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Economies of Archaic Sicily:  
The Archaeological Evidence from the Northeastern Euboian Settlements

By

Joel Morris Rygorsky

A dissertation submitted in partial satisfaction of the

requirements for the degree of

Doctor of Philosophy

in

Ancient History and Mediterranean Archaeology

in the

Graduate Division

of the

University of California, Berkeley

Committee in charge:

Professor Emily Mackil, Chair  
Professor Kim Shelton  
Professor Crawford Greenewalt  
Professor Anthony Bulloch

Spring 2011

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## Abstract

### Economies of Archaic Sicily: The Archaeological Evidence from the Northeastern Euboian Settlements

by

Joel Morris Rygorsky

Doctor of Philosophy in Ancient History and Mediterranean Archaeology

University of California, Berkeley

Professor Emily Mackil, Chair

This dissertation concerns the economic history of a group of four Sicilian Greek settlements during the archaic period (c.730–490 B.C.), Naxos, Katane, Leontinoi, and Zankle, all located on the north or east coast, and all purportedly settled by Euboians. The modern historiography on this issue has thus far prioritized the testimony of ancient literary sources, leaving archaeological evidence comparatively underutilized. The body of evidence I use to conduct this study consists primarily of the information and artifacts recovered through excavation of these sites. Such an approach deviates from modern study of the “ancient economy,” and the economies of these four places in particular. The aim is to create an understanding of the early economies of these settlements, and to examine the ways in which their economies thrived and evolved through the introduction of coinage at the end of the sixth century.

Naxos, Leontinoi, Katane, and Zankle were all born in a peak period of mobility and connectivity. The very existence of *apoikiai* such as these depended upon the movement of large numbers of people over a long distance, and their subsequent growth and success hinged in large part upon the continual movement of both people and goods over distances both long and short. However, even in the circumstance of intense redistribution fostered by the condition of hyperconnectivity, production must have remained a necessary and key component of the economy of any permanent settlement. From the moment in the archaeological record that we can detect their presence, Greek settlers at Naxos, Leontinoi, Katane, and Zankle were engaging in acts of production and redistribution. The original rationale for each individual settlement need not matter, and its consideration may in fact prove counterproductive for these understanding the structure and functioning of economic life. For the initial idea of these places, in

addition to not being recoverable in any sort of reliable way, may not necessarily bear a correlation to what they eventually or even quickly became. When considering the economies of these settlements during the archaic period, the question is not whether they were fully formed and functioning systems consisting of regular and robust acts of production, redistribution and consumption, but rather how the structure of these three basic sectors of economic activity enabled, impeded, altered, or generally affected one another.

This dissertation is divided into three chapters. Chapter one addresses questions of evidence, historiography, and approach. In it I discuss the merits and drawbacks of the two main categories of evidence available for the study of Greek economies in the archaic period: literary and archaeological evidence. After examining the epistemological shortcomings of heavy reliance on literary sources, I argue that previous approaches to the study of economies in the archaic Greek west have been unduly constrained by the impressions that ancient *testimonia* give. I examine further the modern historiography by discussing the ways in which the framing of the question through colonial analogies and comparison with modern market economics has distorted our view of ancient practice. Finally, I lay out the basic approach that I take in the remainder of the dissertation, focusing on the potential utility of combining archaeological data with assumptions about cultural and economic interactions that have been constructed—in particular in Horden and Purcell’s *The Corrupting Sea*—for understanding the unique environmental and cultural circumstances of the ancient Mediterranean.

Chapter two is the empirical heart of the dissertation; in it I systematically present and describe the archaeological evidence for archaic Naxos, Leontinoi, Katane, and Zankle. The archaeological evidence is divided chronologically into two periods. The first of these covers the period c.730–650, and captures the evidence for economic activity from the foundation of each settlement through the first few generations of their growth. With the second period, c.650–490, I examine the evidence for the period of apparent large-scale growth that began in the second half of the seventh century, and also look at the introduction of coinage at Zankle and Naxos toward the end of the sixth century. Within each period, information is organized first by site, and then by type of context. Preliminary analysis of the data is provided, with a view toward the more synthetic discussion that is largely reserved for chapter three.

