quantities of precious materials, exploiting the geographic relationship between China and Mexico became primary concern until it became profitable and politically conducive to create a commercial agricultural economy. In this study the concept of the "negotiated periphery" (Kardulias and Hall 2008; Morrison 2001) becomes of particular interest, as the Malangwa watershed is within a grey borderland of Spanish Colonial power from the later 16th through the 18th century. As will be discussed in later chapters, the communities of the Malangwa watershed, while being drawn into the modern world system, continued to engage in peer polity interactions that explain the intensification of indigenous prestige economies while producing goods for subsistence and tributes during the Early Colonial Period. Their ability to negotiate encroaching Spanish demands diminishes significantly after *haciendas* and logging become the defining economies of Negros Oriental, converting the population into

producers for the world market. And it is only after the late 18th century that the social organization and peer polity interactions which are characteristic of the preceding Early Historical and Early Colonial Periods changes drastically.

4.3 Conclusion: Implementing Interaction Models with Spatial Analyses

To identify any interaction model, regional perspectives must be undertaken in order to assess the relationship of polities within those regions. Initial steps almost always involve an archaeological survey of the area. Random, systematic, and sample surveys are all proven, robust methods for accomplishing this task. The identification of separate polities is the next analytical step to understanding interactions among those potential polities. Settlement pattern and settlement system analysis, which look for unifying features and differing traits, are important. Finally, a strong grasp of the distribution of archeological remains, including site size, location, features, and artifacts is important in defining polities, their composition, and their interactions. GIS is the necessary tool for effectively dealing with such geographic data and running of statistical analyses. With these tools and techniques archaeologists are able to interrogate various models of interaction by assessing the spatial distribution of archaeological remains to ascertain the nature of exchange and power dynamics across the landscape.

The following chapter introduces the theories behind the spatial methodologies used to assess the archaeological remains recovered in the Malangwa watershed. The theories, techniques, and technologies presented demonstrate that GIS provides a valid way in which to produce data appropriate for the application of the anthropological theories presented in these chapters on social organization and interaction from material culture.

5. SPATIAL APPROACHES TO REPRESENTING THE HUMAN EXPERIENCE

5.1 Introduction: Using Spatial Theories and Techniques to Understand Social

Organization and Prestige Economies in the Philippines

Based on the historical, archaeological, and ethnographic literature presented in Chapter 2, I suggest that during the Early Historic Period the settlements of the Malangwa watershed were likely socio-politically integrated like other contemporaneous Philippine regions, although not on the scale of chiefdoms based in large trading port settlements. The location of the watershed near the specialized raiding sultanates of the Sulu and Mindanao, in conjunction with a lack of a protected harbor, or substantial agricultural surplus or labor force to produce such surplus – the indigenous populations of Negros Oriental were not subjected to resettlement and were not greatly affected by early Christianizing efforts. They were subjected to the *encomienda* system, but I suggest that this limited Spanish involvement did not fundamentally change the social organization, as it did in the lowlands of Luzon and Cebu – and that this will be evident in the spatial distribution of the imported ceramics, which represent the prestige economy.

In Chapter 3 I review archaeological approaches that identify social organization, particularly in regards to the complex, stratified societies of the Early Historic Philippines, which are historically recorded and that have been archaeologically investigated. My first analytical objective in Chapter 8 is to compare the social organizational evidence presented in Chapter 3 according to the historic trends presented in Chapter 2 in order to identify similarities and differences in the Malangwa watershed evidence. To make this comparison, I use the spatial analyses described in Chapter 7. As there still remains some debate as to the validity of GIS

technology and spatial analyses in representing and understanding human experience, I first situate these techniques in light of their development for use in the social sciences in this chapter. My main points are that the connection between spatial technology and positivism is a historical – not inherent – phenomena; and that because all representations – qualitative description and quantitative analysis – are *partial*, GIS is no poorer a tool for understanding human behavior than other means.

I also hypothesize, based on the literature presented in Chapter 2 that the spatial distribution of imported wares would differ significantly during the Late Colonial Period, and that from this difference inferences could be drawn regarding the cultural meaning of prestige objects among the three time periods. This chapter describes the utility of spatial approaches in connecting practice theory, described in Chapter 3, to social behavior – particularly in its conception of time – in understanding cultural meaning. The discussion also establishes the importance of investigating ephemeral phenomena like meaning, as opposed to ignoring historical ‘noise’ in search of grand, overarching behavioral patterns.

In addition to addressing the validity of spatial techniques, this chapter also introduces theories from the field of geography dealing with the articulation of geography with economy. The current debate in geography is whether the “deep determinants of economic development” (Bosker and Garretsen 2008: 295) are due to institutions (historical events and social systems) or current geographic relationships, with many researchers leaning toward the importance of institutions (Hall and Jones 1999; Acemoglu et al. 2001; Easterly and Levine 2003; Rodrik et al. 2004). As will be described, the influence of these articulations always deemed “rugged terrain” as problematic for a successful economy, with success defined as a profitable

relationship with the global capitalist economy such that a region is not “underdeveloped” or “undeveloped.” However, this study indicates that the success of indigenous communities – defined as the continuation or intensification of an economy address the subsistence needs of the community, rather than a financially profitable relationship to the global capitalist system (Cancian and Meyer 2004; Livermore 2011) – was dependent upon its rugged terrain and geographic context; suggesting that from an anthropological standpoint, the primary relationship between geography and economy is culturally relative and historically contingent.

5.2 **Conceptualizing Space**

5.2.1 **Conceptualizing Space in the New Archaeology**

The “New Archaeology” of the 1970’s, borrowing heavily from the “New Geography,” defined landscape as the physical environment within which people live (Roberts 1987; Preucel and Meskell 2004). Research was geared toward identifying settlement patterns and artifact distributions so that cultural traits could be ordered according to rigid models meant to reveal social organization (Dunnell 1978; Parsons 1972; Chisholm 1962; Hodder and Orton 1976; Vita-Finzi and Higgs 1970). Geographic models tailored for archaeological explanations included: central place theory, nearest neighbor analysis, spatial modeling, and statistical analysis (Blake 2004: 232). Like the New Geography, researchers fashioning themselves practitioners of the New Archaeology allied themselves with positivist methods and embraced technologies that produced quantifiable results.

By construing the environment as a stage for human activity, many archaeological studies emphasized the influence of the environment in choosing settlement locations and in cultural adaptation. To be sure, this formation of the New Archaeology was also heavily

influenced by the earlier work of Julian Steward. Steward's study of Native Americans in the American Southwest formed the basis of his supposition that culture change is caused by a society's ability to adapt to the physical environment. The task of cultural ecology, he wrote, is to "study [those] processes by which a society adapts to its environment" (Steward 1968). According to cultural ecology theory, the physical environment is not the progenitor of various cultures, but greatly influences them. Thus it was imperative to identify why, given similar environments, different cultures adapt differently.

This conception of environmental influence on human populations had tangible repercussions in archaeology, well demonstrated by Lewis Binford (1965:205) who later had Steward in mind when defining culture as an exosomatic means of adaptation. This reasoning also served as the basis for later articulations of evolutionary archaeology, using biological evolution as a metaphor for cultural change as adaptation (O'Brien et al. 2003; Shennan 2002). Along with these introductions, however, came ahistorical assumptions of environmental determinism and a clear distinction between human and environment.

A critic of Steward's brand of cultural ecology, Roy Rappaport's *Pigs for the Ancestors* (1968) also incorporated an ecological framework. Contrary to Steward's understanding of culture as something separate that reacts to the physical environment, Rappaport envisioned populations—not cultures—to be the appropriate units of anthropological analysis (1968: 18). This line of reasoning incorporates human populations into the ecosystem, placing them as a part of, instead of *apart* from, the ecological system. This conversation with Steward marks an important hallmark of human-environment studies, in which the definitions of culture and nature, and their production, are debated. Rappaport's understanding of human populations

was that they react to stimulus in ways similar to any other part of the ecosystem, and through constant feedback loops, nature is in homeostasis and is self-regulatory—in other words, it is a system. Rappaport identified the Maring's ritualistic slaughter of pigs in New Guinea to be an institution that mediated warfare, food distribution, and domestic practices (Biersack 1999: 6). To him this institution was a system in which the ritualistic slaughter of pigs was the answer to appeasing domestic relations when their maintenance became too burdensome, ensuring equitable food distribution, but one that also ceased peaceful living conditions between groups.

While bringing a new perspective to ecological theory, Rappaport's brand of ecology situated culture as something important only in terms of population biology, a part of a system in which a collection of functional responses is the definition of a society; instead of Steward's ecology which labeled nature as something which influenced culture, of which people were the progenitors. As part of this criticism, which is explained well by Robert Murphy (1970), also came Andrew Vayda's critique of the unit at which culture is interpreted. As already established, Rappaport emphasized the population as a unit of analysis and which functioned as a cog in the greater ecological system. Vayda (1996), however, contends that it is the individual that introduces adaptation, and therefore it is the individual that is the appropriate unit of analysis. In this way, culture is important beyond its relation to population biology. Thus in response to Rappaport's functional biological interpretation of human-environment interaction, were calls of biological determinism and losing individuals within cultures as units of analysis. Upon further reflection, Rappaport (1999) refined his ecological concept, situating human life between culture and nature, so as to remove the previously deterministic environmental relationship he had suggested.

Continuing the dialogue on human-environment relationships, Karl Butzer (1982) discussed the archaeology of the human ecosystem. To study human cultures and its environments, Butzer writes that it is imperative to have an understanding of environmental systems (1982: 14). These environmental systems are not only composed of the preexisting physical attributes of nature, but also the physical and spatial characteristics of human communities. In this way, Butzer asserts that people are in fact also responsible for part of the creation of the environment in which they live. This view is quite contrary to the view that the environment is an objective entity to which human populations react; instead, people are in part responsible for the creation of their own ecosystem.

These views were ultimately critiqued for their restricted view of how culture and nature are related. Bryant (1998: 81) draws out that these types of analyses have similar fundamental issues. First, they assume that human culture adapts to the ecosystem within a closed system. This means that interpretations do not consider things like politics in understanding the relation between culture and the environment. This in turn leads to minimizing the role of individuals in dealing with the environment and resource procurement issues.

5.2.2 **The Post-Positivist 'Spatial Turn'**

The zeal for processual or scientific studies ultimately underwent a critical backlash inspired by post-colonialist, feminist, and Marxist frameworks (Cosgrove 1984; Gosden 1989; Tilley 1994; Bender 1998). These post-positivist critiques were used across social science disciplines, in part, to springboard concepts of 'place.' The landscape, previously conceived as a physical container void of meaning upon which human actors lived, became active. Intensive

focus on the relation of culture and the environment is part of the core of anthropological archaeologist Carole Crumley's edited volume *Historical Ecology: Culture, Knowledge, and Changing Landscapes* (1994). In her introduction to the collection, Crumley identifies historical ecology as "the study of past ecosystems by charting the change in landscapes overtime" (6). Within this definition her use of the word landscapes is key. Earlier in her text she refers to another work to define landscapes as "the material manifestation of the relation between humans and the environment" (Marquardt and Crumley 1987: 6). A similar definition comes from Balée and Erickson (2006: 1) as "focus[ed] on historical landscape, a multi-dimensional physical entity that has both spatial and temporal characteristics and has been modified by human activity such that human intentions and actions can be inferred...from it." The concept of an active historical landscape is a central component of 'place-making.'

Gideons (1985: 271) refers to place as "all social and physical surroundings, natural and constructed space." Physical coordinates aside, spatial analysis during the 'spatial turn' "tended to the metaphorical, as we adopted the idiom of borders and boundaries, frontiers and crossroads, centers and margins" (Halttunun 2006: 1). Edward Soja (2001: 4) succinctly describes the transition as "space more significantly viewed as a complex social formation, part of a dynamic process." Post-positivist scholars argued that place, not space, was the critical geographic concern of the social sciences.

The incorporation of postmodern and postcolonial critique has prompted the historical contextualization of place, deconstructed western modes of knowledge, recognized that social relationships are defined by negotiations of power, and provided the forum for alternative histories (Cummings 2008, Thomas 2004; Tilley 2008). Barbara Bender, Sue Hamilton, and Chris

Tilley (2007) provide a case in point with *Stone Worlds: Narrative and Reflexivity in Landscape Archaeology*. In *Stone Worlds*, the authors eschew the “standard archaeological texts with their plans, diagrams, and figures” because these methods are not “transparent, neutral, and value free” (27). They embrace narrative and reflexivity by explaining decision making processes and employing thick description of their contexts, including transcribed conversations, journal entries, and photographs. Like other post-positivist works, quantitative methods are considered deceptive in the authority they imbue, and by extension the researchers that utilize those techniques. Bender et al. do include numerous figures and plans, unable to completely disentangle from the authority of the academic schematic, but weave their research narrative into their study to create a work that allows the reader to judge the accuracy and precision of the authors’ claims.

5.2.3 **Spatial Technologies and the ‘Spatial Turn’**

This pendulum swing toward the qualitative destruction of the authoritative academic voice was a backlash because it produced an incredibly strong association between technologies, such as GIS, with purely positivist measures. Huciguzeller adeptly found that “in counter-modernist, post-positivist research the technology has often been regarded as exclusively serving modernist aspirations and positivist research agendas, and adhering to cartographic, spatial-analytical and representationalist traditions” (2012:246). The works of Chadwick (2004), Cummings (2008), Thomas (1993, 2001, 2004), and Tilley (2004, 2008) continue to foster the conceptual tie between spatial and quantitative technologies with ahistorical, positivist and deceptively irrefutable and authoritative perspectives. In this way, geographers using quantitative analyses and spatial technologies were lumped into a single

positivist subfield within the discipline (Schuurman 1999, 2000, 2009; Crampton 2010; Harvey 2005; O'Sullivan 2006; Sheppard 2005). The schism between academic camps regarding how to conceptualize space and place with either quantitative or qualitative methods resulted, not from an intrinsic differentiation, but from the purposeful actions of the individuals composing those camps. Human geographers assumed that the quantitative capabilities of GIS technology would alter the social focus in the analysis of the construction of place, a niche that they worked carefully to develop during the 'spatial turn' (Harvey 1989; Taylor 1991; Taylor and Johnson 1995). Practitioners of the New Geography and Archaeology latched upon the computational capacities of GIS as an affirmation of their research in the face of the post-positivists' critique (Huciguzeller 2012: 248).

The breakdown of this association between tool and theoretical perspective is one of the most interesting contemporary developments across the social science disciplines. The most significant impediment to mainstreaming projects that tack back and forth between knowledge derived from spatial technologies and qualitative interpretation remains an epistemological stumbling block (Huciguzeller 2012: 249). Well into the 2000's authors continue to engage with the debate as to whether GIS creates an objective or subjective knowledge (Conolly and Lake 2006; Lake 2007; Lock 2003; Wheatley 2004). That GIS produced objective knowledge is well-documented as straw man argument, because it is accepted as a partial, biased, and subjective view of data deemed appropriate by the researcher. Therefore, authors that reject spatial technologies based upon their imperfect or subjective representations are prejudicing their own imperfect and subjective understandings of spatial phenomena (Castree and Macmillan 2004; Dewsbury et al 2002). Huciguzeller nicely sums this

reasoning: “since to represent is to differ (Doel 2010), or in other words, since there is no way of making a copy of the original (human experience), this was always going to prove a dead-end road, which, following Latour (2004:11), predictably involved the expenditure of considerable effort and ends in failure and unhappiness” (2012: 254-255).

And so the usefulness of quantitative methods has not been surpassed by the resurgence in qualitative understanding in the social sciences. In fact quantitative and spatial inquiry are even gaining traction in the humanities (Bodenhamer, Corrigan, and Harris 2010). Investments in multidisciplinary research, anthropological projects interweaving statistics with informant quotations, and forays into historical GIS indicate that the polemic stances assumed between positivist and humanist perspectives that characterized the social sciences in the recent past are receding. In archaeology this increasingly involves combining GIS derived knowledge with other forms of knowledge, a practice that while present since the inception of GIS technologies (Savage 1990; Harris and Lock 1990, 1995; Kvamme 1990), is becoming mainstream.

5.2.4 **Moving Forward: The ‘Temporal Turn’ and Practice Theory**

A continuing problem for those interested in describing ‘place’ is that it is constituted by “structure, process, and event” a triumvirate with which archaeologists, anthropologists, historians, geographers, and others are constantly engaged (Ayers 2010: 4) . Practice theory, as discussed in the previous chapter, is a robust framework, in which agency and memory are situated, such that “social power is best perceived in practice, not in categories” (4) and “the cultural and the material are parts of the same processes and structures, that they cannot be separated” (5). The new perspective that Ayers brings to the practice conception is a relation

to the post-positivist formation of place, in that “time in practice theory is less a unified field, a background, than an active participant in the story” (5). Theories of place and practice acknowledge active space and time as equally involved in the formations of human “action [as] constrained and enabled by the constitutive structures of their societies” (Sewell 2005: 110-111).

With this historical perspective on the development of space and place conceptions and technology’s role in that development, archaeological studies have a responsibility to avoid presenting the straw man polemic argument that positivist or post-positivist research is “less correct” than the other. Geographical representations will continue to grow in sophistication, but will never replicate reality; it is, therefore necessary to be explicit about, although not apologize for, the partiality of that representation. Nor is it prudent to ignore the unique, historical trajectories of social patterns as “noise,” as traditional evolutionary-bent researchers are tempted to do. On the reverse, given the understanding that all frameworks, including phenomenological approaches, are partial and not more ‘correct’ than the quantitative representations produced within a GIS, it is not advised to throw the GIS baby out with the positivist bathwater.

In light of this analysis, to understand the archaeological distributions of imported wares, which are commonly assigned the “elite good” category, an historical study that incorporates an understanding of material practice is used to contextualize an exploration of spatial autocorrelation of imported ceramics over three time periods. By embedding the quantitative spatial analysis within historical understandings of local socio-political and organizational responses to, and repercussions from Spanish colonization and Sultanate raiding and exchange,

the partiality of either view becomes explicit, but each also informs upon the other, producing new knowledge in both areas.

5.3 **Spatial Avenues for Archaeology Developed in Geography**

Geography continues to be a “bridging discipline” between academic fields as the “discipline most concerned with studying the relationships between the human and physical phenomena” (Brunn 2003: 11-29; Ayers 2010), and is continuing to provide insights into the investigation of spatial patterning for the social sciences and the humanities. A particularly rich set of tools, exploratory spatial data analysis and indicators of spatial autocorrelation, are well suited to archaeological objectives, and are poised to be necessary components of any archaeological investigation dealing with a horizontal distribution. While these techniques are described in Chapter 7, here I focus on work in the field of geography pertaining to how aspects of geography and terrain influence economic options and strategies in human populations, and how these approaches are specifically translated to archaeological cases.

5.3.1 **Geography and the Economy: An Archaeological Perspective**

There is an ongoing debate in geography regarding the relationship between geography and the economy, specifically the way in which geography influences the development of “contemporary economies” (Nunn and Pug 2012: 1). One camp argues that the major “channel” through which geography influences a developing economy is its direct articulation with the contemporary economy. This means that the central geographic influence of developing economies is the investment required to make them profitable (Kamarck 1976; Mellinger, Sachs, and Gallup 2000; Rappaport and Sachs 2003). For example, Gallup and Sachs (2001) and Sachs and Malaney (2002) suggest that disease prone areas are akin to geographies

with rugged terrain. Places with higher incidences of disease cause less productivity and fewer reasons to invest in the region, resulting in lower income levels. Similarly, the increased funding and labor necessary to develop rugged topography makes these areas unattractive to investors. The argument then extends that if additional funding is provided to support developing countries it would allow rugged terrains to be agriculturally cultivated, irrigated, and suitable infrastructure for their economies would begin to be developed, increasing their average income levels (Sachs 2005).

The counterargument is that the key “channel” of geographic influence on the economy is via the indirect repercussions of a geography’s history, which includes historical events and institutions. Like the example above, supporters of this line of reasoning have also worked in disease prone areas. Acemoglu, Johnson, and Robinson (2001) argue that disease ridden areas discourage colonial migration, and therefore inferior economic institutions develop. Easterly (2007) uses this argument to suggest that financial aid to developing countries would be wasted; this is because current impoverished economies are that way due to their history of institutional mismanagement and corruption, and funding these regions would not change their policies and could potentially worsen their economic issues.

Nunn and Puga (2012) investigate the “direct contemporary” and the “indirect historical” influences of geography to understand which is more integral to contemporary economies. They set their study in the countries of Africa, which suffered in varying degrees from 1400 to 1900 from slave raids. Flatter regions suffered more from these raids; whereas, rugged terrains help people to escape raiders and defend their communities. The more people taken in these raids and the more destruction caused in the process disrupted local economies,

which Nunn (2008) argues was due to a weakening of economic and political institutions and the resulting social fragmentation of those left behind. Currently, those rugged areas generally have better, more stable economies than to those areas devastated by the slave trade, even in the face of high agricultural costs and expense to move goods through those areas. To study the direct contemporary role of rugged terrain in African economies and the indirect role that history plays in their continued economic struggle, Nunn and Puga create a Rugged Terrain Index to compare how country wide indexes compare to the known historical events in each country. They found that both significantly impact modern African economies.

As suggested by Nunn and Puga's study, the influence of these two channels will vary by context, with both channels causing at least some influences in most cases. In this study, I do not directly test the degree of ruggedness in the Malangwa watershed or Negros Oriental. I use historical documents that indicate that the terrain and geography of the region were initially not of economic interest to the Spanish. I do, however, identify the degree to which minimal Spanish interference allowed the indigenous prestige economy to continue well into the colonial period. My interpretation of the analysis, presented fully in Chapter 8, suggests that in addition to understanding the role of geography in the development of economy, is important to not only address contemporary location and terrain, and history, but to incorporate an understanding that the definition of a successful economy is culturally relative. In the field of geography, as described above, the concern is from the perspective of the development of the global capitalist economy. When working with indigenous economies, the terms of success are measurably different; thus the same region – the Malangwa watershed – can be described as

having very different influences depending on whether one take a colonial or indigenous perspective.

5.4 **Conclusion**

The first point of this chapter was to establish the validity of the spatial approaches described in Chapter 7, particularly GIS techniques, to connecting the physical archaeological evidence to the historic trajectories presented in Chapter 2 and the anthropological theories presented in Chapter 3. It was also important to identify the importance of using archaeology and geographic techniques to study not only general cross-cultural patterns, but also historic events, such as the changing meaning of prestige objects in Philippines history.

Second, this chapter scrutinized the debate in geography that explores the relationship between geography and the economy. Ultimately, this conversation takes place within a modern context in which economic success is defined by a region's profitable relationship with the global capitalist economy, and thus "rugged terrain" is always negatively connoted, even when the functioning of institutions, that is an area's historical articulation, is viewed as the more impactful upon the economy. My work aligns with others, like that of Nunn and Puga (2012) that suggest positive repercussions within rugged terrain regions. While their work describes a past indirect, protective effect of rugged terrain from slave raiders which helps outweigh the current negative impact of rugged terrain on African economies; this study emphasizes the cultural relativity of economic success in which "rugged terrain" is not always a feature to eventually overcome.

The following chapter describes methods of data collection around the Malangwa watershed in Negros Oriental. The creation of a spatial database from the materials collected

in the field is also described. The methods, whose historical developments are discussed in this chapter, that are applied to the data from Chapter 6 are detailed in Chapter 7.

6. FIELD AND LABORATORY METHODS

6.1 Introduction

The previous chapters establish the complex social organization of economically and politically connected communities in the Philippines before European contact. Historical evidence indicates that particularly in Manila, but also in Cebu and other areas, Spanish colonial forces significantly disrupted indigenous institutions, potentially disrupting indigenous trade for most of the coastal communities on the archipelago. It is also apparent that some geographies were not economically interesting to the Spanish, whose early colonial objectives were largely restricted to the support of the galleon trade. The island of Negros, specifically the Malangwa watershed on the southeast coast, has largely been established as a “colonial backwater” (Newson 2009) during the Early Colonial Period due to its proximity to Islamic sultanates, relatively inhospitable terrain for growing crops, and particularly sparse population density (meaning small potential for a significant labor pool). For these reasons, I hypothesize: (1) Spanish activity in the area beginning after 1521 disrupted regional and interregional trade in the Malangwa watershed, thereby reducing the amount of ceramics imported into the area after the mid-16th century and (2) while the quantity of imported ceramics may have been fewer, their spatial distribution during the Early Colonial Period was similar to the spatial distribution found during the Early Historic Period owing to the rugged terrain and geography.

After the late 18th century, however, the economic goals of the Spanish for the Philippines changed. Looking to increase their revenue and participate in the emerging global capitalist economy, the focus shifts to developing cash crops for export as part of the Bourdon Reforms to move away from mercantilism. The island of Negros was transitioned from a

“colonial backwater” to a region of intensive economic focus and agricultural development. In addition, the Spanish opened the ports to direct international trade and indigenous and mestizo groups became fully immersed in a money economy. Given these trends, I hypothesize because international trade was allowed and personal relationships were no longer required to obtain goods, that (3) more ceramics were imported into the Malangwa watershed after the late 18th century and that (4) the spatial distribution of imported ceramics in the Late Colonial Period differs significantly from the Early Colonial Period.

To test these hypotheses, archaeological survey and excavation were completed in the Malangwa watershed, largely within the modern *barangay* boundaries of Bacong; and spatial analyses conducted on the recovered artifacts. To situate these findings in Chapter 7, this chapter introduces published archaeological efforts conducted on Negros Oriental before continuing onto a description of field work approaches and creation of an artifact database.

6.2 **Archaeological Research on Negros Oriental: 1970’s-1980’s**

6.2.1 **Dumaguete-Bacong Region**

Initial archaeological investigation in the Bacong area was undertaken in 1972 and 1973 (Tenazas 1974) (Figure 2). Excavation during this time yielded 8 jar burials, which seemed to vary in the amount and quality of goods associated with the deceased (Hutterer 1977; Junker 1999). The burials have not been radiocarbon dated, although the associated artifacts indicate burial between 200 BC – AD 900 (Mascuñana 1986:6) and a presumed correlated layer from another unit excavated during the later Bais Archaeology Project was radiocarbon dated to 90 BC – AD 540 (Bacus 1995). This evidence indicates human activity in the region prior to the archipelago’s formalized trade with the Chinese beginning around AD 1000. It also suggests, as

proposed by Hutterer and Junker, that different levels of social status could be achieved by those living in this period—a traditional archaeological indicator of stratified social organization.

The Bais Archaeological Project also conducted excavation in the general area of those carried out in 1972 and 1973, finding possible—if ephemeral—evidence of burials and potential prehistoric habitation (Junker 1985; Bacus 1995). Another potential case for Metal Age habitation was identified by Bacus (1996, 1997) closer to the coast at the site of Unto. At Unto eight Metal Age features were identified, with one feature producing two radiocarbon date ranges: 97 BC – AD 63 at a depth of 86 cm below the surface (cmbs) and 389-101 BC at a depth of 93 cmbs. However, more recent excavation of the Unto site was unable to identify any Metal Age contexts.