Chapter three combines the results of chapters one and two, applying the assumptions laid out in the first chapter to the evidence organized in the second chapter to create a diachronic analysis of different types of economic activity at Naxos, Leontinoi, Katane, and Zankle from c.750 to c. 490 B.C. Here the argument for the central role that connectivity played in the structure of the economies of these settlements is laid out in full. I begin by using the archaeological evidence in order to demonstrate how highly interconnected these places were. I then argue that this

connectivity, because of the large and consistent volume of imported things, people, and information, had a direct impact on the structural development of the economies of the four settlements under study. Large scale participation in the wider world of redistribution became the preferred means of risk management, which in turn may have led to an increase of specialization in local production choices, both agricultural and otherwise. I also use the evidence of the early coinages of Naxos and Zankle in order to argue for the prevalence of regional economic transactions within the larger scheme of mobility and connectivity in which these places existed.

For my Parents

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## Introduction

This dissertation concerns the economic history of a group of four Sicilian Greek settlements during the archaic period (c.730–490 B.C.), Naxos, Katane, Leontinoi, and Zankle, all on the north or east coast, and all purportedly settled by Euboians. The modern historiography on this issue has thus far prioritized the testimony of ancient literary sources, leaving archaeological evidence comparatively underutilized. The body of evidence I use to conduct this study consists primarily of the information and artifacts recovered through excavation of these sites. Such an approach deviates from modern study of the “ancient economy,” and the economies of these four places in particular. The aim is to create an understanding of the early economies of these settlements, and to examine the ways in which their economies thrived and evolved through the introduction of coinage at the end of the sixth century.

This dissertation is divided into three chapters. Chapter one addresses questions of evidence, historiography, and approach. In it I discuss the merits and drawbacks of the two main categories of evidence available for the study of Greek economies in the archaic period: literary and archaeological evidence. After examining the epistemological shortcomings of heavy reliance on literary sources, I argue that previous approaches to the study of economies in the archaic Greek west have been unduly constrained by the impressions that ancient *testimonia* give. I examine further the modern historiography by discussing the ways in which the framing of the question through colonial analogies and comparison with modern market economics has distorted our view of ancient practice. Finally, I lay out the basic approach that I take in the remainder of the dissertation, focusing on the potential utility of combining archaeological data with assumptions about cultural and economic interactions that have been constructed—in particular in Horden and Purcell’s *The Corrupting Sea*—for understanding the unique environmental and cultural circumstances of the ancient Mediterranean. I examine the economies of these settlements not as isolated entities, but as related opportunistic manifestations responsive to a specific environmental and historical context defined, in part, by three main factors: 1) local micro-ecological circumstance; 2) the large wave of overseas Greek settlements founded during the late eighth and seventh-centuries; and 3) the high degree of connectivity that this intense and rapid Greek settlement of large parts of South Italy and Sicily established and perpetuated. Of course, these factors did not constitute the sole determinants of patterns or even individual acts of economic activity. They are, rather, identifiable circumstances that allow us as modern observers to create a detailed and analytically satisfying understanding of how the economies of these places functioned.

Chapter two is the empirical heart of the dissertation; in it I systematically present and describe the archaeological evidence for archaic Naxos, Leontinoi,

Katane, and Zankle. The archaeological evidence is divided chronologically into two periods. The first of these covers the period c.730–650, and captures the evidence for economic activity from the foundation of each settlement through the first few generations of their growth. With the second period, c.650–490, I examine the evidence for the period of apparent large-scale growth that began in the second half of the seventh century, and also look at the introduction of coinage at Zankle and Naxos toward the end of the sixth century. Within each period, information is organized first by site, and then by type of context. Preliminary analysis of the data is provided, with a view toward the more synthetic discussion that is largely reserved for chapter three.

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## Chapter One Economies of Archaic Sicily: problems, evidence, and approach

### 1.1 *The nature of economies in the archaic Greek west*

This dissertation is about the economies of four archaic *poleis*: Naxos, Leontinoi, Katane, and Zankle. At first glance, these settlements share a number of common features. Each was founded around the end of the eighth century,<sup>1</sup> during a period of rapid Greek settlement in the area of the western Mediterranean; their collective territory runs down the eastern flank of Sicily, from the Strait of Messina to Syracuse;<sup>2</sup> and all four were connected in antiquity to a common Euboian homeland.<sup>3</sup> However, differences also appear on the surface of what we know about these places. Leontinoi stands out as the only archaic Greek *polis* in Sicily not located on the coast; Naxos and Zankle were sited in hilly or mountainous regions; while Leontinoi and Katane were surrounded by plains famous in antiquity for their fertility.<sup>4</sup> Due to these elements of overlap and difference, we can use these four places as case studies in order to come up with an idea of how economies tended to be structured in the archaic Greek west.

As I see it, there are a number of crucial open questions about the nature of economic activity in this period that a close comparative examination of these places can answer. What, if any, common economic bonds tied these places together? Did the economy of Zankle, a settlement encircled by the Strait of Messina and a largely mountainous *chora*, share any sort of structural similarity with that of a place like Leontinoi? Does it even make sense to consider comparatively the economies of such places, or are the particular geographical and topographical circumstances of each settlement the primary determinants of local economic activity? To what extent did shared cultural responses to environmental realities, both those distinct to archaic Greek Sicily and those more generally applicable to the ancient Mediterranean as a whole, shape normative economic behaviors? How (and why) did these places interact economically with one another, other places in Sicily, or the Mediterranean world at large? In order to begin to answer these questions, I address in the remainder of chapter one matters of evidence and approach.

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<sup>1</sup> The earliest pottery recovered at all four sites dates roughly to the end of the eighth century. For more detailed information on ceramic records, see chapter two below.

<sup>2</sup> Figure 1.

<sup>3</sup> The belief in the shared Euboian ancestry of the founders of Naxos, Leontinoi, Katane, and Zankle is narrated by Thucydides at 6.1-6 of his history, on which see section 1.3.1 below.

<sup>4</sup> On the ancient *testimonia* for the fertility of the plain of Catania, see section 2.2 below.

## 1.2 *Ancient tradition and modern interpretation*

Traditional Anglo-American scholarship on the Greeks in the western Mediterranean, beginning with the keystone writings of Dunbabin and followed in succession by Graham and others,<sup>5</sup> can be collectively characterized as having created a patchwork historical narrative based upon scraps of references culled from a variety of mostly post-archaic ancient literary sources, with archaeological and other material evidence used primarily to fill in gaps or “fact check” these *testimonia*. For the study of the economies of these places, this approach is fundamentally flawed on multiple levels. In the first place, the basic reliability of the information contained within these texts must be called into question. Literary evidence from the later archaic period onwards cannot plausibly be expected to produce a dependable historical narrative of the process commonly referred to as Greek “colonization.” The limited number and underlying nature of these texts makes this an unchangeable certainty, and to proceed as if archaeological research should or could somehow act as a sort of litmus test for the finer details provided by these sources simply will not do.<sup>6</sup>

Secondly, and perhaps more specifically, our knowledge of the role and development of economic factors and components as part of the growth process of the Greek settlements in the west can hardly be increased by such an approach. Even if taken at face value, what literary evidence we do possess on the topic could do little to advance our understanding of how the economies of Greek Sicily were actually structured or operated, since discussion of such matters is quite rare among the extant ancient texts, and most often vague and/or misleading even when it does appear. The deficiency of the ancient sources in this latter instance is not a question of the fundamental reliability of their basic description of events, but rather one that raises a completely separate, yet equally troublesome historiographical issue.

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<sup>5</sup> Some representative examples: (Dunbabin, 1948); (Graham, 1964); (Malkin, 1987); (Malkin, 1998); (Dominguez, 2006). De Angelis is critical of Dunbabin’s approach, but not specifically his use of ancient literary sources (De Angelis, 1998). Osborne adopts a critical approach to ancient literary texts as source evidence, but turns his focus more towards state formation and political history than economies and economic history (Osborne, 1998).

<sup>6</sup> Graham’s claim that the reliability of the literary sources has been demonstrated by the verification of the traditional colonial foundation dates, Graham (1971) 37–39, is contentious on two levels. In the first place, the much-heralded confirmation of these dates by the archaeological evidence rests somewhat uncomfortably on the presence of a single scarab of Bocchoris I in a grave at Pithekoussai, which has been taken to independently date the pottery sequence at the site. Even if true, the confirmation of the rough chronology given by Thucydides or Eusebius cannot, as Graham would have it, validate other unrelated facts or interpretations asserted by these or other ancient authors; confirmation of the general does not necessitate acceptance of the specific and contentious. For the evidence of the scarab and its implications for absolute chronologies associated with pottery sequences, see, e.g., Coldstream (1968) 316–17, 322–27.