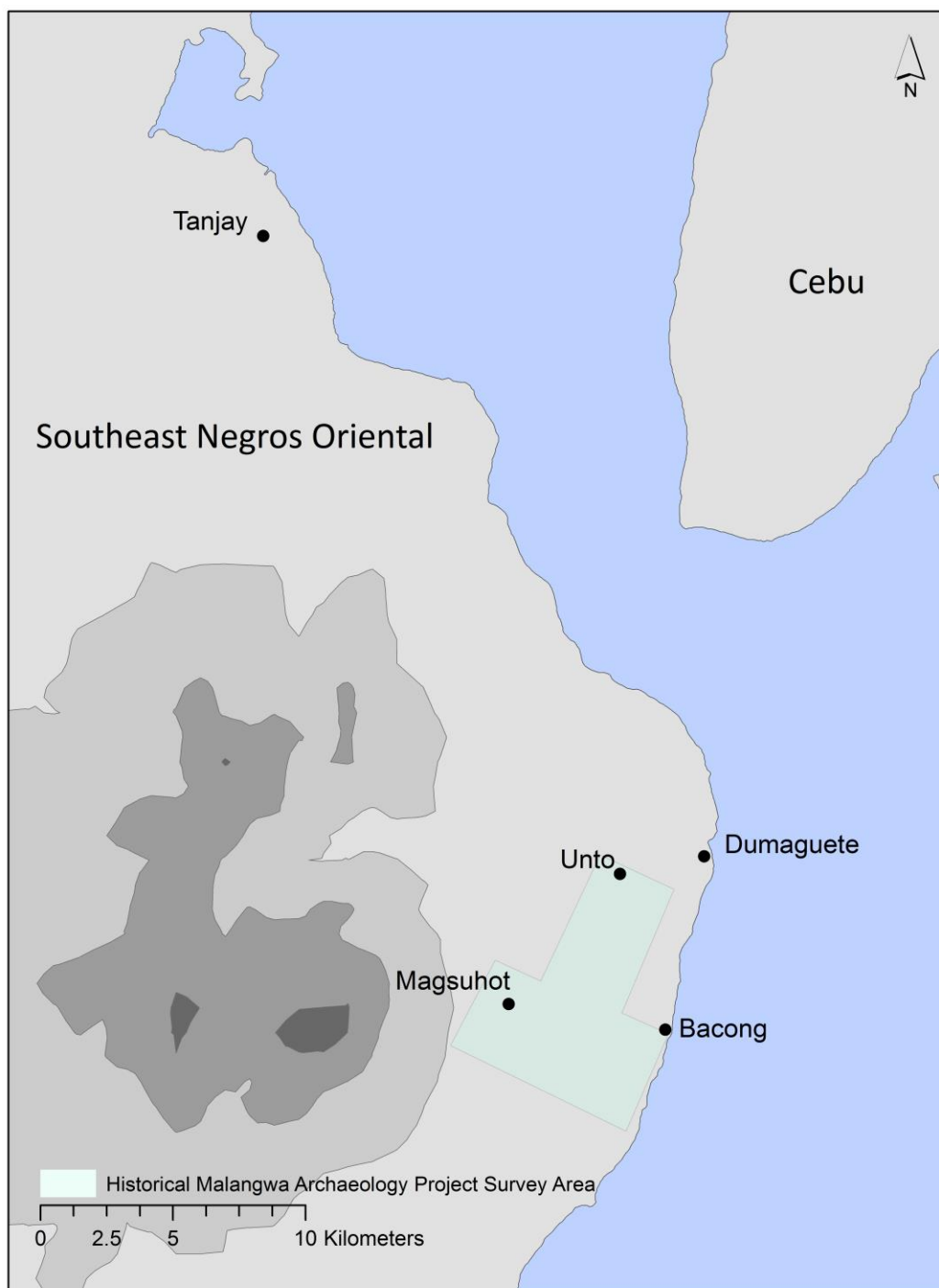


Figure 2. A map of areas previously investigated archaeologically on Negros Oriental.

6.2.2 Tanjay Region

An extensive regional archaeological study of the Tanjay region (Figure 1), roughly 35 km north of Bacong, began in the late 1970's (Hutterer 1981; Hutterer and Macdonald 1979, 1982; Junker 1990, 1993, 1994, 1999). The work involved both regional survey and excavations of settlements ranging from the large coastal center of Tanjay to smaller upriver and coastal settlements, with an emphasis on pre-colonial settlement between the 11th and 16th centuries. While Early Spanish Period and Late Spanish Period sites were documented in the surface survey and in the excavations at Tanjay, this material has not been systematically studied, so there is little known archaeologically about the post-conquest period. In addition, the geography of the Tanjay Region and the geological processes shaping the landscape are significantly different from Malangwa watershed, with the landscape dominated by a large, flat alluvial plain and alluviation and river downcutting processes being the primary problems for archaeological visibility and interpretation.

Among other findings, work in the Tanjay region identified a shift from part-time household production of earthenware ceramics to specialized pottery making centers within the primary port settlement during the mid-second millennium AD. Junker (1999) points to this development as one sign that chiefly elites were interested in taking control of commerce that could serve to legitimize their authority. Excavations at Tanjay also revealed distinct differences in the quality and quantity of "prestige goods" including porcelain in two residential zones dated to the 15th-early 16th centuries, suggesting that there may have been "elites" concentrated in one housing area who had greater access to porcelain and other exotics (e.g. metal goods, glass beads) and to higher-quality porcelain (e.g. Chinese wares vs. Southeast Asia

wares) (Junker, Mudar and Schwaller 1994; Junker 1999, 2001). This differential distribution of porcelain and other exotics is also mirrored in the burials at Tanjay (Junker 1999: 173-174). Also found were what appear to be “feasting” pits at Tanjay in the 15th-early 16th centuries, containing significant quantities of water buffalo, pig and other “valuable” foods with broken porcelain are restricted to a limited number of households (Junker 2001, Junker and Niziolek 2009). Large settlements near Tanjay were more likely to have these probable restricted “prestige goods” and there appears to have been a controlled flow of these goods in the region (i.e. they bypassed smaller sites quite near to Tanjay and went to larger settlements where socially connected elites might have resided) (Junker 1990, 1999: 292-312).

Archaeological research in Tanjay is important to this study primarily for two reasons. First, it establishes that the social organization of pre-Hispanic communities in the Philippines identified in other regions, such as Cebu and Luzon (Nishimura 1992), was similar on Negros, and occurring in relative close proximity to the Malangwa watershed. I derive my second hypothesis from this interpretation, suggesting that previous to Spanish arrival the inhabitants along the Malangwa watershed engaged in a similar social organization. Second, Tanjay was more heavily populated at Spanish contact with a chiefly center at the mouth of the Tanjay River; therefore, its population center and relatively smooth terrain near the coast made it a more economical launching point for Spanish administrative reorganization and Christian proselytizing by the mid-17th century. Thus, through the 17th century, the Malangwa watershed continued as a “colonial backwater” (Newson 2009: 104) until the 19th century – the effects of which are investigated in this study.

6.3 **Bacong Archaeological Project 2010-2012**

To investigate the evidence of Metal Age communities presented by earlier investigations, the National Museum of the Philippines (NMP) and the University of Illinois at Chicago (UIC) established a joint research program in the Bacong municipality in 2010 (Dizon et al. 2010), referred to as the Bacong Archaeological Project (BAP). Five field seasons of research in the area resulted in the excavation of several Metal Age burials and ritual sites (500 BC – AD 800), and Porcelain Period sites (mid- first century AD – mid second century AD). Figure 3 illustrates the location of Metal Age burials sites excavated by the BAP team. However, exploration by BAP has yet to identify Metal Age stratigraphy outside of a burial context. It is from the post-Metal Age finds identified while working with BAP, that I developed the Historical Malangwa Archaeology Project.

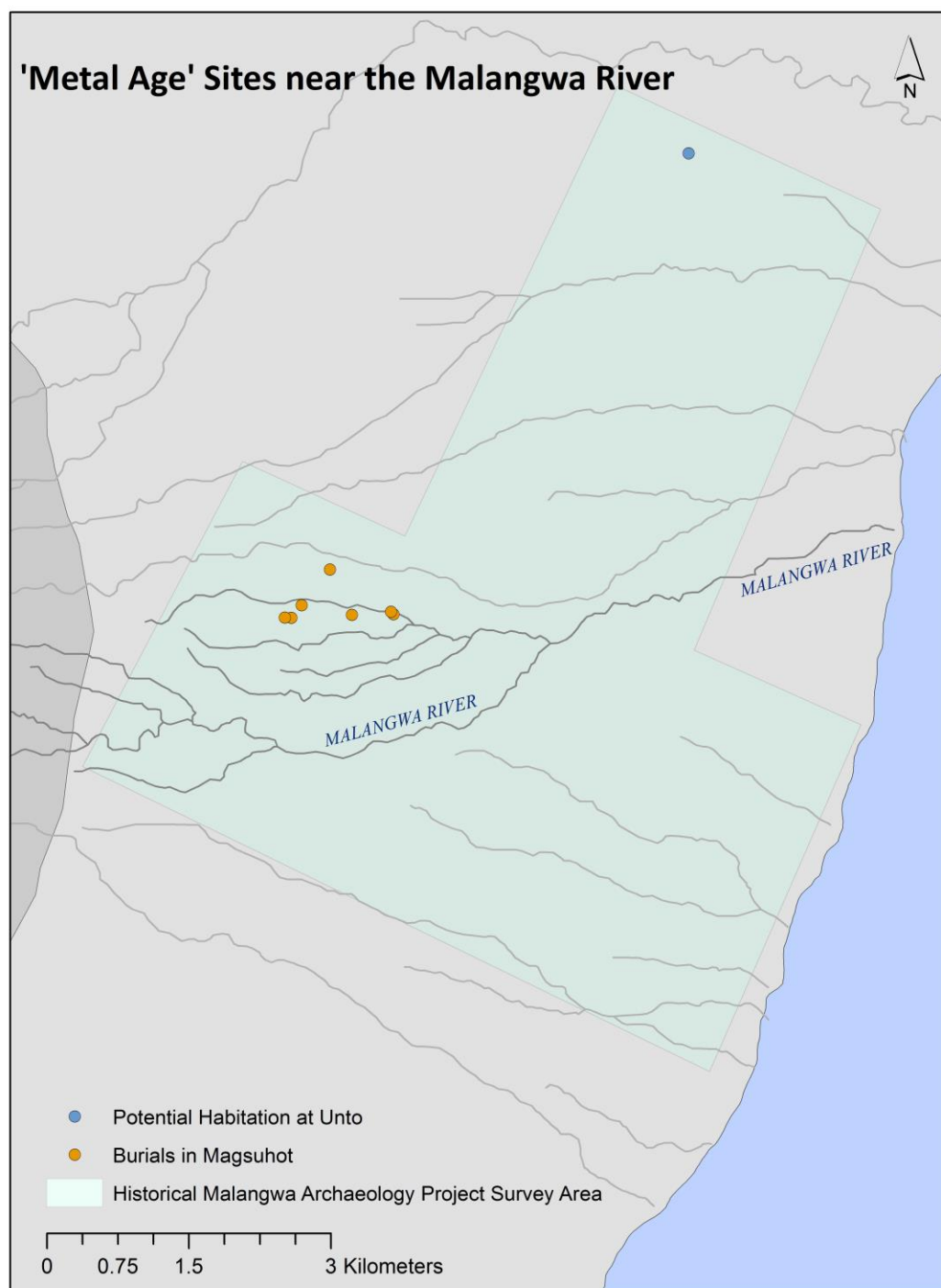


Figure 3. A map of the burials excavated by the Bacong Archaeology Project, and the area in which survey was conducted for BAP and the later Historical Malangwa Archaeology Project.

6.4 **Historical Malangwa Archaeology Project**

Surface collections around the Malangwa River of Bacong, Negros Oriental yielded significant evidence from the protohistoric (as early as the 13th century) through the modern period. Given the area's rough terrain, lack of fertile alluvial plains, proximity to the Mindanao sultanate, and distance from Manila, the area was a relative backwater from a colonial perspective. These same factors that deterred early Spanish influence, provided places for indigenous communities to operate with various ranges of colonial interference. To understand how social organization and local economies changed in these areas, the distribution of artifacts beginning from the protohistoric through the modern period were recorded. The research design described below was initially implemented by the BAP team, of which I was a member. As described above, the primary objectives of BAP are to identify Metal Age burials and settlements in the Bacong area. I created a separate project, based on the research potential posed by colonial sites identified by the BAP team in the lowland. The formation of BAP was inspired by previous archaeological work and from the encouragement of the Mayor of Bacong, Mr. Lenin P. Alviola; both the location of the excavations in modern Bacong and the community's support of the project are associated with the BAP name. This current study was named the Historical Malangwa Archaeology Project to emphasize the more historical nature of my project, and to connect this work with a geographic, instead of administrative, region.

6.4.1 **Survey Design**

The rugged terrain surrounding the Malangwa watershed quickly rises from the sea into the mountainous Cuernos de Negros, where the volcano Mount Talanis (Figure 4) marks the southern edge of the range separating Negros Oriental from Occidental. The area is a

patchwork of modern infrastructure, agricultural fields, and dense secondary growth (Figures 5-8). Pedestrian survey was conducted at a sample of elevation zones to maximize coverage and efficiency. With the difficult terrain making full coverage impractical, surveyed fields were biased towards those with relatively easy pedestrian access; with the exception of a few remote locations that were reached by steep trails. Therefore, the challenges of the Malangwa watershed survey region necessarily required a different survey strategy than the Tanjay Region, with its predominant flat alluvial plain, concentrated modern towns and large areas of mono-cropped farms that allowed large contiguous block survey areas. These features of the Malangwa watershed landscape in turn dictated the types of spatial analyses that could be used to examine spatial patterns of porcelain distribution, as presented in Chapter 7. In fact, the Moran's I statistic, little used yet in archaeological analysis, is designed for situations where measures like Nearest Neighbor Analysis are not possible due to a non-contiguous spatial framework, and this work demonstrates that geographic relations can be characterized under these types of archaeological survey conditions.

Survey began near the coast along a chosen road. Agricultural fields adjacent to the road were surveyed moving higher in elevation until steep mountain terrain prevented easy pedestrian and vehicle movement upward. Teams chose new roads running perpendicular to the main north-south road, connecting the coastal towns near the sea. While the roads were far from perfectly parallel from one another, they allowed a cross section of differing elevation and ecological zones to be sampled.

Coordinates of each of the 84 surveyed fields were recorded with a GPS unit and assigned a National Museum of the Philippines identification number (Figure 9). To survey each

field, team members lined up at one side of each field 5 meters apart and walked in transects along the length of the field (Figure 10). Teams walked up and down the field in transects until the entire agricultural field had been walked, resulting in full coverage within each field. Given the general low density with which sherds were found per hectare, and the limitation of visibility to plowed fields, clusters of artifacts, which denote households in other parts of the Philippines and the world, could not be identified; nor could the absolute boundaries (if they exist) of the sites be found. Artifacts were collected and recorded on field forms. Visibility, time of last rainfall, and type of vegetation were also recorded. Hindering visibility within agricultural fields is the lack of a true growing season, resulting in various types of crops at various stages of growth. Section 5.4.3 of this chapter further describes survey constraints and difficulties of working in a highly sloped area that has dynamic geomorphological processes at work. Artifacts collected included locally produced earthenware sherds, Chinese porcelain and stoneware sherds, mainland Southeast Asian stoneware sherds, European stoneware, pearl ware, and white ware sherds, earthenware net sinkers and pipes, porcelain and stoneware sherds shaped into game pieces known as *pamatos*, earthenware stove parts, and stone tools.



Figure 4. Mount Talanis, a volcano marking the southern extent of the mountain range separating Negros Oriental and Occidental.



Figure 5. A field planted with palm trees in Bacong.

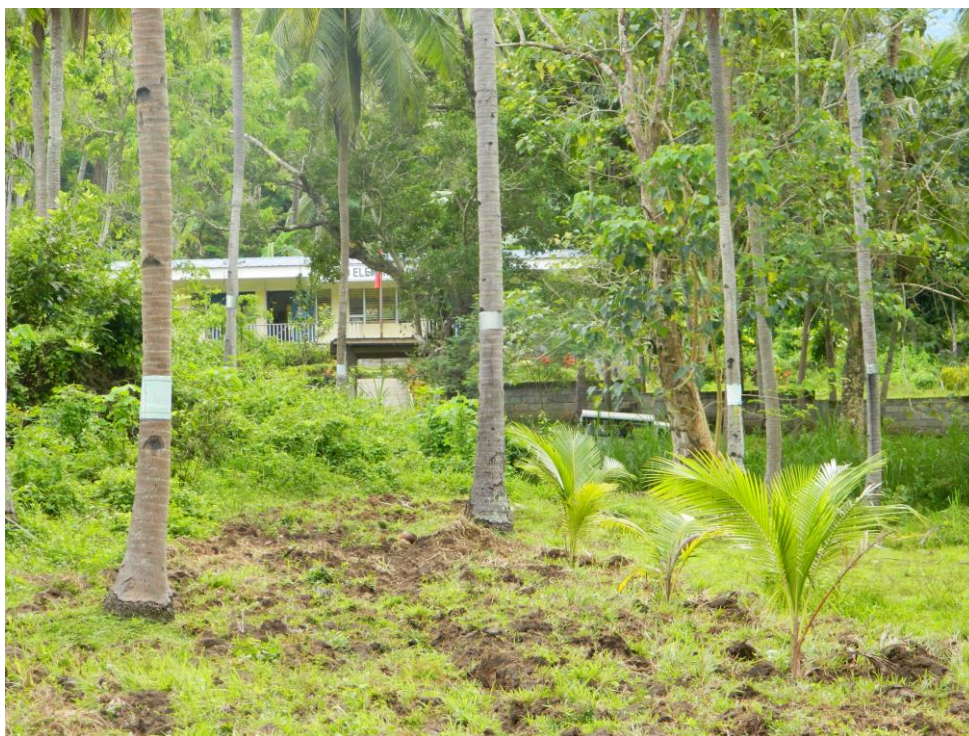


Figure 6. A slope planted with palm trees, surrounded by secondary growth in Tubod, Bacong. Tubod Elementary School is in the background.



Figure 7. A farm in the Dauin municipality at 360m elevation.



Figure 8. A mixed agricultural field in Malabago, Bacong planted with palm and corn. This field was surveyed and assigned the site name VII-2011-Y2.

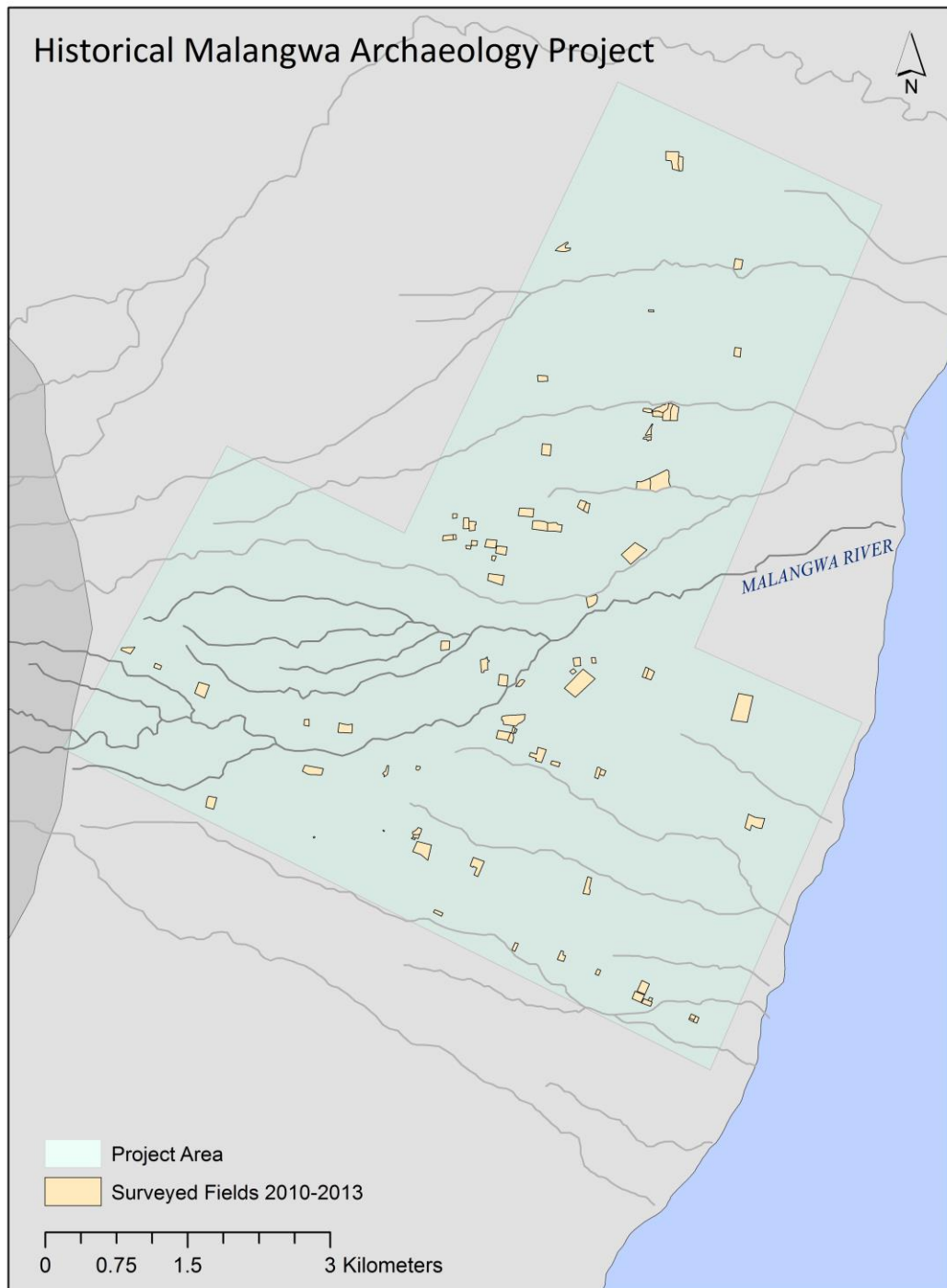


Figure 9. A map of the agricultural fields surveyed by BAP and HMAP.



Figure 10. BAP team surveying site VII-2011-G2 in Buntod, Bacong.

6.4.2 **Excavation Strategy**

Several ‘Metal Age’ burials sites were excavated by the BAP team above 180m which did not reveal any earlier habitation contexts (Figure 3). A total of nine sites identified below 180m via pedestrian survey were excavated with the objectives of (1) refining the chronology of ceramics collected on the surface, (2) verifying that sites were habitation areas by finding residential features such as post holes and middens, (3) verifying that surveyed sites preliminarily categorized as potential elite habitation areas based on density of imported ceramics contained subsurface evidence of elite habitation, and (4) to attempt to correct for the “heirloom” effect or curation of imported wares through time by identifying subsurface

proportions of ceramics according to stratigraphic layer. Seven surveyed sites (VII-1988-T3, VII-2011-V2, VII-2011-X2, VII-2012-X2, VII-2012-L2, VII-2012-F2, VII-2013-G) were chosen for excavation based on ceramic density, with the goal of identifying evidence of habitation, particularly middens and post holes (Figure 11). One site, VII-2013-H, was excavated after a landowner reported recovering numerous sherds from his property. A final excavation was conducted in a zero visibility field (VII-2013-F) because it was on a rise near the coast within proximity to the Malangwa River on a rise, suggesting a potential habitation site. Excavation consisted of 1 to 4 test units measuring 1m² in a north-south orientation. Excavation was carried out in 10 cm levels within natural stratigraphy. Soil removed from the units was screened through ¼ inch mesh to identify artifacts. Figure 11 illustrates the excavation locations.

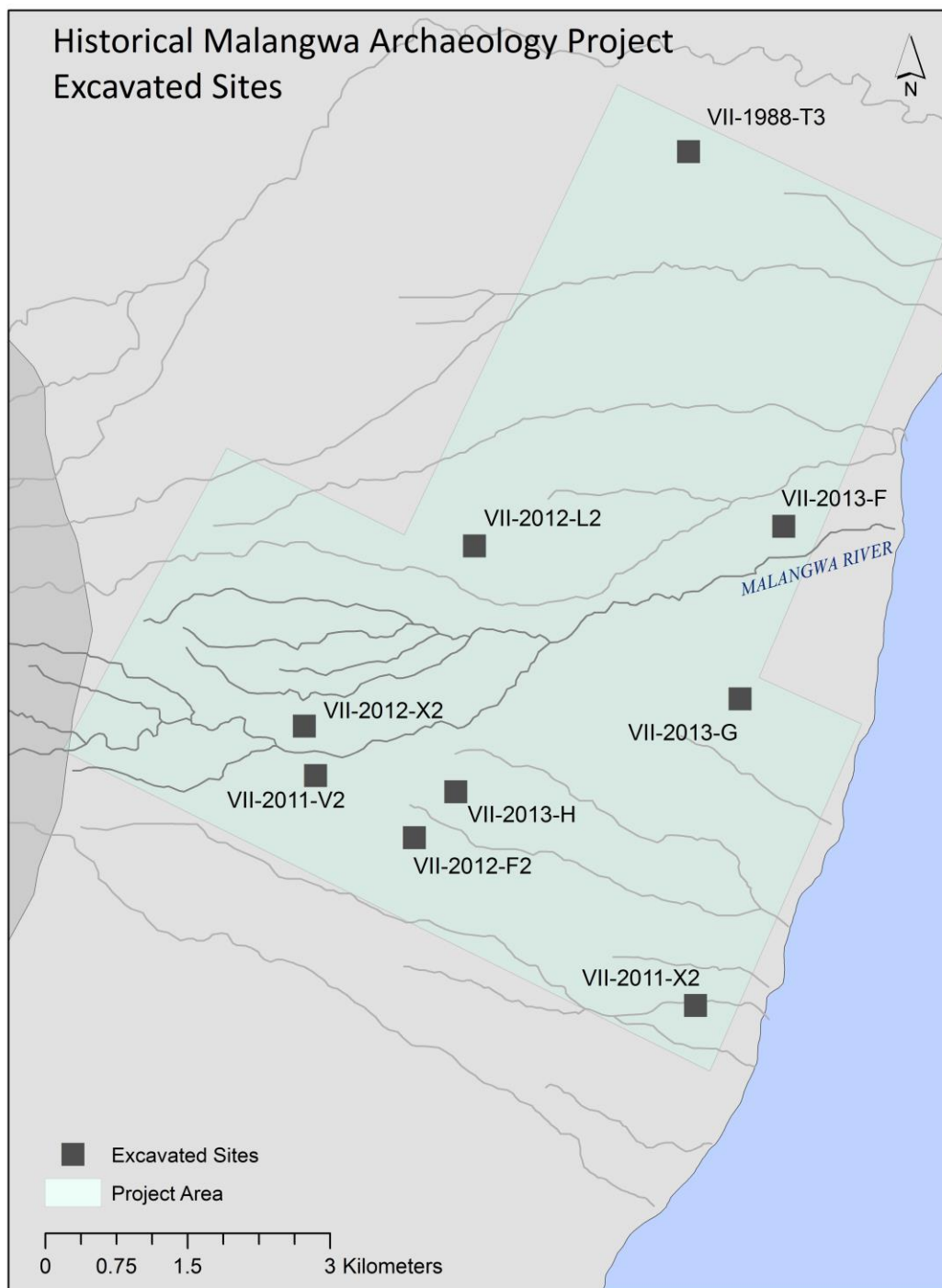


Figure 11. Sites excavated by BAP and HMAP outside of burial contexts.

Although the sites differed in elevation, proximity to the coast, and ecological zone, the excavation results were largely similar. Artifact density was greatest in the plow zone, or within the top 30 cm of soil, usually below a count of 10 sherds. While stratigraphy at each site varied, they can be roughly characterized by dark brown or dark yellowish brown sandy clay loams from 0 to 100 cm below surface. Around 100 cm below the surface a level of *lahar*, sediment flow resulting from water mixing with ash and rock debris (Lavigne and Thouret 2003: 45), indicates a volcanic event or events that occurred previous to historical records. Below 110 cmbs the soil was a brown sandy clay with small to medium volcanic stones that gradually turned to a grey sand by 120cm (Figures 12-13). Rarely a highly weathered earthenware or stoneware sherd was identified below the lahar, but these levels generally did not contain any cultural artifacts. No cultural features were identified at any site. This is likely because habitation sites in the area would be ephemeral and soil erosion and agricultural activity in the area impacts the integrity of archaeological features. Artifacts recovered from excavation were similar in character to those identified during survey. The following section contains a discussion of the integrity of artifact contexts.



Figure 12. Profile of Unit 1 at VII-2011-X2. The lahar layer is the third stratigraphic layer from the surface, a light gray color.



Figure 13. Another view of the wall profile of Unit 1 at VII-2011-X2 and the light gray layer of lahar.

6.4.3 **Artifact Analysis and Geodatabase Creation**

The difficulty in identifying habitation features in tropical contexts is common, however some settings are conducive to the preservations of settlement remains, such as large alluvial plains (Junker 1999). Unlike the Malangwa watershed, the Tanjay region has not been subject to volcanic activity in last five centuries. The most significant natural influence on archaeological contexts in Tanjay is water movement. Secondary deposits created by rivers carrying artifacts were identified by their abraded appearance, the mixing of artifacts from different time periods, and the absence of activity areas, such as middens and postholes. In Tanjay, an inclination to position homes on terraces overlooking the major rivers likely

preserved those sites (Green 2010). Settlements along the rivers, however, were subject to seasonal flooding and erosion of upland soils as forests were cleared for agricultural development. This analysis is supported by earlier work that identified fewer forest animal species (Mudar 1997), and more non-forest species over time.

Evidence of past life around the Malangwa River is comparatively more ephemeral and restricted to a shallow depth below the surface. There are several geomorphological processes at work in this region that obscure archaeological evidence. These include volcanism, flash flooding, erosion, and river movements. Immediately west of the study is Mount Talanis, a large volcano with an undocumented eruption history. While specific eruption dates are unknown, usually at least one layer of lahar – a previously fluid movement of volcanic debris – is present in excavated units (Janda et al. 1981). In each test unit placed below 200m elevation, the thick layer of lahar was present around 100cm below the surface. The lahar layer was always sterile of cultural material, but in two instances highly eroded sherds were recovered – at VII-2013-F it was 1 piece of earthenware and at VII-2013-G it was 2 pieces of earthenware – at the interface of the lahar layer and the soil below. The highly eroded state of these pieces indicate they were tumbled for some time, most likely by the lahar, before finally stopping within the contexts from which they were excavated. Thus far, in the low land, no porcelain pieces have been found below the lahar level, potentially indicating that it was laid down before significant amounts of porcelain were imported into the region.

While geomorphological studies are needed to understand the full archaeological implications, for this study, if a sherd appeared significantly abraded it was noted. Ultimately, the finds coming from within the top 50 cm of soil, which compose the vast majority of finds,

had little to no abrasion. At least one excavated unit, VII-2013-F contained an old riverbed with many rounded stones and pebbles, which did have a few highly abraded ceramics associated on the old bed layer. The movement of the rivers across the landscape produce a quickly identifiable pattern, which differs substantially from most sites.

It is also usual for flash flooding events to occur in the Malangwa watersheds, given the high rates of precipitation and steep slopes, which not only are devastating in terms of death and destruction of homes and infrastructure, but which contribute significantly to erosion in the area. The artifacts contexts from the HMAP project are not likely due to flash floods for two reasons. First, prior to excavation the tenant farmer or field owners were consulted regarding artifacts finds, looting activity, and flooding history of the property. Flooding events were often described by farmers and owners, with a common estimate of flood deposits similar to tenant farmer's Juvy Benida of the Saksak *barangay* as being "as tall as coconut trees" (Pers. Comm. 2/6/2013). Such areas were not excavated due to the intricate and expensive logistics that would be required to reach intact archaeological contexts. Instead excavation focused on areas without substantial flash flooding history within the memory of the tenant or owner, with the assumption that these patterns may be indicative of past patterns. The second indication that the excavated artifacts were not present due to flash flooding is that, roughly, the top 100cm of sediment was identified as sandy clay loam, which only requires water transport of low energy for deposit (Goldberg and Macphail 2006: 88-89; Brown 1997). Sediments of fine sand or very coarse grains, which were not identified in the top layers of excavation, require much higher amounts of energy to be transported and deposited by water. Thus while assessment by a geoarchaeologist is required to expertly reconstruct the area's

geomorphology, the combination of non-eroded artifacts, personal communications regarding flooding patterns, and a visual assessment of the sediments gives some confidence that the artifacts recovered via excavation and survey were in relative proximity to their initial deposit.

The steep slopes surrounding Mount Talanis and large amounts of precipitation seem to be obscuring past life in the region, as ceramics and stone tools are readily identifiable, but the organic remains of nipa huts and household waste continue to be elusive. While the river terraces and broad alluvial plain in the Tanjay Region produced archaeological sites that, when excavated, produced post-holes imprints, pits, ash concentrations and occasional formal hearths associated with houses, not all of the sites that yielded a dense and broad range of artifact evidence for settlement (i.e. concentrated earthenware, porcelain, lithics, metals, shell, and animal bone) had visible settlement features when excavated. The relationship between the more dynamic geologic processes and lack of household evidence continues to be unclear, but given the substantial difference in finds, particularly house features, between the flatter Tanjay area and the rugged Malangwa watershed a connection is probable. It is the rugged terrain in the area which makes it a desirable study area, as it was unattractive during the early years of Spanish occupation. Even without settlement features, it is clear that the area was settled historically from the survey and excavation.

To investigate the nature of social organization, particularly as related to the economic geography, the recovered artifacts were brought to the National Museum of the Philippines for analysis. Ceramics were divided into earthenware, stoneware, and porcelain. Stoneware and porcelain and imported stoneware were assigned appropriate chronological ranges and origins with the aid and guidance of National Museum of the Philippines staff members, Nida Cuevas

and Amelia de la Torre. Integral to this process was access to the reference collections of the National Museum and reference publications authored by scholars with expertise in Asian ceramics in the Philippines (e.g. Aga-Oglu 1961; Goddio 1998; Gotuaco et al. 1997; Joseph 1973; Locsin and Locsin 1967; Tan 2007; Valdes et al. 1992). In addition, there are some publications illustrating and dating porcelain from excavations in the Philippines that have been well-dated in stylistic terms and provide useful comparisons for the chronology of the Bacong trade wares, although these are primarily from shipwrecks (e.g. Desroches et al. 1997; Goddio et al. 2002) and burial sites (e.g. Beyer 1947; Locsin and Locsin 1967; R. Fox 1964, 1967; Hutterer 1973; Nishimura 1992). Identifiable trade wares date from the 13th to the 20th century. A total of 2998 ceramics were recovered; of which 2118 are earthenware and 880 are trade wares. Table II is a summary of imported ware origins and assignment into a three time period chronology, which will be discussed in more detail in Chapter 7. Ceramic type amounts are presented in grams weight because the number of sherds may be a deceptive representation of how much material was recovered from each site. Using weight allows a direct comparison of how much material is actually present (for example, broken pieces will inflate total counts, but will not affect weight). Figures 14-24, photographed with the aid of Paolo Tabirao of the National Museum of the Philippines, illustrate the types of ceramics identified in this analysis.

TABLE II

IMPORTED CERAMICS RECOVERED FROM THE MALANGWA WATERSHED BY WEIGHT (G)

Ware Type	Early Historic Period 13th - Mid-16th Cen.	Early Colonial Period Mid-16th - 18th Cen.	Late Colonial Period 19th - 20th Cen.
Thai Stoneware	60.64	57	9
Chinese Celadon	28.6	137	65
Chinese Porcelain	477.03	2024.96	4493.83
Vietnamese Stoneware	1.8	35.84	0
European Wares	0	0	12
Japan Wares	0	0	25
Total	568.07	2254.8	4604.83



Figures 14. Chinese celadon (VII-2011-Q1) dating to before the 13th century.



Figure 15. Chinese whiteware from the Yuan Dynasty (VII-2012-H2) dating to before the 13th century.



Figure 16. Late Ming white ware (VII-2011-Q2) dating to the Early Colonial Period mid-16th century through the late 18th century.



Figure 17. Chinese red overglaze or polychrome (VII-2012-X2) dating to the Early Colonial Period mid-16th century through the late 18th century.

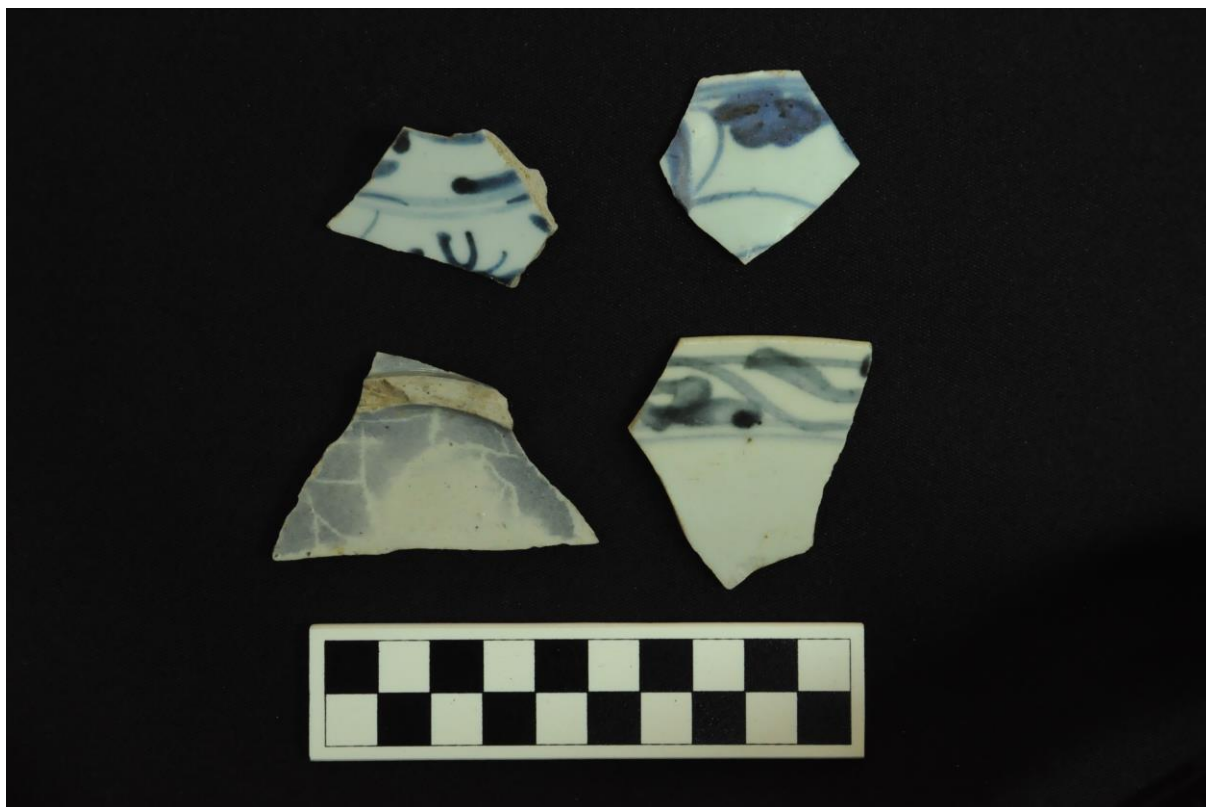


Figure 18. Late Ming Blue and White Ware (VII-2011-Y2) dating to the Early Colonial Period mid-16th century through the late 18th century.



Figure 19. Thai stoneware (VII-2012-H2) dating to the Early Colonial Period mid-16th century through the late 18th century.



Figure 20. Vietnamese stoneware (VII-2012-H2) dating to the Early Colonial Period mid-16th century through the late 18th century.



Figure 21. Chinese Blue and White Swatow (VII-2012-S1) dating to the Early Colonial Period mid-16th century through the late 18th century.



Figures 22. Qing Dynasty Blue and White (VII-2011-Q2) dating to the Late Colonial Period, 19th-20th century.



Figures 23. European Stoneware (left) and White Wares (four right pieces) dating to after 1840 (VII-2012-F).



Figures 24. Dutch Whiteware with cracked glaze (VII-2012-R1) dating to the Late Colonial Period, 19th-20th century.

6.5 Conclusion

This study focuses on the distribution of imported ceramics to understand how the local economy - which in the Early Historic Period would have relied on subsistence farming and engaged in intra- and inter-regional trade to procure prestige items to cement allegiances and maintain elite authority - responded to encroaching vectors of Spanish colonization. A regional earthenware chronology may be constructed in the future to investigate how the trade ware distributions articulate with the earthenware distribution. The current absence of a regional earthenware chronology also limits the ability to remove confounding factors in identifying the

settlement patterns during the time periods. First, without an established earthenware chronology, it is not possible to assign archaeological sites without imported ceramics to particular periods. There are not, therefore, sites in the analyses with 0 g of imported ceramics; preventing the identification of the whole settlement pattern. And second, if earthenware chronology for the region was established, a ratios of imported and locally made ceramics could be established for each site. Ratios of with higher imported ceramics may indicate an increased elite population. For the purposes of this study, I correlate higher weight amounts with increased sociopolitical power, following the patterns found in the protohistoric period in other areas of the Philippines (as described in Chapter 2 Section 2.3.3), in which the *datu* class control the distribution of imported wares. Given that particular patterns of elite goods have been established around the archipelago during the Porcelain Period immediately preceding Spanish arrival, these patterns can be compared to those in the Malangwa region during the same and following periods (Chapter 7).

7. DATA ANALYSIS

7.1 Introduction

This chapter describes the statistical analysis undertaken to investigate the archaeological hypotheses suggested in Chapter 1. Based on a review of the historical literature, my first two hypotheses are that during the Early Colonial Period there was less availability of imported goods to the Malangwa watershed due to the disruptive activities of the Spanish based in Manila; however, because of the rugged terrain and proximity to Mindanao and Sulu territories it was unattractive to the Spanish, the establishment of only the *encomienda* system (there was no forced resettlement or strong influence by the Catholic Church) would support the continued traditional use of prestige wares from the Early Historic Period. I suggest that this would manifest archaeologically by a similarity in the distribution of imported ceramics from the Early Historic Period into the Early Colonial Period, while the overall count of imported ceramics would decrease after Spanish arrival. My third and fourth hypotheses are that when Spanish attention transitioned from the galleon trade to exploitation of the land for cash crops, the change in economy brought to Negros Oriental would be manifest in the archaeological record by an increase in imported ceramic availability (the ports were open to international trade and the money economy would no longer require trade or allegiance relationships to acquire goods) and a change in their regional distribution.

The preceding chapter reviewed the manner of data collection from which the analysis in this chapter is based. The following sections describe how imported ceramics were classified and organized into a spatial database. Once the artifact find locations and their measurements were in the spatial database, the finds were categorized into archaeological sites. These site

classifications formed the basis of the following statistical and spatial analyses to identify patterns in the distribution of imported ceramics before Spanish arrival, the Early Colonial Period, and the later colonial period. After the analyses and results are described, the following Chapter 8 provides a detailed discussion of the results, including an interpretation of what these results mean for the relationships between economy and geography, and between the meaning of objects and the social and economic structures within which they are embedded.

7.2 **Ceramic Chronology Classification**

Of the artifacts recovered from archaeological survey in the Malangwa watershed, 880 imported ceramics from China, mainland Southeast Asia, and Europe could be assigned to date ranges. The objective of this study is to discern changes before and after colonization, and between early and later colonial economic strategies. Therefore the ceramics were divided into three groups, those that date to before the mid-16th century, those that date from the mid-16th century to the late 18th century, and finally ceramics from the 19th and 20th centuries. Figure 25 is a chart of these ceramics organized by time period. The high number of Chinese ceramics is apparent. Figure 26 is the same chart as found in Figure 25, with a different scale and ceramics of Chinese origin removed. It is apparent from the graphs below that Chinese imports were predominate ceramic import type, and that the region's position as a colonial "backwater" during the Early Colonial Period is evidenced by the lack of European wares. It appears that an increased demand for imported luxury ceramics during the Early Colonial Period was met with ceramics from Vietnam. This chronological division was done to correspond with the start of Spanish colonization in 1521 and the transition to an export economy based in commercial agriculture in the late 18th - early 19th century. As described in

Chapter 6, assigning date ranges to the imported ceramics was done with the guidance of National Museum archaeologists, Nida Cuevas and Amelia de la Torre and by consulting the reference collections of the National Museum and Chinese porcelain references.

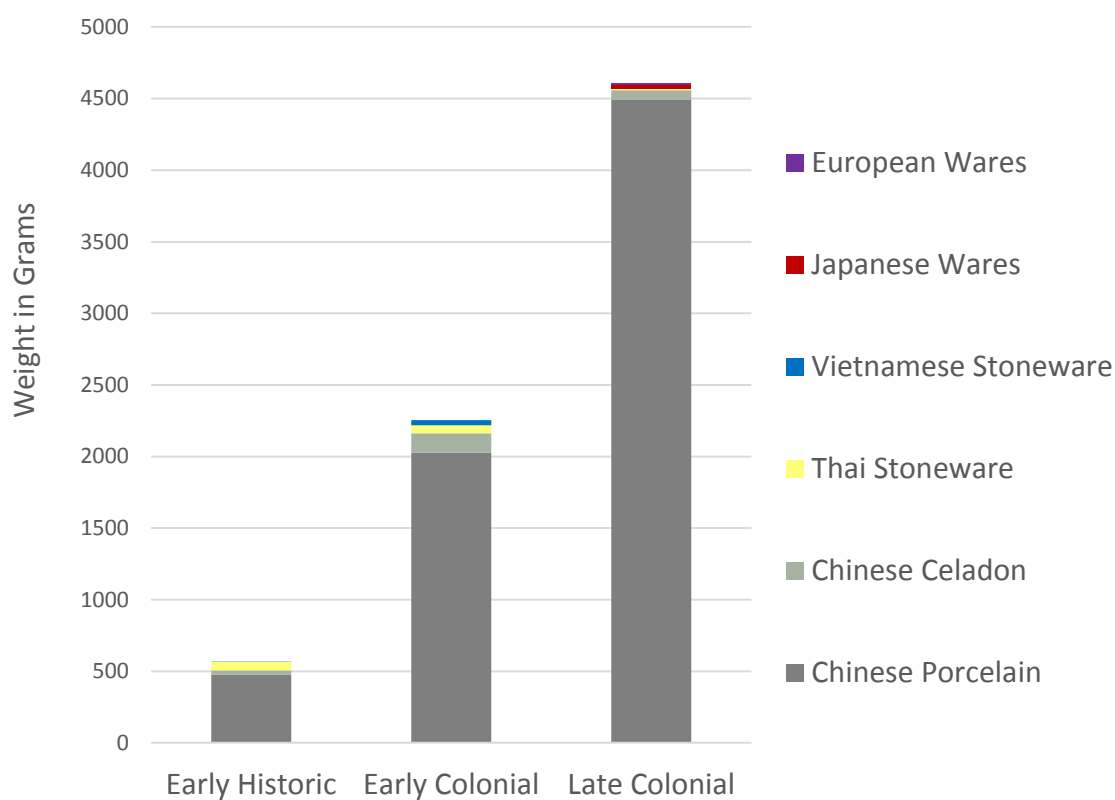


Figure 25. Imported ceramics recovered from the Malangwa watershed.

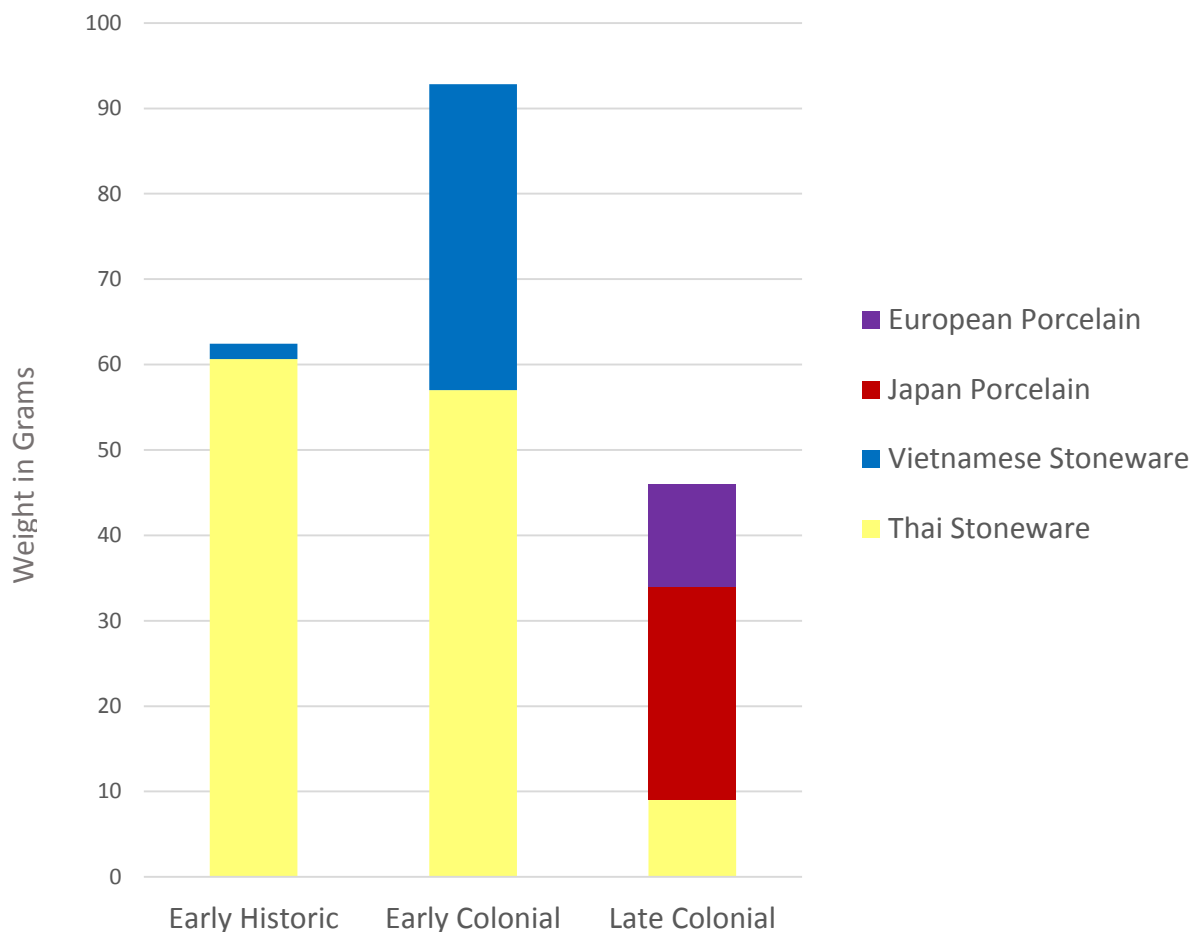


Figure 26. Imported ceramics not of Chinese origin recovered from the Malangwa watershed.

Several pieces had date ranges that overlapped these political economic transitions. These pieces represent 5% of the total identifiable ceramic weight. Where appropriate, analyses were run multiple times: without these pieces; with the pieces placed within the period in which most of its date range occurs (for example a date range of 1300-1600 would be assigned to the pre-Hispanic 13th - mid-16th century category even though it may potentially be from the years 1521-1600); with all the pieces placed in their earlier time period,

and finally with all of these pieces placed in their later time period. The results of these tests indicated that the small number of pieces that overlap transitions do not change the statistical significance of the analyses.

7.3 **Aggregating Surveyed Fields into Archaeological Sites**

During pedestrian survey, the coordinates of agricultural fields were recorded and later associated with the artifacts recovered. The result was a spatial dataset in which adjacent fields are labeled separately Figure 27. These boundaries are modern and do not reflect past activity areas. Therefore, to delineate sites, adjacent fields positive for artifacts that are contemporaneous with one another were aggregated. Next, it was noted that several sites were within close proximity. Sites within 100m that contained contemporaneous finds were aggregated into archaeological sites. In the Early Historic Period, represented in the Bacong area by artifacts from the 13th to mid-16th century, there were 9 sites identified along the Malangwa watershed (Figure 28). In both the Early Spanish Period (mid-16th to late 18th century) (Figure 29) and the Late Spanish Period (Figure 30), 34 sites were identified in the Malangwa watershed.

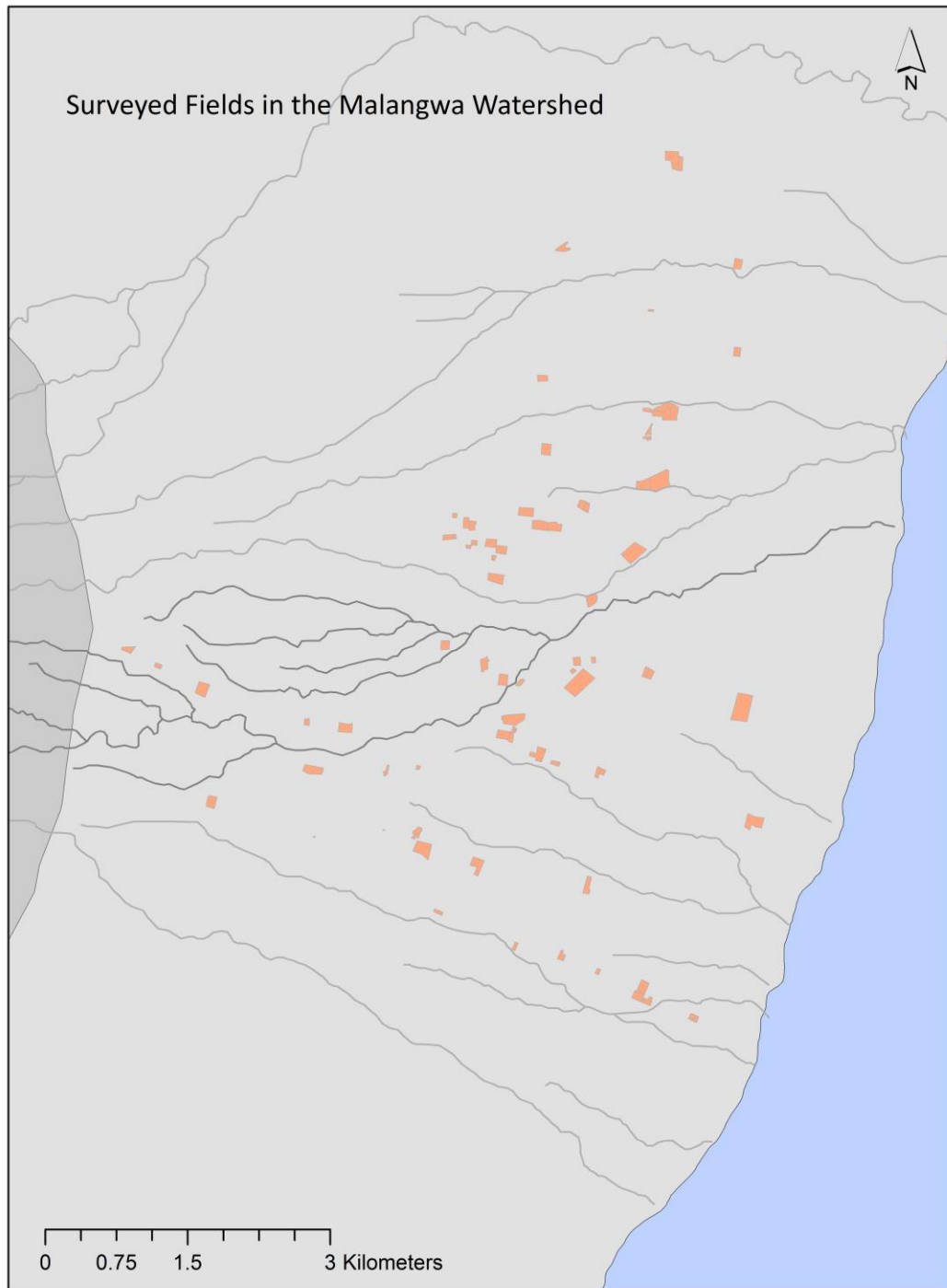


Figure 27. Surveyed fields in the Malangwa watershed.

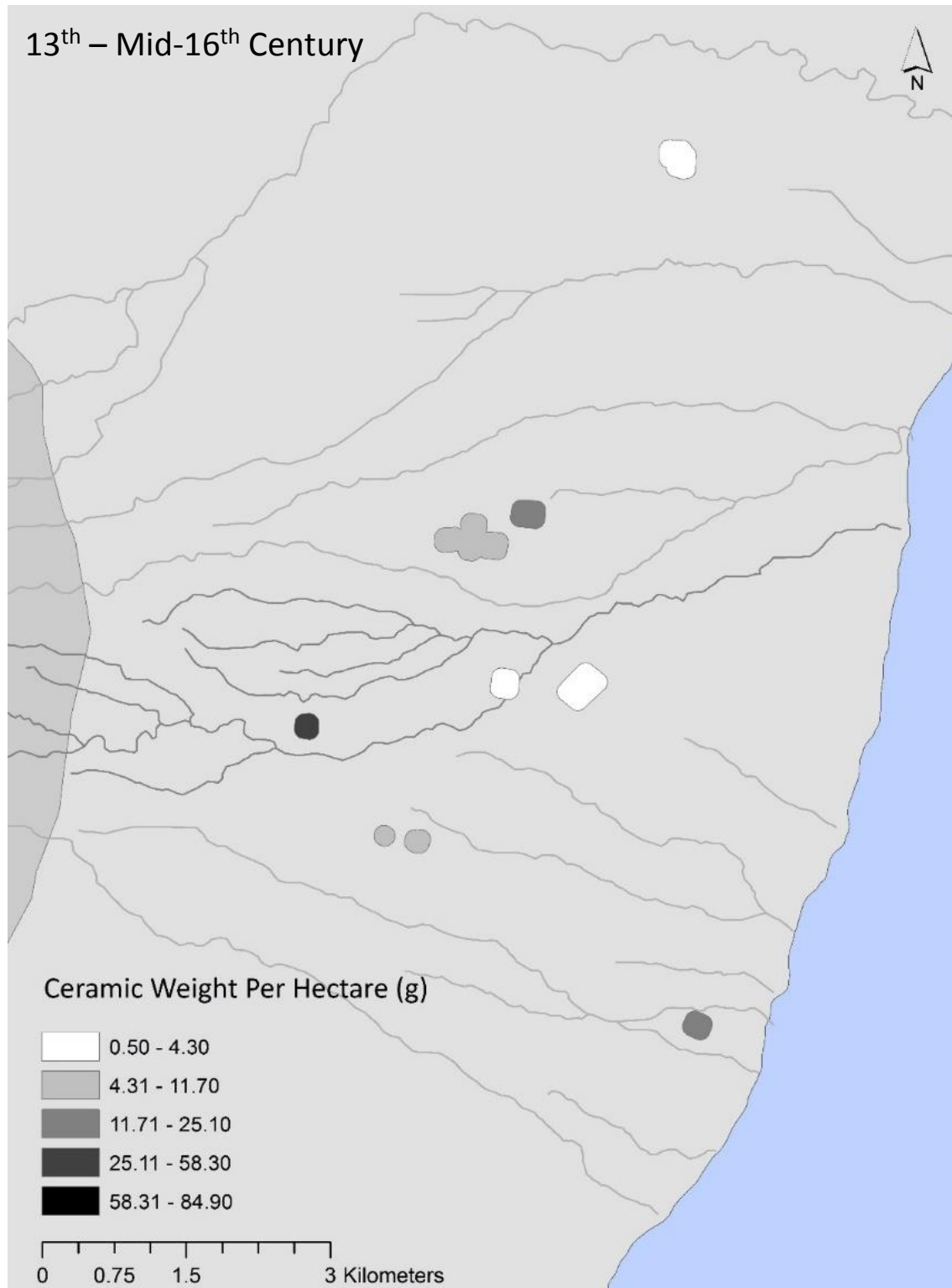


Figure 28. Surveyed fields aggregated into pre-contact sites.