The historian and historiographer EH Carr famously railed against the idea of the objective “historical fact,” a concept he perceived to be an intellectual fallacy due to the overwhelming amount of data available to an historian and his biased selectivity in assigning significance to them.<sup>7</sup> In effect, he was making the case that argumentation based solely upon appeal to basic fact(s) lacks weight and validity, since in reality an historian picks and chooses his facts as he pleases from a much broader and deeper pool of available information in order to suit the tenor and conclusions of his own arguments. At first blush, such a contention might seem to have little relevance to a sub-field of history concerned with the phenomenon of Greek overseas settlement in the archaic period. For, the historian working in this area is faced with a dearth, not an overabundance, of evidence.

Although the constraints of limited evidence need not be so restrictive, this perceived lack of “facts” has deeply affected how the history of the field has been written. In the first place, it is widely assumed and accepted that our approach to the history of Greek overseas settlements must conform to the limits imposed by the descriptions of the relevant extant literary sources, with archaeological evidence merely verifying or at the best and rarest of times supplementing the basic picture afforded by the careful and resourceful weaving together of the ancient *testimonia*.<sup>8</sup> Stemming directly from the acceptance of this rather reductive premise come two more: 1) compilation and mastery of these fragmentary facts equate not only to our knowledge of the subject, but also our understanding of it and 2) consequently the only productive activity for the historian of the subject becomes adding a missing piece to the puzzle, through either reclamation or redirection of an ancient source or through assimilation of new archaeological or other documentary evidence to a narrative thread previously identified within an ancient source. The only acceptable goals become either to increase knowledge (and thus understanding) of the subject, or to rearrange the limited body of evidence into new patterns.<sup>9</sup> Exempted from scrutiny or analysis, the accepted and pre-existing corpus of “historical facts”

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<sup>7</sup> “The belief in a hard core of historical facts existing objectively and independently of the interpretation of the historian is a preposterous fallacy, but one which it is very hard to eradicate.” (Carr, 1961) 10.

<sup>8</sup> Note again Graham’s insistence upon the primacy of the literary evidence (Graham, 1971). More recent scholars have maintained a similar, if more nuanced, approach to ancient texts as source evidence. E.g., Malkin has vigorously defended Osborne’s critique of his step-by-step reconstruction of the foundation of a Greek *apoikia*, which narrative is based largely upon his acceptance of literary *testimonia* as accurate representations of how these were founded (Malkin, 1987) (Osborne, 1998) (Malkin, 2002).

<sup>9</sup> “...our knowledge of Greek colonization...will always remain on the whole skeletal, a framework of simple facts about origins and dates only rarely enriched by detail. The picture of Greek colonization that we can achieve will, therefore, always be drawn in rather broad lines, and the task of the historian is continually to try to improve the quality and validity of these rather general reconstructions...In simple terms this activity is looking at patterns on a map.” (Graham, 1971) 37.

preserved in the literary sources always retains its essential integrity, being subjected, as Graham suggests, to different layers and types of modeling, but never having its fundamental worth subject to challenge. Such overestimation of the reliability and veracity of the information contained within the ancient texts creates a disjuncture between what was written and how it is read that consequently leaves uninvestigated and unquestioned any problems or complications obscured or obfuscated by the ignorance, distortions, agendas and aims of the ancient authors on whose words the modern scholar has built his historical framework. In turn, because the ancient *testimonia* have been valued so highly, they have become a set of lenses through which the archaeological evidence for this period has been observed and understood. Consequently, each tiny crack or smudge on one of these lenses tends to create a distortion exaggerated many times in its magnitude.