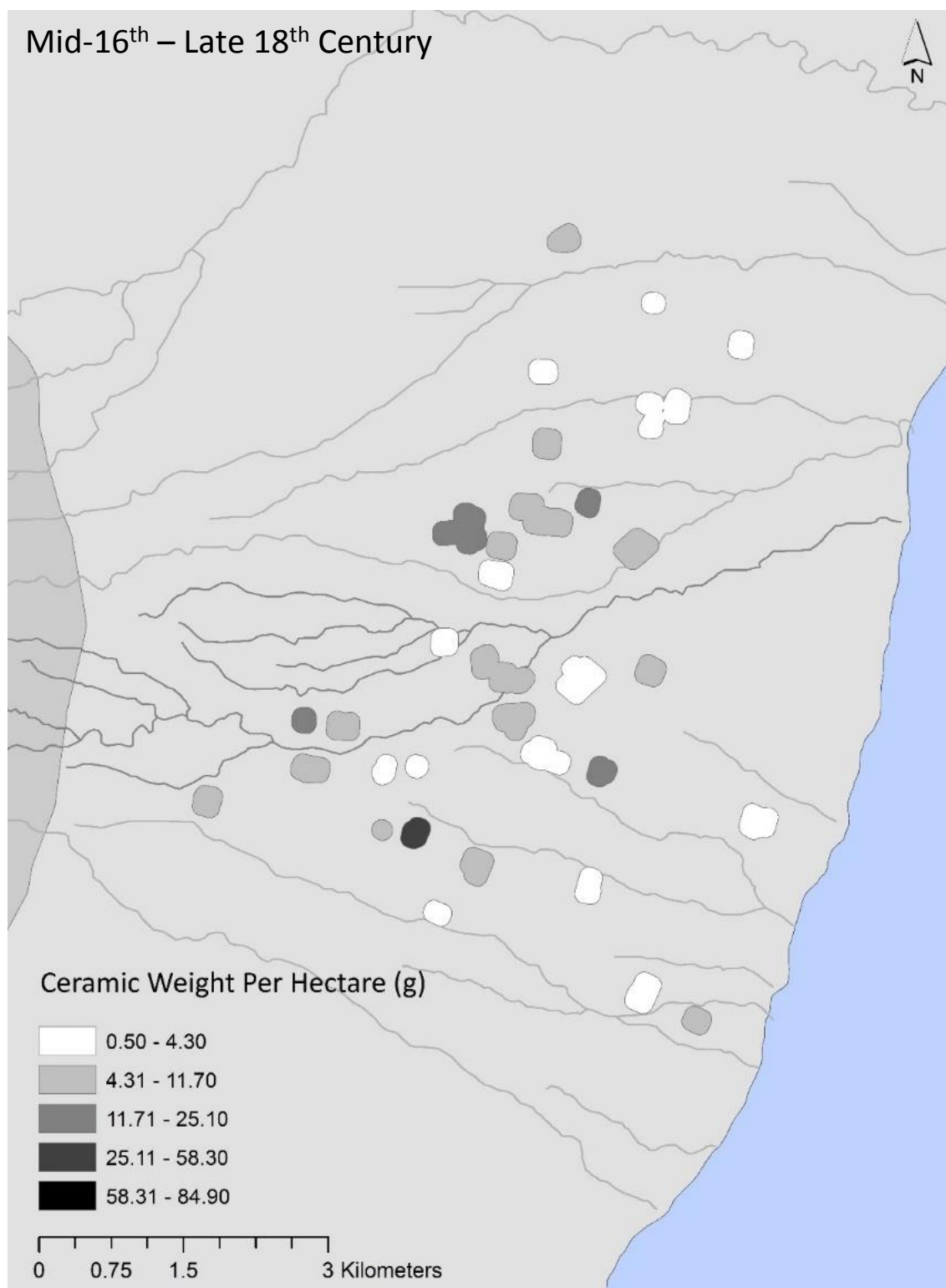


Figure 29. Surveyed fields aggregated into Early Spanish Period sites.

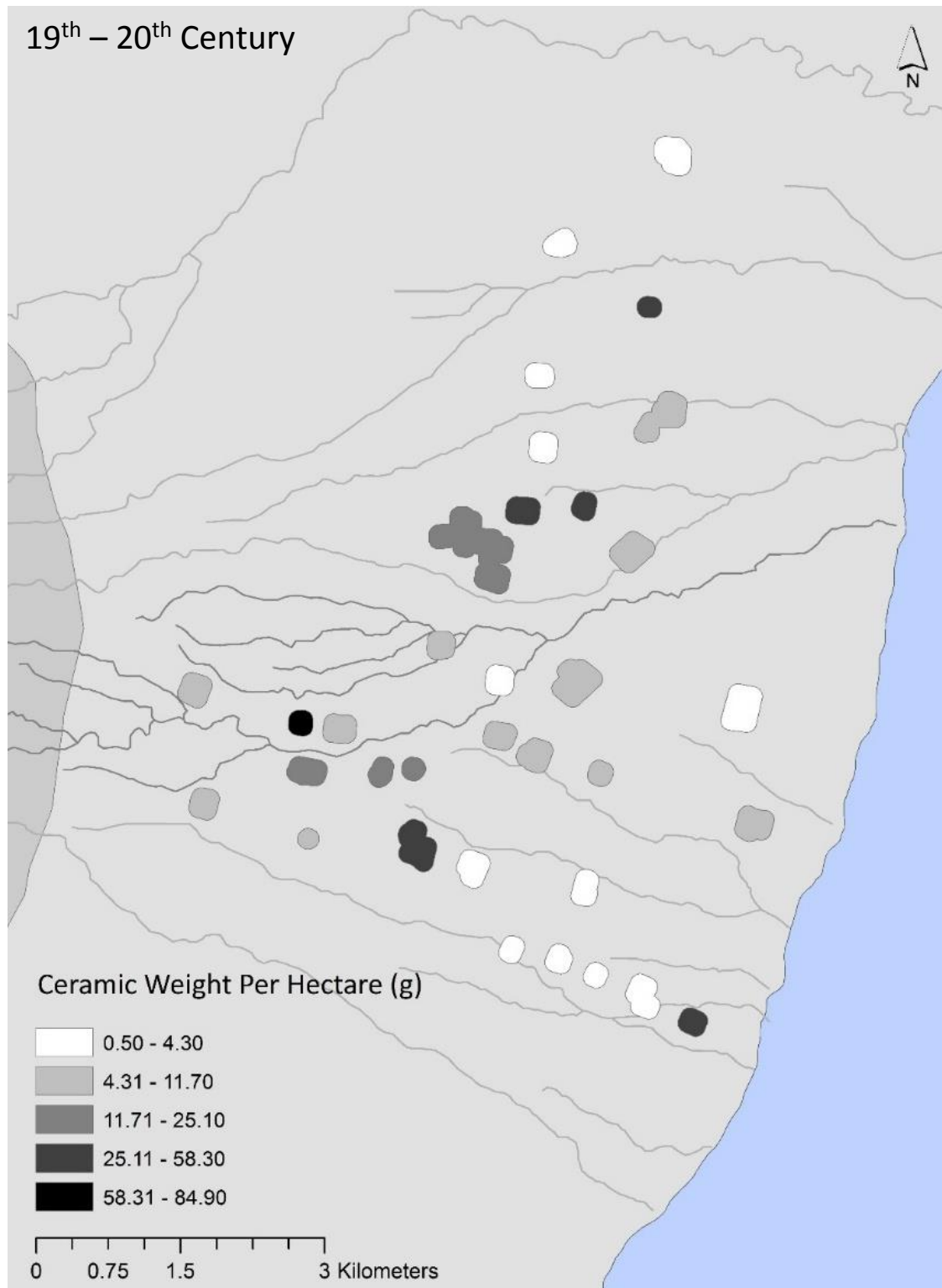


Figure 30. Surveyed fields aggregated into Late Spanish Period sites.

7.4 **Descriptive Statistics**

Much of the following analysis involves an exploration of descriptive statistics, which can also be referred to as exploratory data analysis. Descriptive statistics are numeric methods used to describe a distribution of values (Singh 2006: 224). Common types of descriptive statistics of a dataset include the identification of value frequencies, normality or skewness, degree of kurtosis, quartiles, mean, median, mode, standard deviation, and range. These values help establish patterns in data values, and make one dataset comparable to others. While mean, median, mode, and range of a dataset are quite common measures, some of the other terms are specialized.

When shown on a graph, a normal distribution is a bell-shaped curve with one peak. A lognormal distribution is the distribution of a variable whose algorithm is normally distributed. If a distribution is skewed, its graph would not be bell-shaped, but would show a peak at one of the extremes in the data range. This means that more values occur at the very low or very high range. Kurtosis is the degree of the data's peak – if it is steeply peaked, or relatively flat. Data can also exhibit a bimodal or multimodal distribution, in which there are several peaks in the graphed dataset. Quartiles are the division of a dataset into four sections. Each quartile is composed of 25% of the observed values. Finally, the standard deviation is a measure of how the data is distributed away from the mean. If many values are close to the mean, the standard deviation is small. If values are spread out further from the mean, the standard deviation is larger.

7.5 Hypothesis Testing with Statistics in the Social Sciences

To understand the differences in ceramics distributions among the three time periods, various statistics are used to quantitatively test different hypotheses. For each statistical test a “null hypothesis” is suggested. The hypothesis is referred to as null because it means that the two distributions being compared are actually the same. For example, the null hypothesis for a test comparing ceramic distributions of two time periods is that the distributions for both time periods was the same. The alternate hypothesis is that the null hypothesis is incorrect, and that the two distributions are different. Thus the null hypothesis when comparing ceramic distributions between two time periods is that the distributions the same. The statistical formula results in the probability (p) that the null hypothesis is wrong. Following our example, if a statistical formula results in $p = .10$, there is a 10% probability that the null hypothesis is correct, that the distributions are the same. There is a 90% probability that the alternative hypothesis is correct, that the distributions are different.

Disciplines in which high risk decisions are involved in the outcome, often require a p value of less than .05, and in some cases less than .10, to claim that the null hypothesis can be rejected. Obtaining the sample size required to reach such low probability values is difficult in the social sciences, particularly in archaeology where the underlying population is difficult to characterize in a sample. This is because an archaeologist’s statistical population (artifacts) is often difficult to locate and classify (Cowgill 1977: 359), and the tests often unrepeatable. Because the precision and accuracy of these statistical tests have low stakes outcomes, relative to studies such as those in medical fields, archaeologists may discuss statistical results in terms of tests revealing patterns of more or less significance. Cowgill writes “the significance level

considered somehow “suggestive” or “interesting” can be related to sample size. A level of 10% or even 20% might be suitable for small samples, while 1% or even lower might require larger samples” (359). In this study, if a statistical test does not reach an arbitrary .05 cutoff, it is not entirely dismissed; rather, results with p values of .20 and below are discussed as more significant than those with larger p values. In many cases patterns identified in this study, are thus supported by an 80% or greater probability that they are correctly identified. In one case, the Student’s T-Test comparing the Pre-Hispanic and Early Colonial Period imported ceramic distributions, the p value of 0.15 is treated as tending toward non significance because it differs greatly from the p value of 0.03 found when comparing the Early and Late Colonial Periods.

7.6 **Characterizing and Comparing Imported Ceramic Distributions between Time Periods**

A number of statistical and visual analyses are used below to understand the distributions of ceramics that were imported into the Malangwa watershed from the 13th to the 20th century. The aspatial analyses compare the distributions of values only. This means that when looking at the descriptive statistics using Student’s T Test, these aspatial analyses are comparing imported ceramic density values only – not where they are located in the landscape. The spatial statistics, global and local variants of Moran’s Index, compare the relationships of these densities values across the landscape. Where possible, the terms ‘aspatial’ and ‘spatial’ precede the word ‘distribution’ to remind the reader of the type of analysis being applied.

7.6.1 **Comparing the Amount of Imported Ceramics from the Early Historic Period to the Early Colonial Period**

Table III contains the weight of imported ceramics found per hectare at each site for each time period. Tables X-XII, Appendix contain the National Museum of the Philippines

identification numbers that were assigned to each surveyed agricultural field, the archaeological sites into which they were aggregated, the amount of ceramics found at each site (g), and the density of ceramics recovered from each site (g/ha). Table IV summarizes the descriptive statistics for the imported ceramic distributions of three time periods. Figure 31 is a histogram of the imported ceramics densities. Immediately, the increase in the general amount of imported ceramics *after* Spanish colonization is apparent. This runs contrary to my first hypothesis that imported ceramics would be brought into the Malangwa watershed in smaller numbers during the Early Colonial Period. This hypothesis was predicated on literature that describes the disruption of indigenous trade networks as the Spanish closed off their ports to trade, restricted Chinese trade to Manila Bay, and restricted the movements of indigenous inhabitants to within their *barangay*. In at least several areas in the Philippines increasing amounts of Chinese ceramics were found in the 15th and 16th centuries, such as represented in the Guthe Collection at the University of Michigan (Min 2013), and as found in Tanjay (Junker 1999) and modern Cebu City (Nishimura 1992). As the quantity of imported wares increased, so did the proportion of lower quality imported and locally made ceramics. The increasing amount of imported ceramics from China and Southeast Asia, and higher number of low quality ceramics, are interpreted as an increased prestige economy for the elites to maintain and increase their power, and an increasing need to incorporate lesser elites into increasing political integration.

TABLE III
IMPORTED CERAMIC DENSITY PER SITE IN THE MALANGWA WATERSHED

Weight (g) per Hectare			
Early Historic Period	Early Colonial Period	Late Colonial Period	
0.5	0.3	0.5	
1.8	0.7	1.2	
2.8	1.0	1.7	
4.7	1.0	1.9	
5.7	1.1	2.1	
10.9	1.2	2.1	
18.4	1.3	2.2	
21.8	1.3	2.4	
35.5	2.0	2.4	
	2.8	3.3	
	2.9	3.7	
	3.1	4.3	
	3.6	5.0	
	4.1	5.2	
	4.3	5.3	
	4.5	5.3	
	4.6	6.3	
	4.9	6.8	
	5.5	6.8	
	5.5	7.7	
	5.8	8.1	
	6.6	9.0	
	6.6	9.9	
	6.9	11.7	
	7.1	15.0	
	8.0	18.7	
	8.3	20.4	
	9.6	25.1	
	10.4	34.1	
	11.8	35.3	
	17.3	39.3	
	18.7	47.5	
	23.1	58.3	
	34.5	84.9	

TABLE IV
DESCRIPTIVE STATISTICS OF IMPORTED CERAMICS IN THE MALANGWA WATERSHED

	Early Historic Period	Early Colonial Period	Later Colonial Period
Number of Sites	9	34	34
Minimum Density*	0.5	0.3	0.5
Maximum Density*	35.5	34.5	84.9
Mean Density*	11.34	6.78	14.55
Standard Deviation	11.72	7.2	19.1
Skew	1.15	2.18	2.09
Kurtosis	2.86	8.15	7.15

* Weight of imported ceramics in grams per hectare.

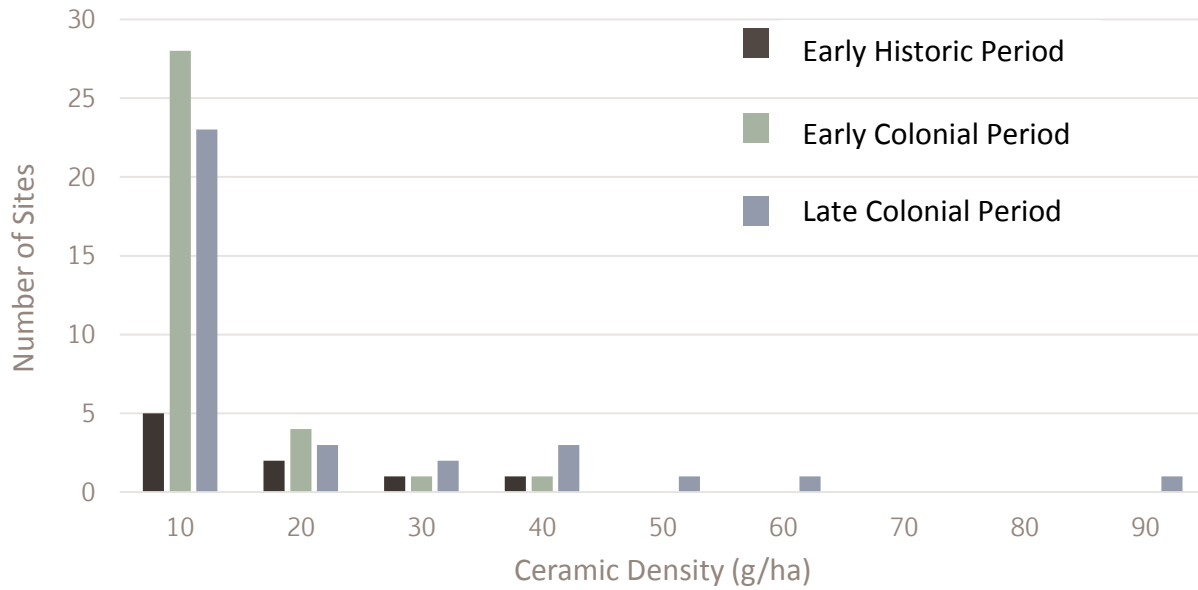


Figure 31. Histogram of imported ceramics densities.

This pattern changed with Spanish arrival as interregional trade was largely restricted to Manila, and to some extent Cebu and a few other islands (Wolf 1997; Flynn and Girildez 2004; Min 2013). As I discussed in Chapter 2, there was little incentive for the Spanish to develop interest in areas outside of Manila or Cebu due to the lucrative Spanish Galleon trade between Spain, the Philippines, and Mexico. However, their monopolization of interregional trade severely disrupted traditional trade networks (Abinales and Amoroso 2005: 60-65; Ch'en 1968), such that "By the 1590's, the breakup of the indigenous economy of the barangays was completed" (Alonso 2003: 68). Of imported trade Abinales and Amoroso write that "Indigenous trade with China was largely shut out of the galleon trade. Local goods from Luzon, Butuan, Cebu, or Sulu could only be smuggled aboard in small quantities" (2005:62). Further Corpuz (1997: 36) asserts:

There were two sectors of domestic trade during this period, one legitimate, the other prohibited by law, the latter being the larger sector. The role of the natives, the producers of commodities was minimal. The Recopilacion decreed that the natives be free to engage in trade and strictly prohibited hindrances placed in their way. But the exactions of produce, commodities, and labor under the encomienda system and the system of contributions to the Church and clergy in the parishes virtually left the natives no control over their surpluses nor the capacity to accumulate stocks of trade goods. The Recopilacion negated its encouragement of free trading by the natives by prohibiting them from leaving their pueblos without permission from the friar, who was often a trader himself.

Archaeological support for this trend was identified by Min's (2013) study of Chinese ceramics in the Guthe collection. His study of porcelain from cave and burial sites demonstrate a sizable decrease in the amounts of imported ceramics at indigenous sites during the Late Ming Period (1522-1624), from the Early Ming Period (1465-1522). While the time periods of the Early and Late Ming do not correlate exactly with first Spanish arrival in 1521, or first colonial efforts in 1565 – the historical evidence suggests that this decline found by Min is in fact due to trade restrictions. He does find, however, that “The evidence suggests that some sites display concentration of fine porcelain wares in the Late Ming period, against the general decline in the quality of imported blue-and-white porcelain” (Min 2013: 26). Using Spanish documents, Min interprets one of these places as an area of early Spanish occupation. And thus the increase of ceramics is considered a product of colonial import. Min suggests that the lack of documentation for the other sites of increased porcelain does not mean that there was not Spanish activity.

Finding more imported ceramics in the Malangwa watershed after Spanish colonization runs contrary to previous findings, particularly as significant Spanish occupation on the southeast coast of Negros Oriental is very unlikely – there is not historical documentation or

archaeological evidence of Spanish occupation at this time. Upon further reflection of the historical evidence, however, this finding may not be so anomalous. Works that indicate a substantial decline in porcelain trade often rely on historic documents, mostly Spanish, which bias their perspective of an absolute control of trade and policies that would restrict indigenous access to free trade. Second, many archaeological databases are the result of unsystematic collecting, and use single sites to represent a region as a whole. Finally, an archaeological approach that emphasizes burials is problematic because researchers may assume that a decrease in porcelain in burials over time represents decreased access to porcelain. However, in the Philippine context, this would likely only reflect a change in burial practice to incorporate Christian traditions including a lack of grave goods (Geake 1992: 89), and not an overall absence of the import and use of porcelain during life. In addition, Spoehr's (1973) finding of the continued use of imported ceramics as part of the Sulu prestige economy through the Early and Late Colonial Periods (discussed in Chapter 2), suggests that other regions beyond or at the edge of Spanish control continued to successfully obtain foreign wares and use them as they had during the Early Historic Period.

7.6.2 **Comparing the Aspatial Distribution of Imported Ceramics: Pre-Hispanic to the Early**

Colonial Period

Using the statistical software package SPSS, I identified the sites from the Early Historic Period as normally distributed, whereas the Early Colonial Period and the later colonial period have log-normal distributions. This means that the all three distributions can be compared using Student's T-Test using the logs of each distribution (Connolly and Lake 2006: 134). Student's T-Test compares two independently collected datasets to assess if their distributions

are the same. To do this I begin with the null hypothesis that two datasets have the same distribution. The t-test then identifies the probability that the null hypothesis is correct. The t-test formula is: $t = (\bar{x}_1 - \bar{x}_2) / (\sqrt{S^2})$. In this equation, S^2 is an estimation of the variance of the two distributions being tested. $(\bar{x}_1 - \bar{x}_2)$ is identified by squaring each variance, dividing the product by the number of the respective number of samples in each distribution, adding the quotients, and taking the square root.

The results of comparing pre-Hispanic and Early Colonial Periods, and the Early and Late Colonial Periods are shown in Table V. The t-test resulted in a 29% probability that the null hypothesis is correct, which is enough to prevent confidence in identifying the two datasets as being different from one another. This means that the distribution of imported ware densities remains continuous from the Early Historic Period, into the Early Colonial Period. This continuity refers only to the distribution of sherds (g) per site hectare, and not to the spatial distribution, which will be investigated below. This means that while there was a significant increase in the overall amount of ceramics in the Early Colonial Period, the shape of their value distributions were the same – which is the first step in establishing that a traditional prestige goods economy was operating into the Early Colonial Period as represented by the distribution of imported ceramics. This will further be tested below in the Spatial Analysis section which explores the spatial relationship of these values in the Malangwa watershed. As discussed in Chapters 2 (Section 2.3.3 in particular) and 3, the common pre-Hispanic pattern of prestige ware distribution was concentrated sites of elite goods surrounded by sites with decreasing amounts of prestige goods (Junker 1999), of which imported wares were ranked the highest.

TABLE V
STUDENT'S T-TEST COMPARING IMPORTED CERAMIC DISTRIBUTIONS

Time Periods	t	SD ¹	DF ²	p ³
Early Historic & Early Colonial	1.47	8.29	41	0.15
Early Colonial & Late Colonial	-2.21	14.4	66	0.03

¹ Standard Deviation

² Degrees of Freedom

³ Probability that the null hypothesis is true.

The nature of both distributions is skewed. The distribution of imported ceramics in the Early Historic Period has a skew value of 1.01. And the distribution of imported ceramics in the Early Colonial Period has a skew value of 2.19. As described above, skew is a measure of the number of values found at the extremes of a dataset. In this case, the Early Colonial Period is more skewed, with more sites having fewer imported ceramics and less sites having comparatively more imported ceramics by count and weight than the Early Historic Period. Again, on the surface this appears to support my second hypothesis, that the distribution of imported ceramics during the Early Historic Period are similar to the distribution found during the Early Colonial Period. Identifying the spatial distribution of these patterns will be necessary to conclude this with confidence.

7.6.3 Comparing the Amount of Imported Ceramics from the Early Colonial Period to the Late Colonial Period

As shown in Table IV, there is again an increase in the overall amount of imported ceramics from the Early Colonial Period to the later colonial period. This lines up with my third hypothesis that more ceramics would be imported into the Malangwa watershed during the

later colonial period beginning in the 19th century, with the roots of the economic transition taking place in the late 18th century. In the 19th century the Spanish opened the Philippine ports for international trade (Legarda 1999; Abinales and Amoroso 2005: 77), and economic transaction were taking place with money (Caoili 1999). Thus it was no longer necessary for an elite to have personal trading alliances, or for lesser elite or *tao* to be dependent upon their personal and communal relationships to obtain traditional prestige objects. The finding of more imported ware from this time period is not surprising in light of these historical developments.

7.6.4 **Comparing the Aspatial Distribution of Imported Ceramics: the Early Colonial Period to the Later Colonial Period**

My fourth hypothesis was that the distribution of imported ceramics during the Late Colonial Period would be significantly different from the preceding Early Colonial Period. Student T-Test comparing the two colonial time periods resulted in a probability of 3% that the two datasets have the same distribution. This means that there is a 97% probability that imported ceramic distributions in the Early and Late Colonial Periods are significantly different. This fits with the historical description of significant economic changes wrought by Spanish administrators and international investors after the late 18th century. In describing the nature of this distribution, while the skew and kurtosis of the Late Colonial Period appear higher, a visual inspection of the data indicates that there is a significant increase in disparity as relates to the access in imported wares. This is also expected, as there is overwhelming historical evidence that the transition to a money economy based in export crops produced on plantations, created a socioeconomic disparity previously unknown in the Philippines. While

the distribution of the values of imported ware densities vary between the Early and Late Colonial Periods, an investigation of the spatial distribution is necessary to ascertain how the elite economy changed over the landscape.

7.7 **Spatial Analyses Applied to Imported Ceramic Distributions**

7.7.1 **Exploratory Spatial Data Analysis**

Exploratory spatial data analysis (ESDA) derives from exploratory data analysis (EDA), which are methods for investigating a data set to reveal patterns, features, and potential data errors, as well as to help in the development of explanatory hypotheses (Haining 2003: 181; Good 1983). EDA does not assume a particular distribution within a data set, nor is it driven by a preexisting hypothesis. Instead, the goal of EDA is to use visual and quantitative methods to understand the dataset as a whole (Tukey 1977; Hoaglin et al 1985). To do this in a robust manner, geographers rely on median and quartile values to provide “resistant” measures of data distribution (Haining 2003: 181-182). Here, the use of the word resistant implies that the measure is not largely affected by a few outlier values, such as very large or very small values, in the way that mean and standard deviation values are affected. Researchers can start their analysis of data distributions by visualizing the distributions with scatterplots and dotplots. Archaeologists certainly routinely employ descriptive statistics to describe their data; however, this is only one component of EDA and it is quite common for such measures to not adhere to a standardized and rigorous procedure to ensure that the data are robustly analyzed before launching into specific inquiries, which in turn are driven by hypotheses that may be derived from data sets in other regions. In the EDA approach to data analysis, numerous and varying techniques are used to examine patterns in the data at multiple scales, the database is

closely examined for anomalies, and the appropriateness of the data for various forms of statistical analysis are rigorously scrutinized.

It is advisable for archaeologists to, as they have in the past, look to geography for robust methods for dealing with spatial datasets. Geographers have brought the statisticians' EDA into their wheelhouse by expanding it to explore spatial data with EDSA (Cressie 1984; Haining 1990, 2003). The goals of EDSA are to identify patterns, create hypotheses, and find irregularities in spatial data. This is achieved through visualization and manipulation of spatial datasets. Haining (2003: 188) describes visualization as the "construction of graphs and fits" and manipulation as "the process of interacting with parameters of the graph." This is done so that the properties of the data can be identified, which is the object of EDSA (Earnshaw and Wiseman 1992). Univariate distributions can be displayed with histograms, boxplots, and rankit plots; and multivariate distributions can be visualized in scatterplots (Buja et al. 1996: 79). Conducting a thorough exploration using EDSA, which is at its simplest comparing many maps and graphs to descriptive statistics and simple regressions, in a GIS is so quick to complete that this type of exploratory data analysis should be increasingly used to produce hypotheses for the data structure. There are many different approaches to ESDA which are data specific, which will not be detailed here, but readers may refer to Haining 2003 and Fisher et al. 2010.

7.7.2 Spatial Autocorrelation

Like descriptive statistics, exploratory spatial data analyses (ESDA) are analyses used to understand value distributions and to compare different datasets, but they also include how these values relate to one another in space. These analyses should be paired with an

understanding of descriptive statistics, as reviewed above. Spatial autocorrelation is one type of ESDA that measures the pattern of objects in space (Tobler 1970; Cliff and Ord 1981). For example, on a topographic map a dot can overly a particular elevation. Dots that are close to one another are likely to have similar elevations, and thus the elevation values have positive spatial autocorrelation. Put another way, this means that if you measure the elevation of two places on the earth that are close to one another, those elevations are more likely to be similar to each other than two places that are very far apart. Negative spatial autocorrelation means that similar values are more dispersed than would be expected in a random distribution of value across a landscape; in others words, similar values seemed to repel one another. An archaeological example would be primary centers within the central place theory. In central place theory, primary centers have a dispersed pattern, in which those centers are surrounded by smaller, economically interdependent settlements. In an idealized, flat topography the primary centers would form a lattice pattern. And finally, a distribution that shows no spatial autocorrelation means that things with similar values are distributed randomly across the landscape. While measures of spatial autocorrelation have been suggested as a useful archaeological technique (Conolly and Lake 2006: 158-162; Williams 1993), there are few archaeological examples. The only concerted effort to study spatial autocorrelation within an archaeological context is in a debate (summarized by Premo 2004), as to how Mayan terminal dates found on monuments may be indicative of the nature of the Mayan collapse.

7.8 **Spatial Autocorrelation of Imported Ceramics in the Malangwa Watershed**

In this study I use a spatial autocorrelation statistic to find patterns in the distribution of imported ceramics in the Malangwa watershed. The analysis is based on the density of

imported ceramics found at each site. The potential results of this analysis are (1) imported ceramics were randomly distributed across the landscape (no spatial autocorrelation), (2) sites with many imported wares cluster in the same areas or sites with few imported wares cluster in the same area (positive spatial autocorrelation), (3) sites with similar amounts of imported ceramics are dispersed, meaning they are equally spaced throughout the dataset (negative spatial autocorrelation).

If imported ceramics are randomly distributed in the landscape, it would indicate a departure from the pattern of the prestige goods economy found in other areas previous to Spanish arrival. As discussed above, and in Chapter 3, Junker (1999) and Nishumura (1992) indicate that pre-Hispanic settlement patterns in the Philippines show that elite wares, such as imported ceramics, were restricted to particular people, namely elites, lesser elites, and others who were given wares for their services and allegiance. Junker (1999) found through a regression analyses of Chinese porcelain that from the 12th to 14th (referred to as the Santiago Phase) and the 15th to the mid-16th centuries (Osmena Phase), was concentration of porcelain at larger centers, the port village of Tanjay and secondary upriver centers like Mendieta, Diaz, and Calumpang. She found little or no porcelain at smaller sites. This forms an archaeological pattern of areas with relatively high concentrations of elite wares surrounded by areas with fewer and fewer such goods. Depending on the neighborhood, or distance band, and the number of sites used in the analysis (discussed below), either negative or positive spatial autocorrelation could characterize this pattern. A visual assessment will be needed to interpret any autocorrelation presented by the analysis, particularly as the settlement pattern in other

areas of the pre-Hispanic Philippines exhibit a dendritic pattern. This pattern would likely be recognized by global indicators of spatial autocorrelation as positively autocorrelated.

There are different types of statistics that describe autocorrelation in a spatial dataset. The type of statistic chosen is related to the dataset that is being described. Given the constraints of this dataset, global and local versions of Moran's I were chosen for this analysis. Global Indicators of Spatial Autocorrelation describe the spatial relatedness of similar values over the entire study area. For my purposes, Global Moran's I identified the spatial relationship among the densities of imported ceramics found in the Malangwa watershed. Moran's I was selected to identify potential patterning in the imported ceramics across the region because it is better able to identify patterns in high and low values; whereas, other statistical formulae, such as a Getis-Ord General G, work better if one is looking for spatial patterns of either high or low values. Other spatial statistics like various forms of nearest neighbor and Ripley's K-function account for point distances. The sites from the Malangwa watershed do not represent full coverage of the area as described in Chapter 6; therefore nearest neighbor analyses or Ripley's K-function would produce a biased result of site clusters. I also chose Moran's I over Geary's C since it is more powerful (Cliff and Ord 1975, 1981).

Moran's I compares the difference between the value of each feature, such as a site, with that of its neighbors; if this difference is less than the differences among all the features, that neighborhood of values is identified as a cluster (Mitchell 2009:107). Because Moran's I identifies value correlations among feature values, the analysis will indicate potential clustering or a pattern of dispersal of sites that have similar densities of imported ceramics. This analysis is will be particularly useful for identifying a pattern of imported ceramic use over space, and

the uneven survey coverage makes visual assessment difficult and it provides a measure of confidence in any patterns identified. Different neighborhood sizes, or distance bands will be used in the analysis to identify patterns occurring at different scales. The Moran's I considers the difference in values between each feature, in this case the density of imported ceramics at each site, and compares that to the sites in its 'neighborhood;' by changing the size of that neighborhood, it is possible to discern patterns in the data at different scales.

To investigate spatial autocorrelation at various scales in this study, the analysis was run at nine different distance bands with diameters ranging from 1000 to 9000 meters in 1000 meter increments in ArcGIS 10.2. Distance bands of varying length are explored to identify behaviors at different scales. For example, within a 1km neighborhood local household and community behaviors, such as farming, rearing animals, and residential life would be represented. At larger scales, such as the entire 9km square region, regional patterns may be visible related to sociopolitical organization, such as interaction among different polities. Row standardization was used to help correct for biases by weighing surrounding sites by the inverse of their distance to control for uneven coverage of areas chosen for survey (Mitchell 2009: 137, 144), meaning it helps smooth the spatial data in cases where sites were identified far away from other sites. Row standardization sums the distance weights of all a feature's neighbors. Neighbors' weights are then divided by that sum and the result used in the spatial statistic. In ESRI's ArcGIS 10.2 software the formula for global Moran's I is:

$$I = \frac{n}{S_o} \frac{\sum_{i=1}^n \sum_{j=1}^n w_{i,j} z_i z_j}{\sum_{i=1}^n z_i^2}$$

Each item or feature being considered in the spatial dataset is represented by i . z_i is the difference between each item and the average distance between all the items. The spatial weight between a feature i and a feature j is $w_{i,j}$. The total number of features is represented by n . The sum of the spatial weights is:

$$S_o = \sum_{i=1}^n \sum_{j=1}^n w_{i,j}$$

The following formula is used to get the z_i is:

$$z_i = \frac{I - E[I]}{\sqrt{V[I]}}$$

In which:

$$E[I] = -\frac{1}{n-1}$$

$$V[I] = E[I^2] - E[I]^2$$

The closer the observed index is to the expected index, $E(I)$, the increased likelihood that the spatial distribution of a phenomena is random. If the observed index is close to 1, the spatial distribution has a clustered pattern. If the observed index is close to -1, the spatial distribution has a dispersed pattern. As discussed above in Section 6.5 Hypothesis Testing with Statistics in the Social Sciences, I explore the potential implications of negative and positive observed indexes that do not cross the significance level of a p value that is less than or equal to 0.05. This means that when an observed I is not very close to -1 or 1, but which is not zero, and the p value is roughly 0.20 or less (meaning there is only a 20% of incorrectly rejecting the null hypotheses) I discuss the possibility, as supported by a visual inspection of the data, that there is dispersed or clustered patterning in the data. While there is no precedent for this

practice with spatial autocorrelation statistics in archaeology, as this is not yet a widely used technique, there is substantial precedent for p values that are greater than a strict 0.05 limit used to support social phenomena (Cowgill 1977).

The second step was to map the locations of clusters and identify if they are high value or low value clusters. The local variant of Moran's I was chosen to map the clusters. The other possibility, Getis-Ord Gi* statistic is also a local indicator of spatial autocorrelation, however, it includes the value of the feature being analyzed within the distance band. This is problematic with a relatively small dataset because one large value can substantially increase the neighborhood mean, causing an entire neighborhood to be identified as a high value cluster. Local Moran's I, however, does not include the target feature value in the neighborhood mean, which allows detection of "hot spots," high values surrounded by low values, and "cold spots," small values surrounded by high values. In addition, local Moran's I will return clusters of similar values and identify outliers whereas Getis-Ord Gi* smooths the data to identify areas of high or low values. Given the small size of the dataset and the small region of the study area, the higher resolution of local Moran's I is necessary. The local Moran's I formula used in ArcGIS 10.2 is:

$$I_i = \frac{x_i - \bar{X}}{S_i^2} \sum_{j=1, j \neq i}^n w_{i,j} (x_j - \bar{X})$$

In which:

$$S_i^2 = \frac{\sum_{j=1, j \neq i}^n w_{i,j}^2}{n - 1} - \bar{w}^2$$

Items in the spatial dataset are represented by i and j . Attributes of i are represented by x_i . The

spatial weight between features is w_{ij} . The Z_{I_i} score is found through:

$$Z_{I_i} = \frac{I_i - E[I_i]}{\sqrt{V[I_i]}}$$

In which:

$$E[I_i] = -\frac{\sum_{j=1, j \neq i}^n}{n-1}$$

$$V[I] = E[I_i^2] - E[I_i]^2$$

In summary, the Global Moran's I will identify if there is spatial patterning by emphasizing analysis on the entire dataset, although it does not indicate where in space clusters exist or if it is high or low values that are dispersed. The result will be that sites with similar amounts of imported ceramics exhibit either no patterning, clusters, or that they are evenly spaced over the landscape. Local Moran's I emphasizes local relationships and identifies which sites have significantly more imported ceramics or significantly fewer imported ceramics as compared to their immediate neighbors.

7.9 Results of Moran's I Statistic on the Distribution of Imported Ceramic in the Malangwa Region

7.9.1 Early Historic Period

Moran's Index for global and local measures of spatial autocorrelation, utilizing the equation described above is designed to run on samples of 30 or more. The Early Historic Period only contained 9 sites, significantly reducing confidence in the results. Mitchell (2009: 126) demonstrates a case in which 9 features appear to have a statistical pattern, but that the low n renders the pattern insignificant. I present the results of Moran's I run on the 9 Early

Historic sites to provide to suggest what may be possible trends identified visually and which may be substantiated in the data if more samples had been recovered.

7.9.2 **Global Moran's I**

The Global Moran's I statistic did not detect clustering or dispersion of imported ceramics densities at any scale during the Early Historic Period (Table VI). This means that at the global level, there is no detectable spatial autocorrelation of imported in the Early Historic Period. This evidence may indicate that prior to Spanish arrival, trade ware use across the area may have varied, but not in a spatially patterned way. This finding would be contrary to the patterns found in other places in the pre-Hispanic Philippines.

TABLE VI
GLOBAL MORAN'S I STATISTIC

Distance Band (m)	Moran's I	z	p ¹
1000	0.13	0.50	0.62
2000	-0.10	0.08	0.94
3000	-0.27	-0.64	0.52
4000	-0.26	-0.82	0.41
5000	-0.21	-0.57	0.57
6000	-0.10	0.20	0.84
7000	-0.10	0.20	0.84
8000	-0.13	-0.01	0.99
9000	-0.13	-0.08	0.94

¹ The probability that the observed spatial pattern was created by some random process (ArcGIS 10.2).

During the period preceding colonization, the Porcelain Period is in part characterized by the restricted distribution of elite goods, in which elites residing at a port community control the movement of imported goods (Junker 1999; Nishimura 1992). Elites traded some imported wares with surrounding villages and villages upriver in return for natural resources to be traded with foreign merchants; to be used as a status signal, to be used in gifts and alliance building through feasting events and marriages, and to solidify the loyalties of those working in service of the elite. The resulting archaeological pattern are 'elite zones' in which high concentrations of elite wares are present. Fewer prestige goods will be located the further one moves away from the elite sites in areas in which lesser elites and common folk live.

There are two potential interpretations of this result. If this is a valid result, then it would indicate that social stratification in this region was minimal compared to areas like Cebu

City and Tanjay during the pre-Hispanic time period. The disparity of prestigious goods identified in the descriptive statistics do not relate to a primary elite center surrounded by lesser and non-elite habitation areas. It is more likely that the small sample number, and very few “high density” sites, make the results invalid. The descriptive statistics indicate that the imported ceramic densities during the pre-Hispanic and the Early Colonial Periods have the same distributions, so it may be that they show the same spatial patterning as well , but that the few number of pre-Hispanic sites obscures spatial patterning. As will be discussed below, negative spatial autocorrelation was identified among imported ceramics during the later colonial period, which is argued to be similar to the distribution of prestige wares found in contemporaneous sites in Cebu City and Tanjay.

7.9.3 **Local Moran’s I**

The Local Moran’s I, which emphasizes local spatial variation was also applied to the pre-Hispanic dataset. The result is one “hotspot” of high imported ceramic density during the Early Historic Period at distance bands of 3000-9000 meters with a significance level of less than 0.05 (Figure 32). Again, these results have little strength given the small sample size. If the result is to be trusted, then the site in red below had significantly more imported ceramics than its neighbors, when its “neighborhood” was defined as all the sites located within a 3000 to 9000 m radius. One possible interpretation of this result is that this was an area of elite activity, like the home of an elite family. If this was the case, imported ceramics would be brought into the community by this family via trading partnerships, as gifts from other elite in the region, and spoils from raids. The small number of pre-Hispanic sites identified make it difficult to have a high degree of confidence in this interpretation.

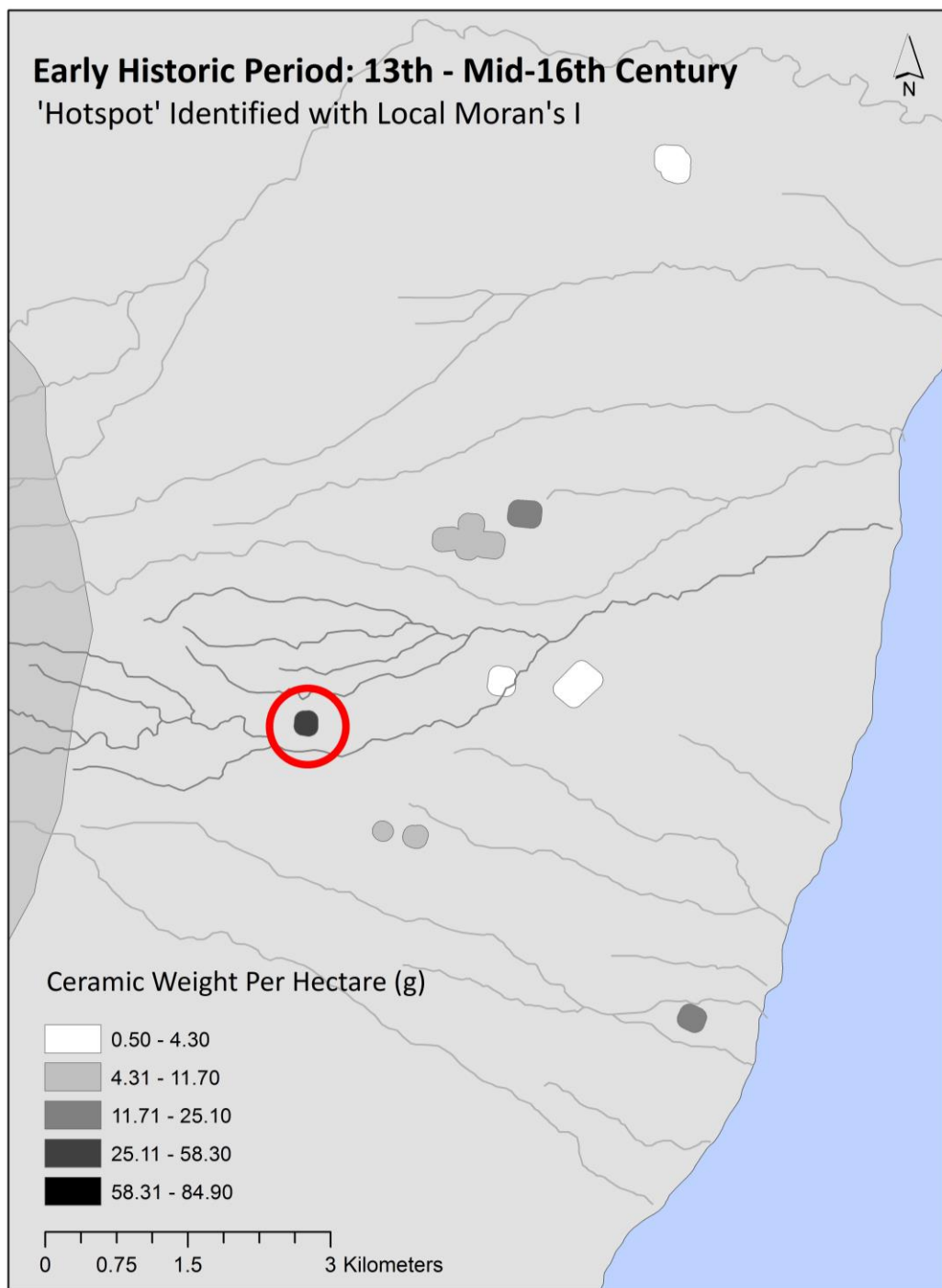


Figure 32. The 'hotspot' identified in 3000-9000m neighborhoods significant to less than 0.05 is circled in red.

7.10 Early Spanish Period

7.10.1 Global Moran's I

Results from the Global Moran's I statistic for trade ware densities during the Early Spanish Period show a trend toward being dispersed within the 1000 m distance band (Table VII), and to a lesser extent at the 2000 m distance band. This indicates a pattern of negative spatial autocorrelation. This means that sites with either large amounts of imported ceramics, or sites with small amounts of imported ceramics, are more evenly spaced across the dataset than would be expected in a random distribution. Since this the formula for this statistics emphasized the global pattern, this result is indicative of a type of central place theory, in which similar sites are equally spaced from one another. This pattern, is similar to descriptions of settlement patterns in other areas of the Philippines, like Tanjay and Cebu City, in the *preceding* Porcelain Period. The sites with large amounts of ceramics may represent areas of elite activity, and served as control points for the restricted access of imported wares to the community.

TABLE VII
GLOBAL MORAN'S I STATISTIC

Distance Band (m)	Moran's I	z	p ¹
1000	-0.25	-1.57	0.12
2000	-0.12	-1.25	0.21
3000	-0.08	-1.04	0.30
4000	-0.06	-0.72	0.47
5000	-0.06	-0.90	0.37
6000	-0.06	-0.93	0.35
7000	-0.06	-0.95	0.34
8000	-0.06	-0.99	0.32
9000	-0.06	-0.97	0.33

¹ The probability that the observed spatial pattern was created by some random process (ArcGIS 10.2).

7.10.2 Local Moran's I

An investigation of the local patterning of spatial autocorrelation identified hotspots at different difference bands with p values of less than 0.05. Three hotspots surrounded by areas of low trade ware density were found when using a 1000m distance band (Figure 33). Two hotspots were identified using a 2000m distance band (Figure 34). And only one hotspot was identified when considering the entire data area as a neighborhood of 9000m (Figure 35). The differences in hotspot identification at different scale of analysis, different neighborhood sizes, indicates different social behaviors that caused these spatial patterns.

At the broadest scale, a neighborhood covering the entire dataset at 9000m, only one site is identified as having significantly more imported ceramics than all the other sites. This site may represent the settlement of the most elite member of the Malangwa watershed during

the Early Colonial Period. Reduced to only analyzing neighbors within 2000m, there are two sites with significantly more imported ceramics compared to its neighbors. In the smallest neighborhood used, 1000m, three sites were identified as having significantly more imported ceramics than its immediate neighbors. Ultimately, these three sites may represent elites on relatively equal footing, with some economic disparity present, or they may represent a hierarchy within the elite class, with the most southerly elite site representing the most influential. In any case, these three sites appear more evenly dispersed in the landscape than would be expected in a random distribution of imported ceramics.

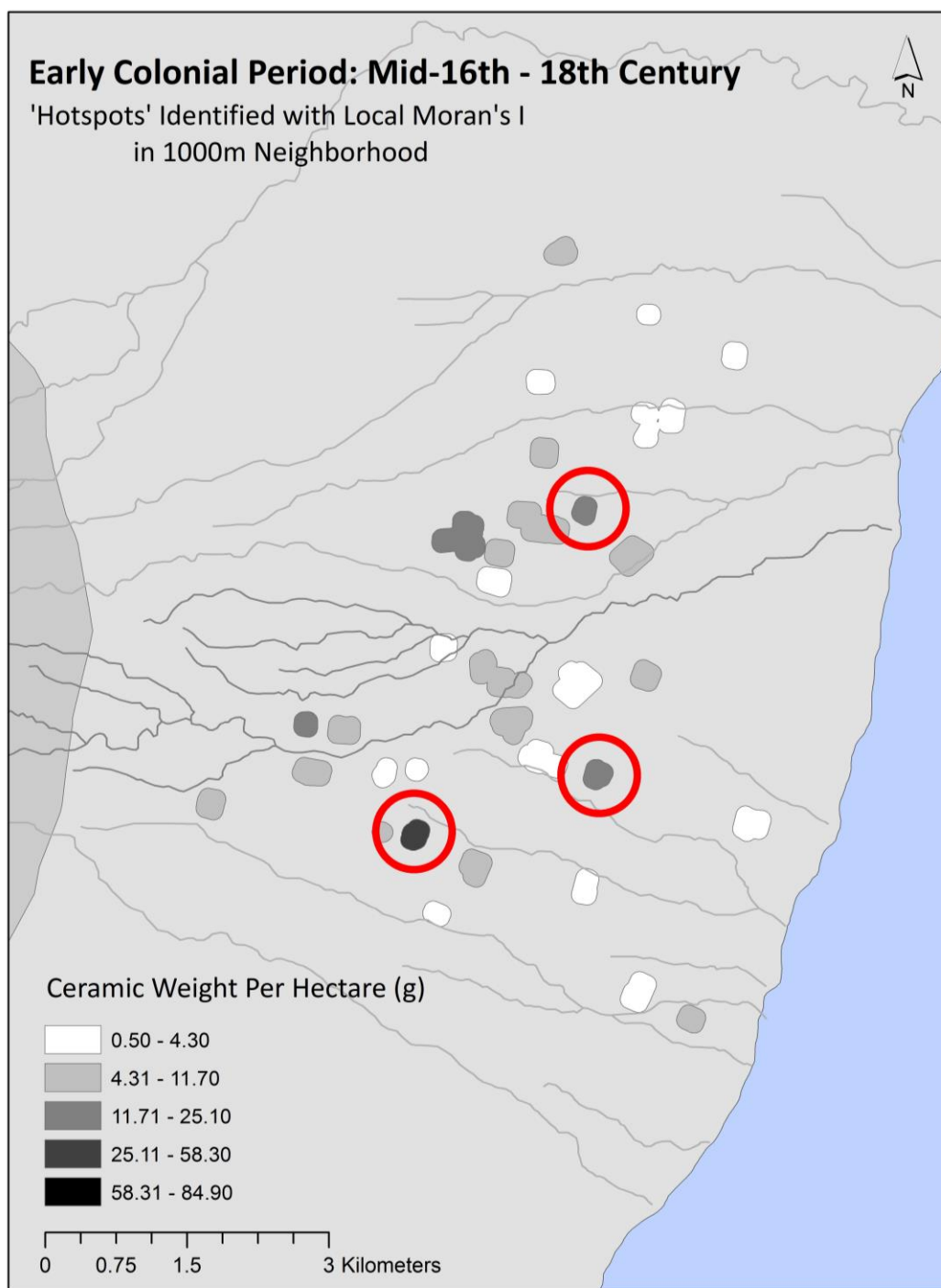


Figure 33. The 'hotspots' identified in 1000m neighborhoods with p values of less than 0.05 are circled in red.

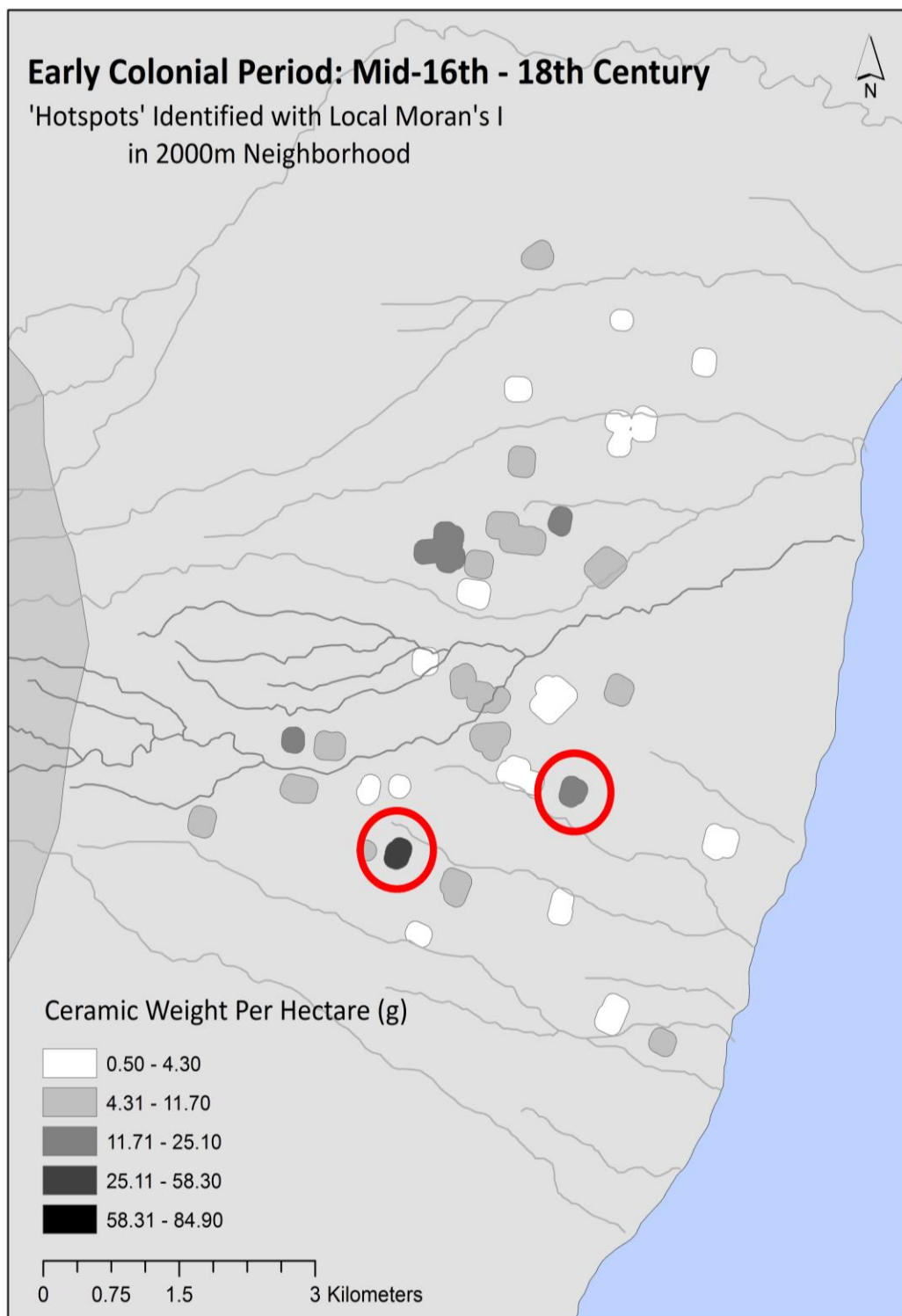


Figure 34. The results of the local Moran's I analysis with a distance band setting of 2000 m with p values of less than 0.05. The areas in circled in red are high trade ware density sites surrounding by lower density sites.