Given the major gaps in knowledge we face when contemplating the history of the Greek settlements of Sicily and South Italy, it is tempting to hang onto the few coherent ancient *testimonia* we do have as if they were gospel truth. But, for the reasons just discussed, this is a temptation that must be avoided. The problem has again been well put by Carr. The information given by our literary sources has been “pre-selected and predetermined for us,” by authors who were “consciously or unconsciously imbued with a particular view and thought the facts which supported that view worth preserving.”<sup>10</sup> The study of the motivation behind the earliest Greek settlements has heavily influenced conceptualization of the economic history of the place and period, with the identification of either an underlying agrarian or commercial rationale employed to explain the rapid proliferation of overseas settlements in the late eighth and seventh centuries.

Proponents of an agrarian model have sought in the textual evidence an image of Late Geometric and early archaic Aegean Greece rife with land-hunger and food shortage, while others have argued that a colonial-style thirst for access to metals and other raw materials available in the western Mediterranean drove the rapidly developing phenomenon that we often call Greek colonization throughout large parts of Sicily and South Italy.<sup>11</sup> Praise of autarkic production policies is commonplace in ancient Greek texts, from Hesiod to Plato and Aristotle,<sup>12</sup> while readings of Homer and Hesiod have provided a model for a kind of market-style trade in the archaic period.<sup>13</sup> These directions of explanation have resulted in the placing of these two possible economic goals in opposition to one another, and have given rise to an appearance and consequently an assumption of a strict dichotomy. As such, attempts have been made to define the numerous settlements, based upon some varying combination of later literary evidence and assumptions made upon

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<sup>10</sup> (Carr, 1961) 12.

<sup>11</sup> The basic proposals and corresponding problems are laid out at (Tsetskhladze, 2006) xxviii–xxx.

<sup>12</sup> Plato, *Republic* 370E–317A; Aristotle, *Politics*, 1327a25–31. For Hesiod, see below.

<sup>13</sup> (Tandy, 1997) 203–27.

considerations of basic geography, as either aspiring *autarkic* agrarian communities composed mainly of small subsistence based farmsteads, or, alternatively, non-productive commercial centers. The attachment of labels derived from ancient terms—*apoikia* for the former, *emporion* the latter—has provided a sense of authority for this division, but ancient usages of these terms do not actually conform to these mutually exclusive definitions.<sup>14</sup> The overly schematic and artificial divide between the activities of production and distribution inherent in this system of interpretation, combined with its widespread general acceptance, has often led to special pleading on the part of scholars confronted with evidence of economies that do not conform to these one-dimensional ideals.<sup>15</sup>

Of course, underlying all of this scholarship is the *a priori* assumption that such categories and such a distinction can and should be made. As Morel noted as far back as 1984,<sup>16</sup> this type of thinking is of limited utility, and does little to create an accurate or nuanced understanding of how the economies of early Greek overseas settlements did or did not function. By simplifying the issue and creating a false choice between two idealistic and completely idealized and static alternatives, one effectively stultifies the study of the economic history of early Greek overseas settlements. For, once it is largely agreed that two distinct types of settlements existed (or could have possibly existed) within an exploitative colonial framework, the only open questions become predetermined, derivative, case-specific or topical; no space is left for the introduction of understandings of how these economies functioned that do not depend on or conform to the constraints of the dominant system of classification.

This interpretative framework has affected not only the question of the initial motivations driving the foundation of Greek overseas settlements, but also the components and operation of their subsequently developed economies. To be sure, the economic activities of the inhabitants of some Greek settlements in the west were focused more heavily upon production, usually of agricultural products such as grain, olive oil or wine; in other cases, distribution of various types of goods, rather than production, played a larger role in the community's economic life. And, if each individual settlement could successfully be placed into one of the two given

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<sup>14</sup> One recent discussion of what nomenclature should or can be used to discuss different overseas Greek settlements seeks to disentangle the word *emporion* from its modern connotations and denotations by locating its meaning through examples extracted from the *corpora* of ancient texts and inscriptions. The utility of such an approach as a means of understanding economic systems, however, seems limited. See (Hansen, 2006).

<sup>15</sup> *E.g.*, Ridgway's assessment of Pithekoussai as fitting the mould of neither an *apoikiai* (since it lacked an extensive *chora* comparable to those of places like Kumai or Syracuse) nor an *emporion* (since its inhabitants were clearly involved in activities of production as well as trade and distribution). See Ridgway, D. *The First Western Greeks* (Cambridge, 1992) 107-9.