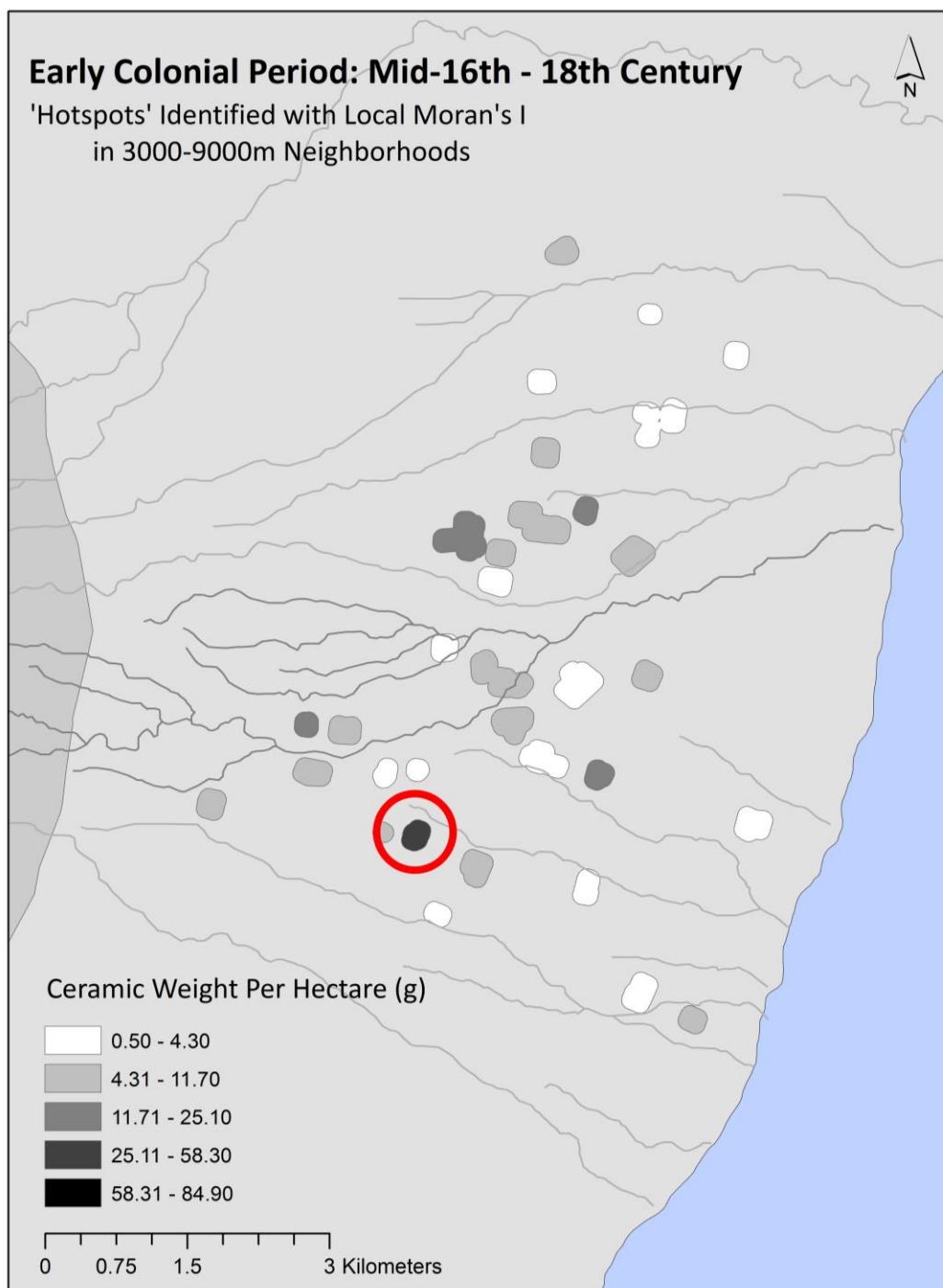


Figure 35. The results of the local Moran's I analysis with a distance band settings from 3000-9000 m a p values of less than 0.05. The area circled in red are high trade ware density sites surrounding by lower density sites.

7.11 Late Spanish Period

7.11.1 Global Moran's I

The Global Moran's I Statistic for site trade ware densities did not identify significant spatial autocorrelation within any neighborhood size (Table VIII). This means that the distribution of imported ceramics during the Late Colonial Period appears random. However, there is a numerical outlier, site VII-2012-X2 of the Late Colonial Period has significantly more ceramics than any other site. The Moran's I was run again, this time with the outlier site removed to identify if its high value was altering an underlying spatial pattern, in other words to identify if there was a pattern occurring among sites interpreted as lesser or non-elite compared to site with the very high density of imported ceramics. Table IX shows that once the outlier is removed, the data tends towards positive spatial correlation at neighborhood sizes of 1000m and 4000m. This is opposite of the negative autocorrelation identified during the Early Colonial Period. Taken together with the descriptive statistics, the pattern of imported ceramics during the Late Colonial Period appear to be of significant disparity in terms to access to elite wares, with imported ceramics being highly restricted to one site. When the site with the comparatively very high number of ceramics is removed, the sites tend toward being similar to their neighbors, at least those within 4000m.

That this pattern is very different from the preceding period is not surprising, this area underwent a major change in economy, with an influx of colonial and international investors and the importation of migrants from other islands to work plantations and harvest hard woods. The dramatic increase of socioeconomic disparity is well documented. The access to imported wares seems to be categorized by areas, as in sites close to one another seem to have

the same amount of access to imported wares, seems in line with the money economy introduced by the Spanish during the 19th century. People living in the same areas would work similar jobs and have similar socioeconomic statuses that relied upon involvement in a community settlement pattern, as was the case before the implementation of raising cash crops.

TABLE VIII
GLOBAL MORAN'S I STATISTIC

Distance Band (m)	Moran's I	z	p ¹
1000	0.09	0.79	0.43
2000	-0.03	0.03	0.97
3000	-0.05	-0.30	0.77
4000	-0.03	0.01	0.99
5000	-0.05	-0.54	0.59
6000	-0.03	0.02	0.98
7000	-0.03	-0.06	0.95
8000	-0.03	-0.04	0.96
9000	-0.03	-0.05	0.96

¹ The probability that the observed spatial pattern was created by some random process (ArcGIS 10.2).

TABLE IX
GLOBAL MORAN'S I STATISTIC

Distance Band (m)	Moran's I	z	p ¹
1000	0.184702	1.520626	0.128354
2000	0.036489	0.941513	0.346442
3000	0.006213	0.757138	0.448967
4000	0.015009	1.195969	0.231709
5000	-0.00726	0.714612	0.474849
6000	-0.00136	0.955557	0.339296
7000	-0.00176	0.974609	0.329754
8000	-0.00338	0.932929	0.350857
9000	-0.00221	0.977363	0.32839

¹ The probability that the observed spatial pattern was created by some random process (ArcGIS 10.2).

7.11.2 **Local Moran's I**

The Local Moran's I Statistic identified one hotspot with a p value of less than 0.05 of high trade ware density using distance bands from 1000-4000 m (Figure 36). Interestingly, the site of highest imported ceramic concentration was not identified as significantly different from its neighbors within 4000m. The southernmost site VII-2012-S1, however, is identified as significantly higher than its closest neighbors. Two hotspots were identified using distance bands from 5000-9000 m (Figure 37). This time both VII-2012-S1 and VII-2012-X2 were identified as having significantly more imported ceramics than the average of their neighborhoods that extend to the entirety of the analysis region. That site VII-2012-X2 was not identified as a hotspot within neighborhoods of 4000m, is most likely because the site immediately south has a middling amount of ceramics compared to the entire dataset, and

because the VII-2012-X2 does not have northerly neighbors to reinforce the pattern of sites with small densities of imported ceramics, the analysis could not differentiate it a significantly different. The site immediately to the south of VII-2012-X2, VII-2011-V2, may compose the same elite site or be related to that site. In any case, the two sites indicated in Figure 37, indicate areas of concentrated wealth, as represented by imported ceramics, unlike the other sites in the region. The positive spatial autocorrelation identified with the removal of the highest imported ceramic yield, indicates a significant difference from the previous Early Colonial Period, and arguably a transition to greater family economic independence, in which wages were earned through selling of goods and labor, as opposed to a subsistence economy in which obtaining luxury items depended on person and political relationships.

Also of interest, is the changing location of these elite areas. Site VII-2012-V2 is consistently be in the upper range of imported ceramic concentration. While it was not picked up by the Local Moran's I analysis during the Early Colonial Period as significantly different from its neighbors, there was still a high number of ceramics at this site from that time. It is possible that the datu turned principalia family living in this area were the only family successfully able to parlay their early colonial successes into socioeconomic success in a money economy. Given their inland location, roughly 5 km from the coast, which was common in pre-Hispanic times to avoid raids from Mindanao and Sulu, they may have found an economic base in the harvesting of hardwoods indigenous to the area.

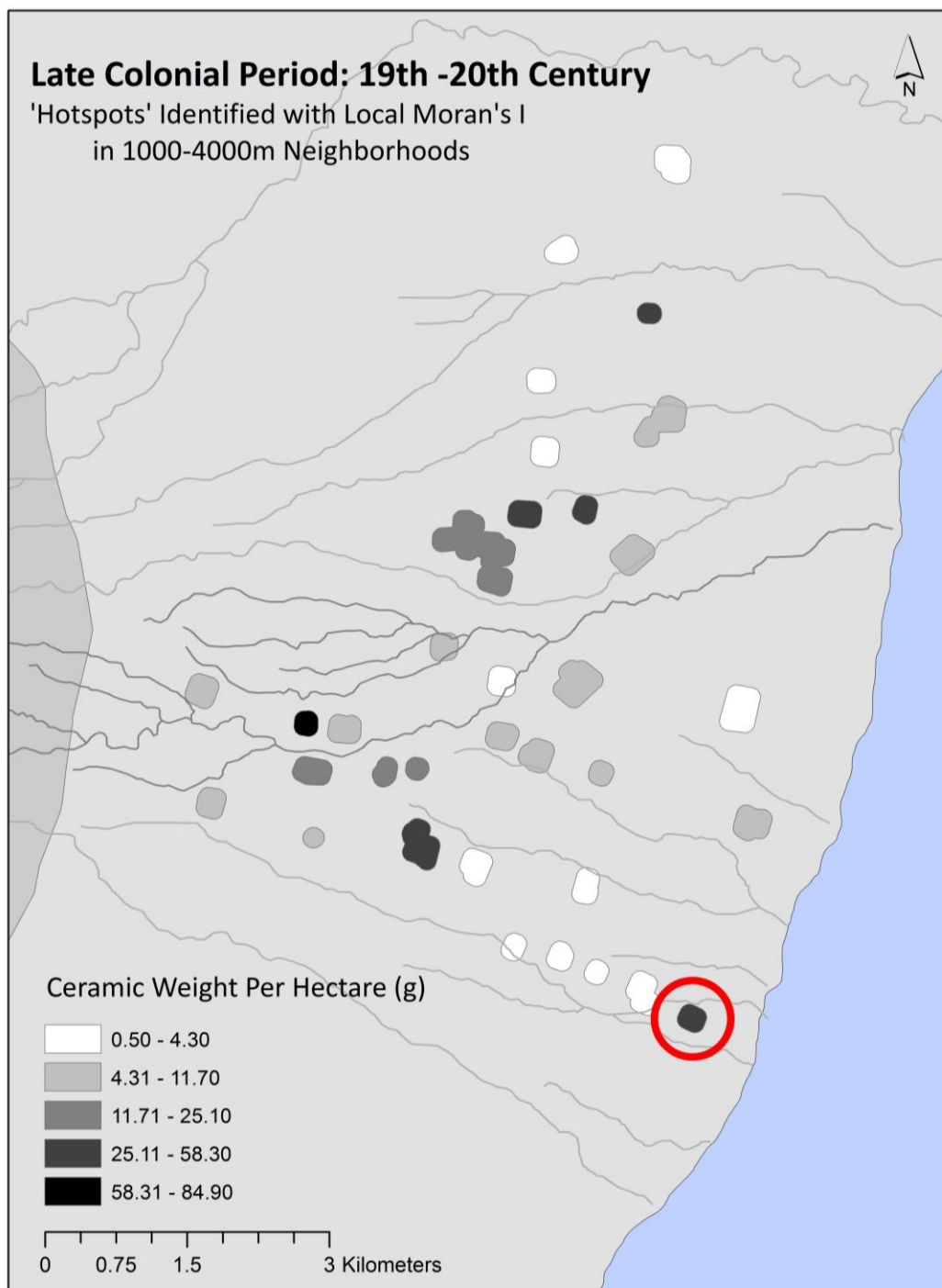


Figure 36. 'Hotspot' in neighborhoods of 1000-4000m with a p value of less than 0.05.

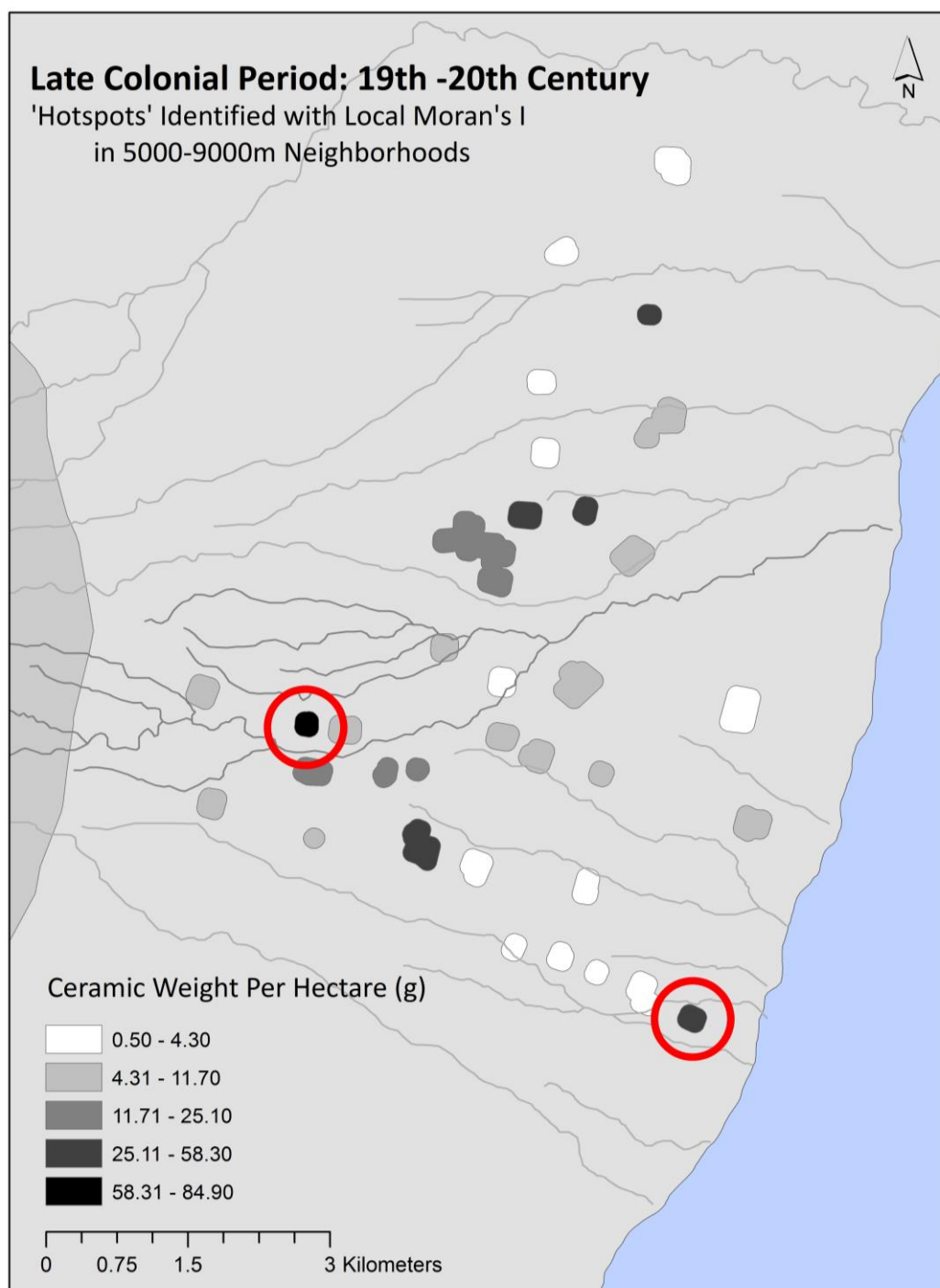


Figure 37. The Local Moran's I Statistic identified two hotspots, indicated in red, with distance bands from 5000 m to 9000 m with p values of less than 0.05.

7.12 **Conclusion: Aspects of Imported Ceramic Spatial Patterning over Time and Space**

The purpose of this chapter was to test four hypotheses suggested by historical documents and archaeological studies regarding the prestige economy in the Philippines before and after Spanish arrival. My first two hypotheses were that there was a decline in the amount of imported ceramics entering the Malangwa watershed after the 16th century, but that its distribution was similar to the distribution of imported ceramics in the region prior to colonization. Examining the counts of imported ceramics from the Early Historic Period and the Early Colonial Period, it was apparent that contrary to my hypothesis, more ceramics were imported to the Malangwa watershed after colonization. While the spatial analysis was not conclusive as to the patterning during the Early Historic Period, the similarity of the distribution of values to the Early Colonial Period and the presence of a site that contained more imported ceramics than any other site, suggest that during the Early Historic Period the region practiced a prestige economy similar to that found in contemporary Tanjay and Cebu City. In those areas, as suggested for the Malangwa watershed, elite wares are restricted; they are brought into an area by elite and are used to trade for natural resource to facilitate interregional trade, for use as status symbols, and for use as gifts to the community, to lesser elites, and to help cement alliances. Archaeologically, as is the case along the Malangwa, an elite habitation area has high concentration of elite wares, such as imported ceramics, and surrounding sites have increasingly less access to imported wares.

The value distribution of imported ceramics in the Early Colonial Period match that of the Early Historic Period, evidence that my second hypothesis was correct. While the small sample number of pre-Hispanic sites makes statistical analysis unreliable, a visual examination

of the distribution of imported ceramics and the comparable distribution from the Early Colonial Period, make a good case for identifying the archaeological distribution of the two time periods as similar. What is different from my second hypothesis is that with the larger amounts of imported ceramics came many more sites. They show a similar distribution to the Early Historic Period, but there are more of them, including potentially three elite areas that are surrounded by sites with more restricted access to imported ceramics. These findings bring up several theoretical issues and more questions regarding the economy during the Early Colonial Period. The initial question is, how were these imported ceramics arriving in the Malangwa watershed? While a definitive answer will require sourcing of the material to reconstruct trade routes, historical documents indicate several possible vectors. The most likely of which, is trade with Muslim sultanates on Mindanao and Sulu. The next theoretical issue, is the role of the terrain and geography in developments of the indigenous prestige economy as they dealt with the tribute burdens of the *encomienda* system. It seems the rugged terrain and proximity to the southern sultanates was more than simply a protective factor. While they were required to intensify subsistence activities to satisfy tribute demand, they were free from resettlement and intense influence from the Catholic Church. That their topography protected them from these hardships, in combination with their access to prestige goods, likely from the south, meant that their prestige economy was not only protected, but intensified into the Early Colonial Period – a trend that has not been established in any other location in the Philippines at this time.

My third and fourth hypotheses were that there was an increase in the amount of ceramics imported into the Malangwa watershed as the Spanish transformed the indigenous subsistence economy into a capitalist cash crop economy at the end of the 18th century; and

that this time of transition will be marked in the archaeological record by a change in the distribution of imported wares. Comparison of imported ceramic amounts showed that there was an increase in imported ceramics in the 19th and 20th centuries in the Malangwa watershed. This is conducive with the opening of Philippine ports to international trade and the introduction of a money economy. My fourth hypothesis was also correct, in that the distribution of imported ceramics was different from the Early Colonial Period to the later colonial period. A look at the value distribution indicates a severe disparity in access to imported ceramics not previously experienced in the region. I had considered that a few of the early colonial elite sites would be the base of elite areas in the later colonial period, as the *datu* class developed into the *principalia* class. This, however, was largely not the case, as only one potential elite area continued on in high status into the Late Colonial Period. This illustrates the severity of the change from the subsistence economy, even though burdened with tribute payments, and the later economy based on plantations and logging.

Because imported ceramics, particularly Chinese porcelain, continued to be used as status symbols, it is interesting to consider the potential cultural meaning of these objects. During the Early Historic Period and the Early Colonial Period, while access to imported ceramics was restricted, they reflected a communal participation in the prestige economy. Obtaining prestige items depended upon one's relationship to the elite. An elite individual could cultivate trading partnership or local alliances with other elite to secure access to prestige wares. Elite could in turn trade locally for natural resources, or provide lavish feasts for the community and other elites, and use the items as gifts and for alliance building. In a way, prestige items reflected your personal relationships and your relationship to the community. In

a money economy the basis of these bonds were removed. Prestige items could be purchased, and your personal relationships did not necessarily correlate with the amount and quality of prestige items that one possessed. How the cultural meaning of continuously used prestige items changed with the introduction of a money economy, along with the interpretations of the results introduced here, will be discussed in detail in the following chapter.

8. DISCUSSION: COLONIAL IMPACTS ON THE MALANGWA WATERSHED COMMUNITY

Previous to Spanish arrival, the indigenous populations of the Philippine archipelago participated in a dynamic web of Southeast Asian and Indian Ocean trade that facilitated elite power at the top of their social status systems. The devastating impact of colonization on islands like Luzon and Cebu is detailed in the historical literature. The process of Spanish control over the entire region took centuries, such that most areas were slowly incorporated under the direct purview of the crown. However, some of Islamic polities in the south (most notably Sulu) and some remote interior small-scale farming and foraging populations remained essentially beyond direct economic and political entanglement with the Spanish colonizers until the late 19th century and even beyond. The manner of incorporation varied by region and colonizing objectives. This study investigated two theoretical relationships within this colonization process: (1) the relationship between terrain and geography with colonial prestige economies and (2) the relationship between economy and the social meaning of status objects at the communal scale.

8.1 Changes and Continuities in Imported Ceramic Distributions from the Pre-Hispanic to the Early Colonial Period: Hypotheses 1 and 2

Four hypotheses were tested in this investigation relating to these relationships. The first hypothesis was that early Spanish activity in the Philippine region disrupted indigenous on Negros Oriental, as it had on Luzon and Cebu, resulting in fewer ceramics being imported after Spanish arrival. Second, that the rugged terrain and proximity to the Islamic raiders of Mindanao and Sulu made the southeastern coast of Negros Oriental an unattractive potential settlement area for Spanish colonizers. In other words, that rugged terrain, which is often

discussed in terms of the extensive effort required to make it habitable and “productive,” and the specific geography of the region provided a relative haven for indigenous populations by keeping the region beyond complete Spanish control, maintaining a “backwater” status throughout early colonization. In Chapter 2 I reviewed the historical records and studies that maintain Negros Oriental did not play a substantial early role in the early Spanish colonial economy, but that it was incorporated into the *encomienda* system. This literature review indicates that the terrain and geography of Negros Oriental play a decisive role in their slow incorporation into complete Spanish administration.

I tested the degree of that impact, hypothesizing that, like those areas historically reviewed, the foreign trade networks supporting elite social and political standing in the communities of the Malangwa watershed were disrupted by Spanish activities in the regions, particularly by the restricting of Chinese trade to Manila; but that foreign wares available to the Negrenese during early colonization continued to be used as they had before Spanish contact. Before the Spanish arrived foreign objects, such as metal, beads, textiles, and ceramics, were used by indigenous elite to signal their social standing; demonstrate their economic, political, and magical prowess; and to maintain allegiances and trade partnerships with subordinates, other elite, and foreign traders. To obtain these items, elites facilitated the collection of natural resources for trade at coastal ports. The communities in pre-Hispanic Philippines practiced a relatively flexible social system that allowed debt and repayment through goods and labor. The elite, with their “big man” status supported by their wealth of prestigious items, regularly credited their supporters with resources for later repayment; which in turn furthered their elite standing as they developed a generous and respectful reputation.

The archeological signature of this social pattern, as found in pre-Hispanic Tanjay and Cebu City, are “elite zones” at a coastal primate settlement composed of concentrations of prestige wares, both foreign and local; remains of large residences; and high quantities of high quality foods. These elite zones are surrounded by settlements characterized as increasingly less dense in prestige wares the greater the distance from elite zones, with assemblages composed of increasingly locally produced goods, in addition to smaller houses and lesser quantities of high quality foods. This distribution is created as elite obtain prestigious goods for their own personal use, but also redistribute goods to family, their subordinates, and debtors; in addition to giving gifts to regional elites to maintain community alliances. Unlike the lattice formation envisioned by Central Place Theory (Christaller 1966; Crumley 1976; Haggett 1965), with economic hubs located in the center of secondary and tertiary settlements, this settlement system creates a dendritic pattern such as seen at Tanjay where elites reside at the port with supporting lesser and non-elites residences, and moving up along the river, lesser and non-elites having access to fewer foreign wares and the settlements being less populous.

My expectation for the Malangwa watershed was that this traditional pattern would be present in the foreign ceramics previous to Spanish colonization. Following colonization, access to foreign ceramics would lessen or become erratic, but the general pattern – areas of relatively densely concentrated prestige goods surrounded by areas with increasingly less prestige goods – would remain intact. This reasoning was based in the historic literature, that while indicating a disruption in trade networks with Spanish colonization, also indicates that Spanish administration in the region was restricted to the *encomienda* system, allowing the inhabitants to continue their subsistence farming and gathering; but while they are burdened to provide

tribute in kind and service, they were not substantially socially or economically restructured. This means they could have maintained the community connections that involved debts and repayment, and continued to lean upon the elite status groups for support. The elite were required to collect tribute, developing into the *principalia* class, but their subordination to the Spanish would have remained relatively minimal, with only the *encomendero* and his staff visiting their communities during early colonization; as missionary conversion efforts were initially unsuccessful and there was no enticing military reason for Spanish forces to be omnipresent. This hypothesis implies a continuity of communal reciprocity from the pre-Hispanic into the Early Colonial Period that was made possible by the traditionally conceived “difficult” terrain of southeast Negros Oriental, creating not only a “colonial backwater” but a refuge for indigenous community social systems.

8.1.1 **Imported Ceramics during the Early Historic Period**

To test these hypotheses, foreign ceramic distributions in the Malangwa watershed were compared from the pre-Hispanic and Early Colonial Period. The results of this analysis demonstrated a pattern during the Early Historic Period that is arguably a traditional pattern of foreign elite good distribution (Figure 38). The distribution of foreign ceramic density values shows that more people had little access to foreign goods, while only a few had greater access. Unlike the pattern found in areas such as Tanjay, the potential elite zone found during this time period is not on the coast, but in the upland.

Artifacts from the Malangwa watershed did not reveal evidence of a primate settlement at the coast, or the dendritic settlement pattern found elsewhere in the Philippines and Southeast Asia. Instead the evidence appears during the Early Historic Period to be at least one

elite settlement about 6 km from the coast, with settlements with less access to foreign goods between the elite settlement and the coast. Bacus (1996) suggests that there may have been a primate center at the outlet of the Dumaguete River, about 2.5 km from the outlet of the Malangwa River. While Bacus was unable to find clear evidence of a primate center at Dumaguete, her hypothesis is supported by Early Colonial Records which place an *encomienda* “center” at Dumaguete, suggesting a relatively large settlement (Cuesta 1980). This potential Dumaguete chiefdom base, assuming it followed the pattern established at Tanjay, Cebu, and Manila, would have exerted political and economic control over the upland river communities to facilitate the movement of goods to the coast for trade with foreign merchants. The proximity of the Malangwa watershed to a Dumaguete chiefdom, combined with a lack of evidence of a primate center at the mouth of the Malangwa River, suggest that the settlements in the Malangwa watershed may have included elite settlements that did not have direct foreign trade relationships, but rather received imported goods from other regional alliances in return for tribute and labor. While the pattern identified in this region is not dendritic, I argued that it is a likely portion of a larger settlement system, in which potential elite settlements likely represent lesser elites with loyalties or allegiances to more powerful *datu*, perhaps in Dumaguete to the north or Dauin to the south (at which another *encomienda* center was placed after colonization). Access to imported ceramics would then be indirect, and dependent on regional relationships.

An alternative, and perhaps complimentary, explanation for the identified settlement pattern is that the Malangwa River is not currently, and perhaps was also not in the past, a substantial waterway on which to move goods from the island’s interior to the coast. It would

not necessarily have been to the *datu's* benefit to reside at the coast. There is substantial evidence of earlier 'Metal Age' occupation in this upland area, although potential economic benefits are unclear. In addition, settlement away from the coast to avoid surprise raids from the sea was also common in this area, which is historically documented during the Early Colonial Period.

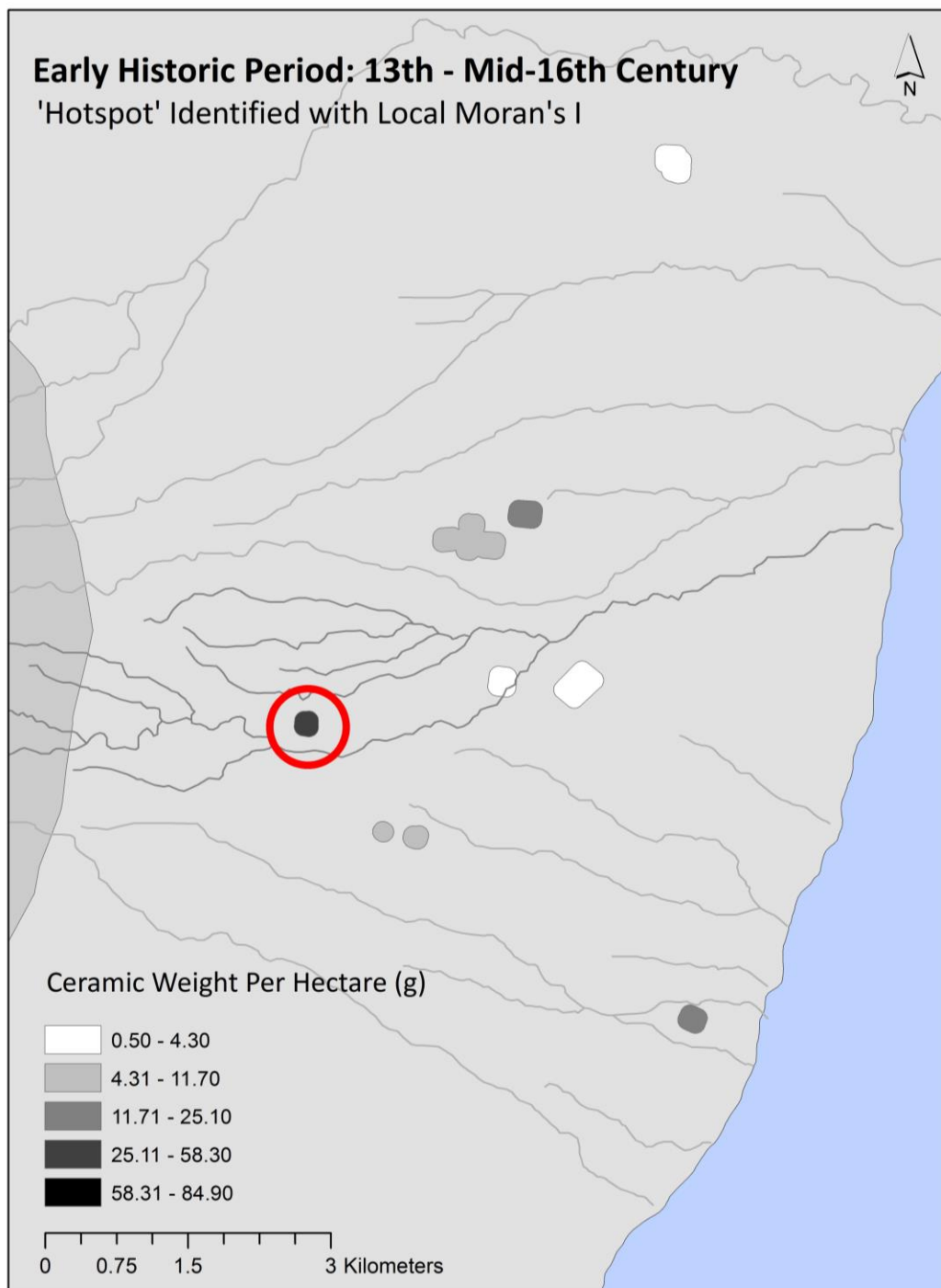


Figure 38. Distribution of imported ceramic densities during the Early Historic Period. Potential elite area is circled in red.

There is some difficulty in identifying patterns in the distribution of foreign wares during the Early Historic Period because only nine sites from this period were identified. The small number of sites removes the strength of statistical and spatial analytical results. The distribution of trade ware values across the sites does quite clearly illustrate that there was an unequal access to foreign ceramics during the Early Historic Period.

8.1.2 **Imported Ceramics during the Early Colonial Period**

8.1.2.1 **Increased Imported Ceramic Amounts and Origins**

The spatial distribution of imported ceramics during the Early Colonial Period (mid-16th – late 18th century) exhibited an intensified pattern of the one identified during the Early Historic Period. With 34 sites containing foreign ceramics and generally more imported wares identified during the Early Colonial Period there was substantially greater access to foreign ceramics after Spanish arrival in the region (Figure 39), which is contrary to my first hypothesis that there would be less access to foreign wares after the mid-16th century. This is a striking result, as most Philippine regions that have been studied indicate a decrease in indigenous access to foreign imports. I suggest that this is because previous studies focus on major Spanish establishments during the earlier colonial period, particularly Manila and Cebu. The Malangwa watershed is different because it was not of particular interest to the Spanish during the early colonization process. Thus, instead of hypothesized trade disruption in the region adversely affecting all low land inhabitants, access to foreign goods continued and even increased after the arrival of the Spanish.

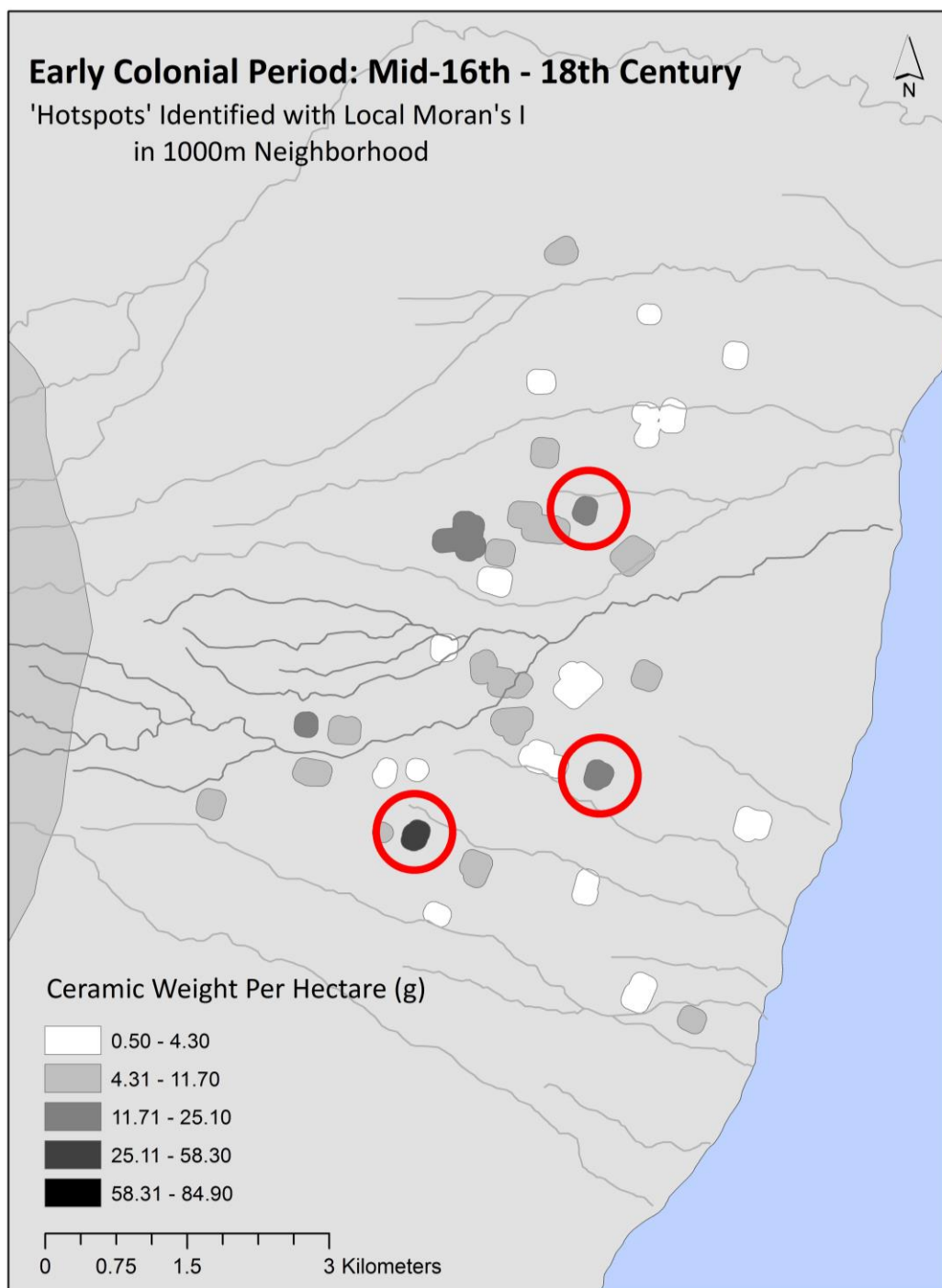


Figure 39. Distribution of imported ceramic densities during the Early Colonial Period. Potential elite areas are circled in red.

Without data regarding the source or trade routes over which these imported ceramics travelled, it is not possible to ascertain how they arrived on Negros Oriental with great confidence. But there are a number of interesting avenues to explore in future research which would greatly increase our understanding of the resiliency of traditional economies and the dynamics of Southeast Asian trade during the 16th-18th centuries. The first potential explanation of how indigenous trade networks might have been maintained after the archipelago conquest is through illicit or unsanctioned trade. The Spanish cut off the mass movement of Chinese goods into the archipelago by dealing with Chinese merchants in Manila and then loading Chinese goods onto Spanish Galleon ships, or at least that is what we know of licit trade. However, there is substantial potential of illicit movement of goods between Chinese merchants and other parts of the Philippines. Philippine polities were likely quite knowledgeable about ways to by-pass official trade channels. For example, during the Late Ming Dynasty China established trade restrictions on unofficial trade (Li 2010). However, goods continued to be imported into the Philippines from including Southeast Asia middlemen traders and other furtive trade ware shippers.

By the time of Spanish arrival in the Philippines in 1521 AD, Islamic sultanates were already established on Mindanao and the Sulu archipelago (Figure 40), and Islamic ties were developing in Manila when Legazpi captured Manila (Reid 1988; Hall 1985). In fact, the Spanish were unable to take control of the Maguindanao sultanates on Mindanao until the mid-19th century. Just as the pre-Hispanic populations of the central and northern islands, elite power on Mindanao and Sulu relied heavily on the acquisition of slaves for labor and trade (Warren 1985: 65-66). The strength provided by Islamic traditions and connections to Islamic trade in

the Indian Ocean, the sultanates of the southern archipelago were able to consolidate their power and integrate the scattered communities into more tightly associated alliances. This strength allowed the southern populations to more effectively rebuff Spanish infiltration.



Figure 40. A map of the geographic relationships between Luzon, Negros, the Sulu Archipelago, and Mindanao.

Over time as part of the colonization process, indigenous movement in the Luzon and Visaya areas were restricted to facilitate tribute collection and control of the population. Traditional raiding events lessened under Spanish control, but not in Sulu and Mindanao. From historical documents, it is clear that the Spanish were often frustrated by raids upon Spanish held zones for labor and goods. While Spanish documents emphasize the destruction wrought by Islamic raiders, there was a significant amount of trading among the groups previous to Spanish arrival which likely continued into the 17th century. This trade was mostly facilitated by Chinese ships (Warren 1985). Warren writes that the Sulu archipelago is mentioned in Chinese records in the Yuan Dynasty (1278-1368) (1985: 5). Chinese histories indicate that Chinese merchants continued, at least from that initial mention, to sail through the Philippine archipelago making trading stops along the way to Sulu for additional business.

When the Spanish colonized the Philippines, they began to restrict trading of international vessels outside of Manila (Warren 1985: 56), but as described in Chapter 2, it took some time for their control to be strong throughout the archipelago, especially in the Sulu Sea which was home territory for pirates (Warren 2003: 1). Evidence of Chinese junks stopping in the Visayas comes as early as the 18th century (Warren 1985: 6). Slowly, the Spanish were better able to police the Sulu Sea and restrict Chinese trade in the archipelago to Manila, although Sulu was still operating as an independent sultanate. During this time trade between China and Sulu increased (9); with the Chinese making stops in the Visayas, including Negros, to pick up staples like rice and sugar for trade in Sulu (56). As Spanish control increased, heavy fines and penalties were placed on Chinese ships found trading outside of Manila (56), but with profits from ships ranging from 30-300%, Spanish penalties were often considered worth the

risk (8). By the mid-19th century, the Spanish were able to force Sulu traders into using Manila as an entrepôt for trade with the Chinese. This did not encourage more Sulu traders to venture into Manila, but rather encouraged a shift in Sulu trade toward Lubaun on Borneo and Singapore. Thus, while poorly documented, there is evidence of Chinese junks trading throughout the archipelago, with Spanish authorities little able to discourage them during the Early Colonial Period. While there is no evidence of substantial sugar or rice cultivation around the Malangwa watershed during this time, there was substantial rice cultivation at Tanjay, and likely in other Negros areas.

Direct trade with the Chinese by those living around the Malangwa watershed may have taken place, exchanging items like natural resources or handicrafts for Chinese goods although it seems more likely that indirect trade dominated due to the potential for political and economic relationships with primate coastal centers nearby, but outside the Malangwa watershed. Indirect trade would entail imported goods entering the Malangwa watershed via trade and gift giving from regional sources, potentially from direct trade which may have occurred in Dumaguete or Dauin. Regardless of the exact vector, there is a precedent for foreign goods to continue movement into the region, even though sources indicate that other areas were already under strict Spanish control by the 18th century.

Alternative avenues for the movement of foreign goods into Negros Oriental is through Spanish administrators and Chinese immigrants who were allowed more freedom of movement throughout the region. The Spanish, in developing the elite class into the *principalia* made certain concessions, such as reduced labor requirements for them and their eldest sons that would help engender some loyalties. Large scale movement of goods, such as seen on Negros

Oriental, by the Spanish to the *principalia* seems unlikely given the lack of historical evidence. Movement of goods by the Chinese immigrants and Chinese mestizos would be more probable than via direct Spanish trade with the indigenous population. This is because of the movement restrictions were periodically less on these groups than those placed on the indigenous population. Access to these goods would have come through Manila; however, and the Spanish would have largely controlled the wares brought into the port, with the majority being received by the Spanish for movement onto a galleon. Through time the goods moved via the Spanish Galleons began to lose value within the empire and at its borders (Skowronek pers. comm. 03/28/2014), with commoners having regular access to Chinese porcelain. Based on terrestrial and shipwreck sites, Skowronek argues that by the 18th century porcelain was rarely brought from Vera Cruz to Spain.

Additional options for trade include merchants from Indonesian and other Southeast Asian regions, although their movement in the region are not well documented in the literature. Given the documentation of what might have been simultaneously trading and militaristic voyages, referred to as raiding parties in Spanish records, it seems that Sulu and Mindanao traders/raiders were primary vectors for these incoming foreign wares into the southern Visayas. It is not currently possible to indicate the trading vectors through which the wares arrived with a high degree of confidence, although future use of sourcing techniques involving the identification of trace elements in ceramic composition and their geographic origin will help in constructing the movement of status goods like porcelain into the Philippines and through the islands of the archipelago.

8.1.2.2 Spatial Distribution of Imported Ceramics

Looking only at the distribution of imported ceramic density values of the 34 sites dated to this earlier colonial period, the skewed curve is reminiscent of the pre-Hispanic curve. A Student's T-test confirmed that there is no statistically significant difference between the two distributions. The distribution during the Early Colonial Period again shows that more people have less access to foreign goods, while a few have greater access.

Application of Moran's Index statistic identified a trend toward negative spatial autocorrelation at distance bands of 1000m and 2000m. This means that when each site is considered individually against its neighbors, in this case sites within 1000 or 2000m, they are located further from sites with similar values than would be expected in a random distribution. This pattern can also be thought of as similar values "repelling" one another. As stated in the previous chapter, Moran's I detects patterning of high or low values. In this case, when the local version of Moran's I is applied to the data, it identified high value outliers located amongst low values. This means that three sites which had high densities of foreign ceramics are located farther apart from one another than would be expected if the sites were randomly distributed (those circled in red in Figure 38). These high density sites are surrounded by sites that have lower densities of trade wares.

This pattern is very similar to the one identified during the preceding Early Historic Period, with potential elite zones surrounded by sites that were composed of less foreign wares per hectare. The three high density outliers likely represent areas occupied by elite residences, and the surrounding sites likely acquired their foreign wares through gifts, loans, and trade with the elite as described in the traditional social system of status and power discussed above and

in Chapter 2. As with the previous time period, the elite zones are not found along the coast as is common in other parts of the Philippines, and this is again likely due to the lack of a safe port and a substantial waterway into the interior. And while trade with the so-called Moros was likely, raiding was a certainty. Spanish chroniclers describe that villages on Negros Oriental were usually settled about 5 km from the coast (Felix and Sevilla 1980: 38) to help protect themselves from attack by sea. The larger local centers like Cebu and Tanjay, while close to the coast and near the mouths of major rivers, tended to protect themselves from attack by requiring traders to come upriver through a swampy shield of mangrove before encountering the polity's trade port up to a kilometer from the open sea. In some cases, coastal or near coastal centers were fortified and protected by an early warning system of coral block or perishable watchtowers (Junker 1999: 354-356). The potential elite zones identified, range from roughly 3 to 4 km off the coast, the distance perhaps offering some protection from raiding events and encouraging Sulu and Minadanao interlopers to engage in trading strategies instead of raiding strategies which would be more costly for the Moros if they lost the ability to surprise their victims as they make their way inland passing less enticing settlements in that they contained fewer people and kept fewer prestigious or quality resources. These elite zones are also located near the rivers, which facilitated movement within the region and advantages in local coastal-interior trade networks, as indicated by Spanish explorers and administrators at the time.

8.1.3 Intensification and Refuge Interpretations of Intensified Imported Ceramic

Distribution

In addition to there being more foreign ceramics after the mid-16th century, their distribution is also greater. During the Early Historic Period, foreign trade ceramics were restricted to only 9 sites, but spread to 34 sites during the Early Colonial Period. It seems probable that the increased distribution of trade wares, with a similar pattern to the previous period, resulted from both an intensification of the socioeconomic system and a potential movement of indigenous people fleeing Spanish oppression from other areas of Negros and neighboring islands. Like the previous period, sites that have a relatively large amount of trade wares are surrounded by those which have substantially fewer wares. However, instead of one high density site, there are three, with imported wares being more accessible over the landscape. This intensified pattern is reminiscent of regional differences throughout the archipelago during the pre-Hispanic porcelain period. Large settlement systems, such as the one based at Tanjay, were characterized as highly integrated settlements with a large primary center located along a river mouth on the coast. The distribution of imported ceramics, and other prestige goods, correlated with the relatively large number of social and political status positions available to the society. The elite gave gifts and loans to cement alliances and retain loyalty of their subordinates. The imported wares were also used in exchange for natural resources of the island's interior which could in turn be traded at the coast for more imported goods.

Also during the Early Historic Period, other areas, such as the Calubcub Segundo Site in Batangas, Luzon (Salcedo 1979) did not exhibit the kind of settlement integration and

hierarchical settlements as seen at Tanjay (Junker 1999). Instead, the few imported goods available to the area were restricted to the *datu* and his family, with such prestigious goods being found only in their graves, and not in the graves of any other community member. These goods were likely gifts from more powerful and connected *datu* in the region as a sign of friendship and allegiance.

Along the Malangwa River, before the Spanish arrive, foreign ceramics are not restricted to any one place, but are found at varying levels at nine sites. I think this represents an area that is participating in the elite prestige economy on a small regional scale. Imported wares were available to some, but their movement through the landscape was relatively restricted. After Spanish arrival, and a seemingly increased access to foreign goods, this pattern seems to intensify, with at least three elite centers being present and the number of lesser elite sites increasing significantly. Drawing from evidence of varying integrated communities during the Porcelain Period, the Malangwa watershed may have seen an intensification of a preexisting prestige good economy and social status practices. Two of the potential elite sites during the Early Colonial Period existed in the same areas previous to colonization. It is possible that the people in these areas were able to draw upon their lesser elite status during the previous generations to capitalize on the increased availability of trade wares, establishing themselves firmly among the regional elite during early colonization. In addition, although the site was not isolated by Moran's I as being statistically different from its neighbors, the elite zone of the Early Historic Period continued to be a site of relatively high density foreign ceramics into the Early Colonial Period. So while it may have not been picked out by statistical tests as showing

particularly strong imported ceramics spatial clustering, it may also represent a potential elite zone.

Simple availability of more imported goods, i.e. more or stronger external trade relations, does not in and of itself explain intensification of social stratification. But as discussed in Chapter 3, pressure upon populations to produce surplus goods is cited as a reason for increased social stratification. *Encomiendas* were established on Negros by 1571. This meant each household was responsible for providing a certain amount of goods to their respective *encomendero* each year, and that the men of each household provide a number of days labor each year as well. The *datu* was responsible for the collection of that tribute and its remittance to the *encomendero*. With these increasing pressures to produce goods above subsistence needs, the community role of the elite would increase as they helped in the traditional manner with families unable to produce enough food for themselves, and now for their *encomendero*, by providing loans. In other areas, the *datu*, which were developing into the *principalia* class, no longer had recourse to traditional modes of power – they were removed from their agricultural land, could not trade for elite goods, were not allowed to raid for slaves, and were not allowed to engage in mystical practices that reinforced their supernaturally-imbued power; thus to maintain their social power they turned to exploiting the people under their control– who were now tied to a particular territory, no longer allowed to vote with their feet – for the goods which the crown demanded of them. Being directly under colonial control meant less power for indigenous populations to negotiate their relationship with the economic “core” of Spain.

The situation was different in Negros, where forced resettlement did not occur, and where movements were not restricted, nor was the church in place to demand more goods and services from the people or communicate to the Spanish authorities the continuation of traditional practices. This meant that traditional modes of power were still largely available to the people of the Malangwa watershed, with the stipulation that they increase production. It is plausible that this pressure, paired with access to traditional avenues of power, unfettered polity interactions described in Chapter 4, and the increased ability to obtain objects of status, resulted in the intensification of trade ware distribution exhibited during the Early Colonial Period.

Another explanation for the increased number of sites with imported wares, which likely occurred in combination with the intensification theory, is that people moved from other regions of Negros and from neighboring islands to escape the increasingly harsh domination of the Spanish as they spread through the archipelago. Newson, summarizing Spanish accounts, argues that the Visayas saw a significant population decline from 1565 to 1700, but that Negros was not as significantly affected because of initial avoidance by the Spanish (2009). The estimates of Negros in particular are very problematic as even the Spanish writers themselves commented that they were unfamiliar with Negros' terrain and populations. Newson writes that these estimates suggest in 1565 Negros had a population of 30,000, dropping to 25,000 in 1600, and finally to its lowest population 12,800 in 1700 before the numbers began to rebound. Again, because these population estimates were taken from Spanish estimates, such as those made by Loarca (Archivo General de Seville Patronato 23-9; Newsome 2009), their validity is questionable.

This historical evidence paints a picture of population loss, due to disease and starvation resulting from Spanish control and resettlement. If we can trust the estimates by early Spanish writers, there is a substantial loss of life on Negros. But within the Malangwa River area, there are substantially more artifacts than in the preceding era. We know that *encomiendas* were centered in the Tanjay Valley to the north and in Dauin to the south; we also know that the neighboring islands of Cebu, Panay, and Leyte were occupied with devastating consequences by the Spanish. It was also often recorded that people from these dominated areas, would choose to flee instead of being resettled or being subjected to Spanish rule. Many also chose violent resistance, but were faced with overwhelming firepower. Many fled into the *bundok* – the mountains – where the rugged terrain created a steep slope of diminishing return for Spanish efforts to control the region.

Movement to neighboring islands was also possible, to areas with less hostile restrictions. Given its geography, the Malangwa watershed would have made a good choice as a place to live. While the *encomienda* system was in place early on, traditional economies were still practiced, with access to a thriving international trade network, and for a time religious freedom was available. Choosing a place like the Malangwa watershed over the *bundok* allowed people to continue to live in the lowland landscapes in which they were somewhat familiar, without the need to learn new subsistence skills required in the steep slopes of the island interiors. The population trends suggested by the collection of differing primary sources do not have the resolution necessary to discuss the actual populations per island region. It is very possible that the reported declines did not occur equally in all areas, and that the Malangwa watershed may have experienced an increase of population in addition to an

intensification of its social stratifications as exhibited by the archaeological pattern left by its prestige economy.

8.1.4 **Summary of Results and Interpretations of Pre-Hispanic to Early Colonial Period**

Transition

In sum, after Spanish colonization there was a significant increase in the amount of imported ceramics, there was greater access to these ceramics as seen in the wider distribution of imported ceramics across the landscape, and this suggests a traditional pattern of imported ceramic distribution continued and intensified during the Early Colonial Period in the Malangwa watershed. These trends were able to develop due to the rugged and specific terrain of the region, and due to its proximity to the southern Moros and distance from Manila Bay. The issue of rugged topography is often discussed in terms of its economic hindrance; however, this hindrance is perceptible only from a colonial standpoint. Usually rugged terrain is described as “tough to farm, costly to traverse, and inhospitable to live in” (Nunn and Puga 20012: 1). Steep slopes are conducive to destructive erosion and make water difficult to control (ibid. 2). These hardships and costs are felt strongly by those concerned with the efficiency of the harvest, e.g. those cultivating plantations for commercial export of crops. The rugged terrain of the Malangwa watershed, lacking even a fertile alluvial plain or protected harbor, was calculated as an uneconomical and indefensible position for collecting supplies to support colonists on Luzon.

The difficulties imposed by attempting to work and develop rugged terrain have been reviewed by a number of authors (see Allen, Bourke, and Gibson 2005; Rapaport and Snickars 1999; Nogales, Archondo-Callao, and Bhandari 2002). Nunn and Puga (2012) argue that the increased ruggedness of particular areas of Africa, although directly curtailed the

productiveness of their economies, inhibited the procurement of slaves to allow the areas of more 'irregular' terrain to thrive economically in a way areas devastated by slave raids are unable to accomplish even through modern times. Moving this argument away from geographic terms, and into an anthropological understanding, the fashioning of terrain as 'rugged,' conceived in the economic terms as "tough," "costly", and "inhospitable" is cultural dependent. Historical documents seem to support the idea that the Spanish did indeed envision the southeast Negros coast in this way. Taking the non-European perspective, we see the terrain as a haven from external control. There is evidence of subsistence economy in the region since 500 BC, making the arguments of the terrain as tough, costly, and inhospitable appear applicable only in situations in which the land is intended for maximizing the efficiency of large-scale, sometimes monocrop agricultural production under centralized administration.

The rugged, and "unattractive" nature of the Malangwa watershed made it a haven for indigenous cultural practices; this study in particular focuses on the prestige goods economies and the use of foreign objects as indicators or signals of elite status. Geographers write about the direct and indirect influences that terrain have upon contemporary economies, but this is largely done in colonial, neocolonial, or globalized contexts. The well-established 'negative' impact of rugged terrain (Sachs 2005; Easterly 2006, 2007; Acemoglu, Johnson, and Robinson 2002; Bosker and Garretsen 2009) is in fact subject to argument. The current debate in geography as to whether the central influence of geography on economy is contemporary location or ties to historic events touched on this idea, but continues to be held within the walls of a post-colonial Euro-centric world. I argue instead that the concept of ruggedness, in terms

of economic uses of land, is culturally specific. And in the case of Negros Oriental, and the Malangwa watershed in particular, rugged terrain served as a haven for indigenous economies.

8.2 **Changes in Imported Ceramic Distributions from the Early Colonial to the Late**

Period: Hypotheses 3 and 4

My third hypothesis was that with the opening of international ports and access to good through a money economy, more ceramics would be imported into the Malangwa watershed after the late 18th century. My fourth hypothesis was that with the introduction of plantation agriculture for export crops, the distribution of foreign ceramics would change significantly, with ownership being highly restricted. From historical documents it is clear that the Spanish made a major shift in economic approach in the Philippines when it lost its territories in the Caribbean. The move to cash crops meant that every possible field would be exploited to produce crops to be sold for money. This meant that unlike the Early Colonization Period, Spanish interest now turned almost exclusively to developing the islands into usable farm land, a classic characteristic of a periphery in Wallerstein's World System Theory. On Negros this meant clearing land and consolidating it into plantations for the production of sugar, corn, and palm, leading the way for massive deforestation of the island. The period is marked by poverty as indigenous farmers lost their land rights and become share croppers and tenant farmers. Increasingly high interest rates and predatory lending created debts that were inescapable. The large plantations shipped migrant seasonal workers to labor in the harvest season from other islands, with little work to do in the off season.

These trends are historically known on Negros to have caused a serious disruption to the subsistence way of life, the traditional socioeconomic systems, and peer polity interactions

previous to colonization and even during the Early Colonial Period. By this time all tribute and taxes were to be paid using money, as where the fees for religious rites by the Catholic Church. It is finally at this time starting in the late 18th century that the Spanish make serious in-roads in controlling the Negrenese economy. New villages and towns are established to keep track of the populations and to support the work of plantation owners, many of whom were Chinese mestizos or descendants of the now established *principalia* class. The sugar cane plantation owners in the Tanjay and Bais areas were Spanish mestizos who trace their roots to Spanish origins. Given the new money economy, drive to produce cash crops, serious indebtedness and loss of land of the *tao*, and removal of all traditional modes of acquiring power, the probability that the acquisition and distribution of foreign trade wares would be significantly different from the Pre-Hispanic and Early Colonial Periods seemed high.

I specifically hypothesized that previously located elite zones would likely become more concentrated as the established *principalia* class, aided by their inherited wealth, would find ways to thrive in the new economy, as indeed many *principalia* were able to do, as documented in numerous sources, and that significantly more people would have less access to such goods. I suggested that part of this process would likely be due to the influx of European materials, as discussed by Skowronek (1998: 54, 63) that began to be used more prominently as indicators of status.