<sup>16</sup> Morel, J-P. "Greek Colonization in Italy and the West (Problems of Evidence and Interpretation)" in *Crossroads of the Mediterranean* (1984) 123-61.

categories (“producer” or “trader”), this collapsing of all activities of production, distribution and consumption into the simple shorthand of *apoikia* or *emporion* would be capable of creating an attractive illusion of understanding and even truth through its simplicity and seeming irrefutability. But, the explanatory power of such taxonomical wranglings depends entirely upon the acceptance of these ideal types as historical realities.

There have, of course, been attempts to extensively utilize archaeological evidence in the interpretation of the economies of the western Greeks. Among these the most important for the purposes of this dissertation is the suggestion that the Euboian settlements of north and east Sicily were founded to participate in a Mediterranean-wide Euboian trading network, an idea held since the influential work of Vallet.<sup>17</sup> The implications of such an assumption on the economic history of places like Naxos, Leontinoi, Katane and Zankle have been and continue to be profound. The reduction of these settlements into cogs and offshoots of this putative Euboian commercial/colonial empire not only encourages the view of their economies as primarily one-dimensional and dedicated to the activities associated with ports-of-trade in the abstract, it also leads to a kind of question begging in the interpretation of archaeological evidence.

The continuing prevalence of this practice can be seen in a recently published volume that presents itself as “an overview of Greek colonies and other Greek settlements overseas.”<sup>18</sup> The chapter entitled *Greeks in Sicily* not only begins by quoting the Sicilian Archaeology in full; Dominguez takes special care to point out the primacy of this passage in “traditional scholarship,” and after vaguely referencing the “problems that this text continues to arouse,” remarks upon its utility for the organization of a discussion of the various early Greek settlements on the island.<sup>19</sup> However in doing so, he, like those who came before him, underestimates the degree of subjectivity inherent in the narrative structure in which this excerpted text was originally embedded. Thus, he fails to see the profound and subversive impact concomitant with the adoption of this text as the centerpiece of his organizational scheme. It is this odd combination of beliefs in both the factual accuracy and the almost superhuman impartiality of the ancient sources that has led modern historians to regard them as idealized repositories of information upon which we, as practitioners of the archaeological and historical trades, can draw in order to create our own interpretations and understandings of the material evidence.

The case of Zankle and its economic situation during the archaic period, one of the particular focuses of this dissertation, illustrates well the effects of these historiographical and methodological trends. As discussed in more detail below,

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<sup>17</sup> (Vallet, 1958).

<sup>18</sup> (Tsetskhladze, 2006).

<sup>19</sup> (Dominguez, 2006) 255-6. This text, and its implications, are discussed in more detail in section 1.3.1 below.

Thucydides provides his reader with a particular description of Zankle/Messana both as a place easily conquered and one whose primary purpose for being revolved around its strategic geographical position at the southern boundary of the Strait of Messina. Within his narrative of the Athenian invasion of Sicily, these characteristics define what Alcibiades and his supporters envisioned Messana's likely role to be in the highly militarized, and exceedingly unusual, context defined by the Athenian experience in Sicily from 415–413. Within this broader framework, Thucydides' description makes sense: he is concerned with creating the history of a war, and thus his descriptions of peoples, places and events fit the particular narrative he is constructing. However, direct, uncritical application of this description of Zankle/Messana to a reconstruction of the conditions of the archaic settlement of Zankle is bound to produce a distorted picture. Add in the framework of modern colonization, and the end product becomes an understanding of Zankle as a non-productive port city, and more specifically, a strategic link in a long-distance trading network.

### 1.2.1 *Substantivism, markets, and the movement of goods in the archaic Greek west*

In this dissertation, I provide a reconstruction and explanation of economic structures, specifically those of a handful of Greek cities in archaic Sicily. Debate about the nature of “the ancient economy” goes back over one hundred years, and does not need to be fully rehearsed here.<sup>20</sup> In lieu of comprehensively reviewing all the various positions expressed within the confines of the primitivist/modernist and substantivist/formalist debates, I turn immediately to a few particular aspects of these that bear direct relevance for understanding economic conditions within the historical, chronological, and topographical limits defined for this dissertation.