8.2.1 **Increased Imported Ceramic Amounts and Origins**

To test these hypotheses the distribution of trade wares from the Late Colonial Period in the Malangwa watershed were compared to the distributions of the Early Historic Period and the Early Colonial Period. In the Malangwa watershed 34 sites with imported ceramics were

identified as dating from the Late Colonial Period (Figure 41), between the 19th and 20th centuries. Generally there were more imported ceramics in the region during this time than from the other two periods. This makes sense, as the Spanish opened the Philippine ports to international trade by this time and there were no restrictions on the movement of goods at the level that had been in place during the Early Colonial Period. The poverty described in the literature is also born out in the data by the significant difference between the distribution of materials from the Early Colonial Period into the Later Colonial Period, in which there was a very large disparity between the very many people who had very little access to foreign wares, versus the very few areas which exhibited access to many wares.

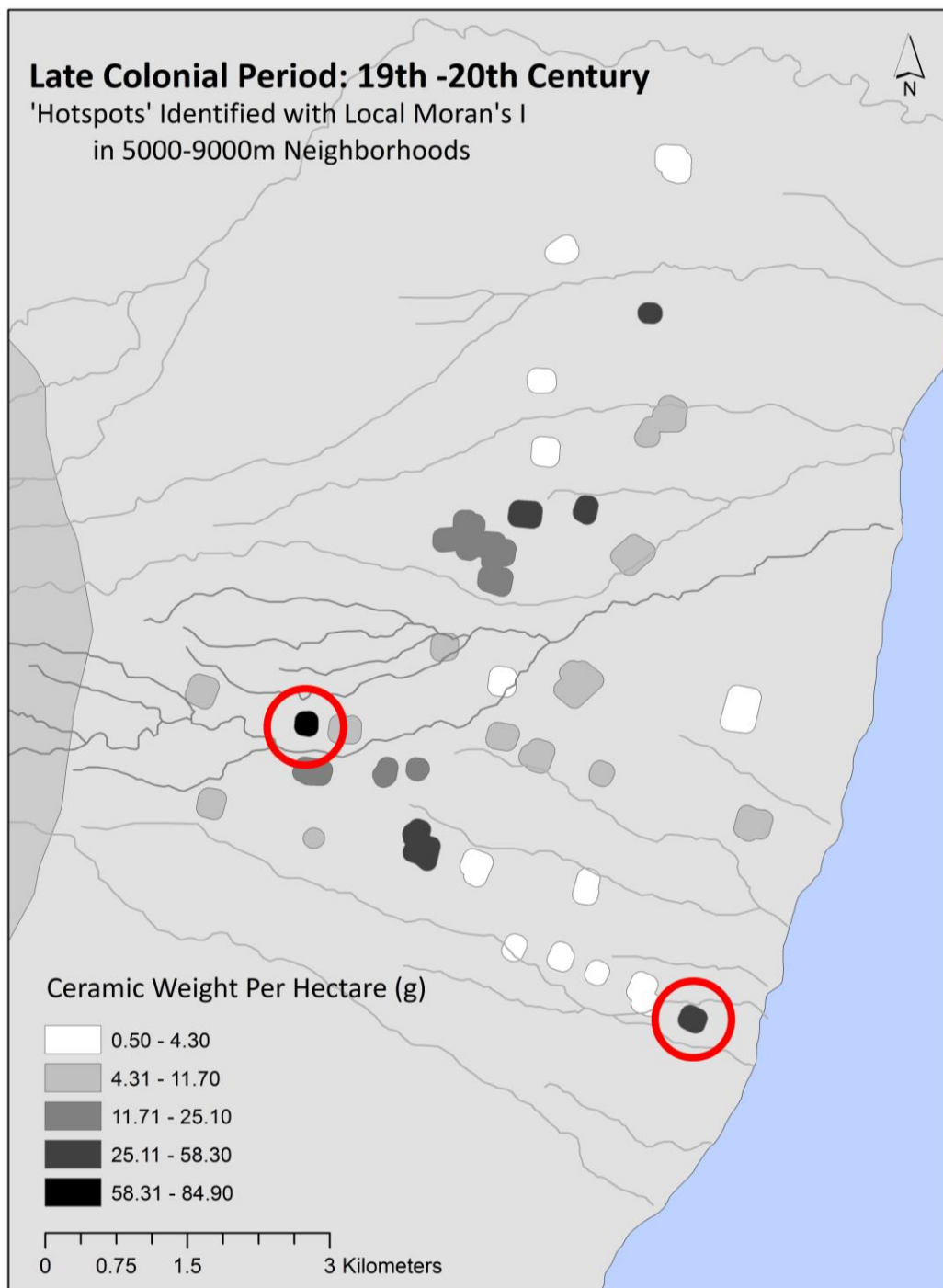


Figure 41. Distribution of imported ceramic densities during the Late Colonial Period. Potential elite areas are circled in red.

8.2.2 Spatial Distribution of Imported Ceramics

Unexpected from the resulting data, was the significant change in imported ware distribution. Unlike the previous Early Colonial Period, the Moran's Index statistic did not identify the presence of spatial autocorrelation in the data. This means that the trade ware distribution does not deviate from a random distribution of values across the landscape. This is significantly different than the Early Colonial Period in which the trade ware distribution trended toward negative spatial autocorrelation. This means that the three previous elite zones, were no longer statistically different from their neighboring sites. The site with the greatest density of imported ceramics was in fact the site that had the highest concentration of ceramics during the Early Historic Period, and may have been an elite zone during the Early Colonial Period, but which was not picked up as statistically significant.

Because the site with the highest concentration contained such a high density of imported ceramics, I investigated further by removing the sites from the data and re-ran the Moran's Index to identify if the high value was camouflaging an underlying low value pattern in the data. While not reaching a .05 p value, the results trended toward positive spatial autocorrelation, which is opposite of the trend identified during the Early Colonial Period. Positive spatial autocorrelation means that similar values appear more closely together than would be expected in a random distribution. I think a probable explanation for this pattern is that the residents of these areas are living in proximity to others with the same occupations and circumstances; thus people working on the same plantations and given similar wages are living in similar areas, much as we see today in modern cities which are usually composed of neighborhoods of differing median incomes.

What is interesting about these trends is the severity of the disruption to the previous elite areas, in which all three that were represented in the previous analysis were no longer close to trending as significantly different from their neighbors. It is also very interesting that this upland site continued to be prosperous into the Late Colonial Period. It seems possible that this position may be in proximity to natural resources, such as hard woods, that would make it a good staging ground for the exploitation of resources and allowed its controlling residents to benefit in the new money economy. In any case, the devastating effect of a cash crop economy is evident not only in the striking disparity in the trade ware distributions, but also in that even the collaborating *principalia* developed by the Spanish beginning in the 16th century were unable to keep an elevated status after the introduction of the new system. However, another potential interpretation is that elite families who once lived in this area moved to Manila, as was common in the early 19th century (Billig 2003: 32-35), bringing with them their luxury items.

8.2.3 **Interpreting the Meaning of Status Symbols from Spatial Patterning**

Based on the ongoing discussions of meaning and practice in historical archaeology, I also conceived that while imported ceramics would continue to be used by indigenous, mestizo, and colonists as status symbols, that the meaning would change as the practice of acquiring and using those objects changed in the new government and economy of the Late Colonial Period. In the cultures indigenous to the Philippines before Spanish arrival prestige goods, locally produced and imported, were used to show elite status through display, personal adornment, and use at public events, like feasts. Owning a prestige good indicated allegiance

with powerful people (often through marriage), economic success in having trade partnerships, and also a certain charisma or magical prowess that enabled this success.

As studies have shown in other parts of the world at different time periods, practices associated with objects change rapidly, as do their associated meaning, as quickly as a generation. While *datu* still had access to traditional modes of power outside of securing prestige goods, such as raiding for slaves and producing lavish feasts, the prestige good economy facilitated by the elite strengthened their power. After substantial changes in government, economy, and social organization, which occurred on Negros during the Late Colonial Period, the procurement, display, and use of imported ceramics were significantly different than in the preceding Early Colonial Period. Possessing these items may still imply economic success, but they would also indicate that success was drawn from working within the colonial system and did not imply a reciprocal communal relationship. The traditional gathering of imported items by the elite was used in part for personal use and display, but also to cement relationships with other elite and their larger communities. Being seen as generous and helpful, such that loans might be made to those in need, were integral to a *datu's* continued power. This is partly because, as discussed in Chapter 2, the people were not restricted to particular territories, but were loyal to their local *datu* only as long as his followers continued to view him as a more useful benefactor and less harsh master than an alternative patron.

In this new money economy, one could have much success without community support; although there would be social benefits to doing so in particular circumstances. Feasting was a significant part of pre-Hispanic Philippine life in which relationships and relative statuses were

reaffirmed, and the power and generosity of the elite was demonstrated, as described in Chapter 2 and 3. Traditional feasting was largely curtailed by the Spanish as a heathen activity, and some have argued, those traditions were funneled into Catholic rites and celebrations. For example, it is common today for local Philippine elected and elite to throw large parties on saint feast days in which the entire *barangay* is invited. This elite extravagance is no longer supported by specific trading partnerships, but with money. No longer are prestige items understood as partially the result of the mastery of magic, although they may be understood as the blessings from god (Wendt 1998).

While a separate study would be required to understand the changing meaning of elite goods through this period, this analysis seems to indicate that one significant difference in meanings of elite prestige goods is the removal of the association of prestige good with leadership and community connection. Likely those with imported and other prestige goods denoted authority to those with access to such goods, but that is different from the leadership require of the *datu*. With those close communal relationships gone, Chinese porcelains, and stoneware and celadon from Southeast Asia, Japan, and China would no longer indicate a community leader who is tied to his people. The value of these good would become more economic, and less social in the increasingly globalized region.

9. CONCLUSION

The results of this analysis contribute to the archaeological development of Philippine history, the incorporation of geographic techniques for archaeological research, and theoretical linkages between geography and prestige economies, and between the spatial distribution of status objects and cultural meaning. As can be gleaned from the discussion in Chapter 2, the vast majority of historical documentation of early historic and colonial periods is presented from a European perspective, particularly in regards to its economic development, Spanish military action in the area, and its religious progress according to the Catholic church. Archaeological investigations and some European and Chinese descriptions create a picture of complex cultures thriving on the archipelago at colonization, but with only a fragmentary understanding of indigenous responses outside of Luzon and Cebu. The records we do have of these places, hint at patterns of response to colonization that vary significantly within the archipelago's diverse physical and social landscapes.

While the Spanish initially focus on Manila, they slowly subdued the region's coastlines. During the time it took the Spanish to tighten their grip on the indigenous populations and on control of the waters in the region, the Visayas, Mindanao, and the Sulu archipelago were visited by Chinese merchants with varying degrees of success. While the Spanish were more successful in stopping external trade from reaching the Visayas given their small, less integrated communities, they were not completely so – with at least one Chinese junk reported to have stop in the Visayas on its way to Jolo in Sulu in the 1700's – before ports were officially opened to international trade by the Spanish. Population estimates suggest a minor population dip during the Early Colonial Period, but do not provide area level estimates. While the heavy toll

of indigenous trade disruption is evidenced in other areas of the Philippines, the application of archaeological survey and excavation clearly indicate that this was not the case along the Malangwa watershed in Negros Oriental. Quite the converse, even with the burden of the *encomienda* system, as the Sulu groups ramped up their trade with China and slave raiding activities – this study shows that the residents of the Malangwa watershed gained greater access to foreign wares, although there is not yet direct evidence of contact between the Malangwa watershed residents with Chinese, Sulu, or Mindanao traders. Further, if the archaeological findings in the area were indeed *in situ*, then there appears to be an intensification in the traditional social organization – evidenced by a higher distribution of imported ceramics that indicate increased sociopolitical integration (such as that identified at Tanjay during the Porcelain Period, but not at Calubcub Segundo Site in Batangas, Luzon discussed above) and significantly more settlements with trade wares. In regards to the Late Colonial Period, this study did not identify new trends, but support the historical depiction of the island as it was transitioned to a plantation economy.

These findings were based on an application of descriptive statistics and exploratory spatial data analysis (EDSA), in particular spatial autocorrelation, to an archaeological dataset. The use of descriptive statistics is widespread in the field, but the use of ESDA is on the rise. As far as I am aware, only a few researchers interested in the relationship of Mayan terminal count monuments have utilized spatial autocorrelation as a primary research technique in archaeology. There is significant potential for the technique to be applied to spatial data in which the researchers are looking for spatial patterns that are difficult to visually discern, which is common among less than 100% survey coverage, as it is a way to compare finds from many

circumscribed agricultural fields of varying size. Identifying positive spatial autocorrelation is also a prerequisite for the creation of trend maps, which are often used to create continuous representations of artifact finds across the landscape. Finally, statistical confidence measures of identified patterns are very helpful in understanding the strength of suggested patterns and allow for cross regional comparisons.

Third, this study also considered the theoretical relationships between geography and prestige economies, and the distribution of status objects and cultural meaning. The primary articulation of geography with economy is of particular concern within the field of geography. The debate of whether the primary relationship is between current geography and terrain relationships or with historical events, may be an intentionally polarizing discussion. As Nunn and Puga (Nunn 2008; Nunn and Puga 2012) find, both are integrally tied to the modern economies of Africa. In considering the great time depth available to an archaeological perspective, it seems that both history and current geographic articulation will both heavily influence modern economies – with the more “primary” influence shifting with changing contexts. For the purposes of this work, I think it important to emphasize the cultural relativity of the connotations associated with “rugged terrain.” Current geographic literature paints with a broad brush the hardships implied by such topographies that must be overcome for economic success. Success in these cases are restricted to a profitable involvement with global capitalist markets that secure a country's standing as a “developed” country. However, if “success” is defined by the continuation and intensification of a social organization that satisfies communal needs, the indigenous prestige economies found in the Malungwa watershed were successful because they were protected from facing social

reorganization and economic integration into the developing Spanish colonial economy – an incipient global economy.

While the geography of the Malangwa watershed was not ideal for intense Spanish involvement early in the colonial process, they were able to install the *encomienda* system. However, the additional burden of tribute to a Spanish *encomendero* did not negatively effective the indigenous prestige economy. It is possible, however, that this added pressure, perhaps also in addition to the increasing practice of slave raids by the Sulu and Mindanao sultanates, was influential in the intensification of the sociopolitical integration represented by the increased distribution of imported ceramics which may be evidence of an increase in the number of lesser elites with access to those ceramics. Thus, there is potential that this study is an example of the development of increased complexity encouraged in part by pressure to produce goods.

A substantial change in the operation of power is clearly evident around the Malangwa in the change in imported ware distribution after the late 18th century with the transition to a cash crop economy. While this was an expected outcome that is relatively well documented historically for the region, the continued use of ceramics as social signals of social status allow an exploration into how spatial distribution of objects indicate the cultural meaning of objects. Skowronek writes that while Chinese porcelains continued to be used as indicators of high status into the Late Colonial Period, they do so at a lesser extent as European wares come into vogue. European wares appear in very low amounts in this study, but it is significant that both types of wares are found. While the “heirloom effect” is a confounding variable of this analysis, this study assumes that the effect occurred relatively evenly across the area. Excavation to

confirm imported ceramic amounts across time periods was unsuccessful because these artifacts appeared largely within the top layers of soil that were highly disturbed by modern farming practices. Although we are working without pristine contexts, it is reasonable to assume that the artifacts did not travel tremendous distances as they were not highly abraded or contained in soils that had evidence of flash flooding (see Chapter 6). Thus, accepting the archaeological contexts in which these later colonial wares were discovered, and knowing that imported wares of both Chinese and European origin continued as markers of status, I suggest that following theories of practice can be applied to understanding a changing cultural meaning of these objects. If the meaning of objects is overdetermined and subject to change within a generation, and the spatial distribution of archaeological artifacts indicative of social practice, and thus of their cultural meaning – I suggest that the continued use of imported ceramics combined with their different spatial distribution during the Late Colonial Period indicates that with the change from an indigenous subsistence economy to an externally introduced cash crop economy, the meaning of prestige items changed.

While the Spanish placed pressure on the Negros Oriental populations with the *encomienda* system, the elite continued to have access to traditional routes of power and status – of which, the access to and use of luxury items were a significant part. Their access and successful use depended upon communal and regional relationships: trade partnerships, alliances, and *barangay* residents. The introduction of a money economy, cash cropping, and intensive logging operations; along with the rise of the *principalia* class, its initial loyalty to the Spanish, and its development of inherited surplus wealth; removed traditional routes to power and status – and also the traditional distribution of elite goods. No longer were communal or

personal relationships a prerequisite for access to luxury items, although it may have helped.

Thus, I suggest that this study indicates a change in the meaning of imported ceramics from one that connoted personal success, community ties, and magical prowess – to a meaning that emphasized economic status. And that this change in object meaning is discernable by the change in spatial patterning, in which the distribution of elite wares changed from one of central distribution (identified via finding negative spatial autocorrelation among sites with high densities of imported ceramics surrounded by less dense sites) to one in which neighbors maintained similar fiscal resources and thus access to imported merchandise (identified via finding positive spatial autocorrelation among sites). While a similar change in the spatial pattern of an object within a different context may not indicate the same change in meaning, the exploration of meaning in this case is important because it moves beyond equating quantity and quality of goods simply with social rank, to understand that the changing meaning of those goods may hold cultural importance. In this case, it seems that the type of power and status connoted by the same objects differed significantly between the pre-Hispanic/Early Colonial Periods and the Later Colonial Periods in which economic status took to the fore in delimiting social rank.

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APPENDIX

TABLE X
EARLY HISTORIC PERIOD SITES

NMP ID	Ceramic Weight (g)	Ceramic Density (g/ha)
VII-2012-Z2	8	0.5
VII-2011-Q1	15	1.8
VII-2012-N3	35	2.8
VII-2012-O3		
VII-2012-F2	25	4.7
VII-2010-H2	140	5.7
VII-2010-K2		
VII-2012-J3		
VII-2012-K2		
VII-2012-L2		
VII-2011-T2	40	10.9
VII-2011-X2	126	18.4
VII-2012-S1		
VII-2012-R1		
VII-2012-H2	200	21.8
VII-2012-X2	206	35.5

Table X. Each surveyed field was assigned a National Museum of the Philippines identification number. This table lists fields with Early Historic Period artifacts within 100m that were grouped into archaeological sites.

APPENDIX (continued)

TABLE XI
EARLY COLONIAL PERIOD SITES

NMP ID	Ceramic Weight (g)	Ceramic Density (g/ha)
VII-2012-S1 VII-2011-X2 VII-2012-R1	54	8
VII-2011-G2 VII-2011-I2	125	9.6
VII-2012-K1 VII-2012-P1	35	3.1
VII-2011-L2 VII-2011-M2	50	3.6
VII-2012-W2	5	1.1
VII-2011-N2 VII-2011-O2	175	23.1
VII-2011-Q2	50	4.3
VII-2012-V1	4	0.7
VII-2011-R2	10	1.2
VII-2012-Y1	50	4.9
VII-2012-G2 VII-2012-F2 VII-2012-Z1	263	34.5
VII-2011-T2	25	6.9
VII-2012-V2	6	1
VII-2011-W2	45	5.5
VII-2011-V2	45	4.5

APPENDIX (continued)

TABLE XI (continued)
EARLY COLONIAL PERIOD SITES

NMP ID	Ceramic Weight (g)	Ceramic Density (g/ha)
VII-2011-Y2	60	6.6
VII-2012-M3	14	2
VII-2010-H2	239	11.8
VII-2012-K2		
VII-2010-J2		
VII-2012-L2		
VII-2010-K2		
VII-2012-X2	107	18.7
VII-2011-Y1	67	8.3
VII-2011-X1		
VII-2011-F2	130	6.6
VII-2011-P1		
VII-2011-Q1		
VII-2011-O1	10	1.3
VII-2012-F3	49	2.8
VII-2012-Z2		
VII-2012-I2	109	17.3
VII-2012-J2	60	4.6
VII-2012-P2	58	2.9
VII-2012-T2		
VII-2012-O2		
VII-2012-H2	206	10.4
VII-2010-W1		
VII-2010-X1		

APPENDIX (continued)

TABLE XI (continued)
EARLY COLONIAL PERIOD SITES

NMP ID	Ceramic Weight (g)	Ceramic Density (g/ha)
VII-2012-I3	39	4.1
VII-2012-Q3	45	5.8
VII-2012-R3	59	7.1
VII-2012-U2	6	1.3
VII-2012-P3	7	1
VII-2012-N3	4	0.3
VII-2012-O3		

Table XI. Each surveyed field was assigned a National Museum of the Philippines identification number. This tables lists fields with Early Colonial Period artifacts within 100m that were grouped into archaeological sites.

APPENDIX (continued)

TABLE XII
LATE COLONIAL PERIOD SITES

Field ID	Ceramic Weight (g)	Ceramic Density (g/ha)
VII-2011-W2	75	9
VII-2010-H2	608	15
VII-2010-J2		
VII-2010-K2		
VII-2012-H3		
VII-2012-I3		
VII-2012-L2		
VII-2012-Q3		
VII-2012-K2		
VII-2012-J3		
VII-2011-V2	205	20.4
VII-2012-Y2	50	5.2
VII-2012-R3	31	3.7
VII-2011-Y2	75	8.1
VII-2012-H2	435	47.5
VII-2011-O1	40	5.3
VII-2011-Q1	20	2.4
VII-2011-R1	55	3.3
VII-2012-J2	90	6.8
VII-2011-K2	65	7.7
VII-2012-W2	120	25.1
VII-2011-U2	20	5.3

APPENDIX (continued)

TABLE XII (continued)
LATE COLONIAL PERIOD SITES

Field ID	Ceramic Weight (g)	Ceramic Density (g/ha)
VII-2012-F3 VII-2012-Z2	207	11.7
VII-2011-L2	50	5
VII-2011-O2	35	6.3
VII-2011-Q2	115	9.9
VII-2012-S1 VII-2012-R1 VII-2011-X2	399	58.3
VII-2012-O2 VII-2012-S2 VII-2012-T2	116	6.8
VII-2012-I2	226	35.3
VII-2012-V2	119	18.7
VII-2012-G2 VII-2012-F2 VII-2011-P2	615	39.3
VII-2011-R2	15	1.7
VII-2012-Y1	25	2.4
VII-2012-U1	25	4.3
VII-2012-K1 VII-2012-J1	15	1.2
VII-2012-T1	15	2.2

APPENDIX (continued)

TABLE XII (continued)
LATE COLONIAL PERIOD SITES

Field ID	Ceramic Weight (g)	Ceramic Density (g/ha)
VII-2012-Q1	10	1.9
VII-2012-X2	492	84.9
VII-2012-U2	162	34.1
VII-2012-M3	15	2.1
VII-2012-L3	17	2.1
VII-2012-N3	6	0.5
VII-2012-O3		

Table XII. Each surveyed field was assigned a National Museum of the Philippines identification number. This tables lists fields with Late Colonial Period artifacts within 100m that were grouped into archaeological sites.

VITA

NAME

Cecilia Smith

EDUCATION

- | | |
|------|--|
| 2014 | PhD in Anthropology
University of Illinois at Chicago |
| 2011 | MA in Anthropology
University of Illinois at Chicago |
| 2007 | MS in GIS and Spatial Analysis in Archaeology, with Distinction
University College London |
| 2005 | BA in Archaeology, <i>cum laude</i>
Boston University |

PUBLICATION

- | | |
|------|--|
| 2011 | Smith, C. and Cochrane, E.E. Is Visibility Important for Defence?: A GIS Analysis of Sites in the Western Fijian Islands. <u>Archaeology in Oceania</u> 46; 76-84: 2011. |
|------|--|

AWARDS & HONORS

- | | |
|------|---|
| 2012 | Provost's Award: UIC Graduate College |
| 2010 | Joshua Terry Graduate Award: UIC Department of Anthropology |
| 2010 | Student Presenter Award: UIC Graduate College |

GRANTS & FELLOWSHIPS

- | | |
|-----------|---|
| 2012-2013 | Fulbright U.S. Student Program Full Grant for Research in the Philippines |
| 2010-2011 | Luce Foundation Fellowship: UIC Department of Anthropology |

INVITED LECTURES

- | | |
|------|---|
| 2013 | The Archaeological and Geological Landscapes of Bacong, Negros Oriental. Philippine-American Educational Foundation. Makati, Philippines. March 19. |
|------|---|

VITA (continued)

INVITED LECTURES (continued)

- 2012 The Cultural Landscapes of Bacong: A Study of Regional Land Use from Prehistory to Spanish Colonization. Binalot Speaker Series: University of the Archaeological Studies Program Philippines, Diliman: Quezon City, Philippines. December 8.

CONFERENCE PRESENTATIONS

- 2014 Spatial Autocorrelation and the Changing Organization of Social Inequality in Colonial Philippines. Society for American Anthropology. April 19.
- 2014 Non-Destructive Techniques at a Regional Scale: Using GIS & LA-ICP-MS to Investigate Spanish Colonization Processes on Philippine Social Organization. Indo-Pacific Prehistory Association. January 13.
- 2013 The Spatiality of Sociopolitical Power On Negros Oriental, Philippines from the 15th Century CE through Spanish Colonization. Anthropological Association of America. November 20.
- 2013 A Diachronic View of Mortuary and Settlement Evidence from the Dumaguete-Bacong Region of Negros Oriental, Philippines. 5th Annual Mid-Year Enrichment Conference for US Scholars and Students in Southeast Asia. March 6-9.
- 2012 The Bacong Archaeological Project: Investigating Metal Age Landscape Use on Negros Oriental, Philippines. Society for American Archaeology. Memphis, TN. April 18-22.
- 2010 Using GIS to Identify Prehistoric Community Behavior Patterns: A Study of Visual Defensive Strategy in Western Fiji. Computer Applications and Quantitative Methods in Archaeology Conference in Granada, Spain. April 6-9.

TEACHING EXPERIENCE

UIC Anthropology & Geography Teaching Assistant

The Human Adventure and Anthropology (Fall 2011)
Human Evolution (Spring 2012)

VITA (continued)

RESEARCH EXPERIENCE

- 2013-2014 Researcher: Chicago Area Geographic Information Study, University of Illinois Chicago
Provide spatial analysis and geocoding services for local government agencies and the greater Chicago community.
- 2013 Project Director: Historical Malangwa Archaeology Project, Philippines
Supervised survey, excavation, and analysis of historical settlement sites along the Malangwa watershed of Bacong, Negros Oriental. Funded by a Fulbright Grant.
- 2010-2012 Archaeologist: Bacong Archaeological Project, Philippines
Excavated burial sites and completed initial survey to identify habitation sites. Recorded geographic data for the project GIS using a handheld GPS and total station.
- 2009-2010 GIS Research Assistant: Proyecto Arqueológico Norte Chico, Field Museum, Chicago
Analyzed artifact distribution recovered from survey. Prepared maps in ArcGIS 9.2 from survey and excavation data. Managed digital geographic database.
- 2007-2009 Archaeologist: R. Christopher Goodwin & Assoc. Resource Management Firm
Conducted archaeological survey, site evaluation, and mitigation projects in the Midwest and Southeast United States. Operated handheld GPS and total station to map sites.
- 2007-2008 GIS Research Analyst: Proyecto Arqueológico de Taraco, UCLA
Imported CAD maps into ArcGIS 9.2, georeferenced maps, updated symbology, created digital elevation models, and prepared maps for publication.
- 2007 GIS Research Analyst: Knossos Urban Landscape Project, Institute of Archaeology, University College London
Scanned and digitized paper maps using ArcGIS 9.2.

VITA (continued)

SOFTWARE & PROGRAMMING LANGUAGES

Adobe Creative Suite	Google Earth	Landserf	Raiser's Edge
Adobe GoLive	Google SketchUp	Microsoft Office	Repast
ArcGIS	GRASS	Paradox	SAS
Eclipse	IDRISI	Python	SPSS
Filemaker	Java	R	

PROFESSIONAL ASSOCIATIONS

Association of American Geographers
 Illinois GIS Association
 Computer Applications and Quantitative Methods in Archaeology
 Society for American Archaeology
 American Anthropological Association
 Katipunan Arkeologist Pilipinas, Inc.

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July 10, 2014

Dr. Laura Junker:

I am writing to request permission to use the following material from your publication (*Konfliktreicher Handel entlang der Grenzen*, 2013) in my thesis. The data from Figure 1 will be used in a newly prepared figure. Unless you request otherwise, I will use the conventional style of the Graduate College of the University of Illinois at Chicago as acknowledgment.

A copy of this letter is included for your records. Thank you for your kind consideration of this request.

Sincerely,

Cecilia Smith
1007 W Harrison St
Chicago, IL 60607

The above request is approved.



Approved by: _____

Date: July 10, 2014