The substantivist idea that economic behaviors were embedded within social or cultural contexts has been employed to explain the material evidence for contact and movement of goods between communities—both Greek and non-Greek—in archaic Sicily and South Italy. Hard evidence for the movement of goods in the archaic period is archaeological. As Owen sees it, a shift towards substantivist interpretation of this evidence has helpfully allowed the debate over “trade” in the archaic period to morph from an argument over scale and intensity to one,

more explicitly about the nature and location of the ancient economy, and therefore whether modern or anthropological comparisons are more suitable. If the exchange of objects is primarily a social phenomenon—if the circulation

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<sup>20</sup> See, e.g.: (Finley, 1999); (Morley, 2004); (Morris, 2002); (Scheidel & von Reden, 2002); (Manning & Morris, 2005); (Morris, Saller & Scheidel, 2007).

of “foreign” material is governed not by “rational” economics or the profit motive, but by the power their links with the world outside evokes—this has far-reaching implications for the study of culture contact in general and Greek colonization in particular.<sup>21</sup>

According to this view, trade or exchange of goods between different communities is not to be taken as evidence of *economic* so much as *cultural* or *social* activity; what seem, from the viewpoint of modernity, to have been economic interactions were in reality manifestations of a particular manner of negotiating and differentiating social status. Greek pots end up being deposited in Sikel contexts as a result of reciprocity, not for-profit economic exchange. Unlike the “new humanist” approach that explains ancient discourses that contest different ideas and ideals of a contemporary reality, the substantivist position maintains a focus upon the “hard surfaces” that defined the movement of people and goods in the archaic Greek world. Although Owen largely denies a properly economic motivation in the undertaking of the human interactions that resulted in the movement and transfer of goods and people to which our archaeological evidence can attest, her interpretation uses the material evidence to construct and explain the actual motivations behind real actions.

Tandy offers a different explanation for the regional and inter-regional movement of goods in the archaic Greek west. He also believes that, for the most part, the economies of these places were embedded within larger social structures, and that this created productive, distributive and consumptive constraints that prevented the kind of free exchange and profit maximization philosophies that govern modern capitalist economic thought and practice.<sup>22</sup> However, Tandy adds another component to this essentially substantivist core. Within the phenomenon of Greek settlement in the west during the archaic period he sees the, “...introduction of markets into the economic realities of the Greek communities. These markets constituted the third form of economic integration, which Polanyi called exchange...A transaction in this system neither responds to nor creates a social bond: the relationship is terminable at the end of the transaction. Some networks are established, an apparent grid of relationships that resemble social ones, but these are strictly temporary “business” relationships, for the individual goods involved have

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<sup>21</sup> (Owen, 2005) 10. The italics here are mine. Owen cites as examples of substantivist interpretations of material evidence: (Dietler, 1995); (Dietler, 1999); (Owen, 2000); (Owen, 2003).

<sup>22</sup> Tandy uses the terminology and ideology of Polanyi, using the term redistribution to refer to the local movement of goods governed by relationships of patronage and clientage. The term reciprocity he uses to refer to a system of “gift-exchange,” by which a limited number of certain kinds of goods circulate in an ultimately symmetrical fashion; the purpose of this system is not the movement of the goods themselves, nor the generation of gain or profit through the movement of the goods, but instead the creation and maintenance of social bonds and the satisfaction of social requirements. (Tandy, 1997) 93-106.

specific values independent of the social constraints that in other systems [reciprocity & redistribution] inform the transaction itself; that is, each good or batch of goods is valued separately.”<sup>23</sup> Thus, Tandy holds that a disembedded market economy existed alongside the more traditional, embedded economic systems of reciprocity and redistribution. He goes on to assert that, “...what is economic (is) separate from what is social/cultural... social functions (can be) performed *at* markets, not *by* markets, which is something different altogether.”<sup>24</sup>

This interpretation depends upon a number of assumptions: 1) *exchange* mostly deals with the movement of only a certain type of goods, *i.e.* non-subsistence, “prestige”, produced-far-away goods; 2) economic space can be a location for social/cultural activity, but not vice versa; 3) it was possible to have movement of goods not dictated purely by social/cultural relations, but only to a limited extent; 4) a market “depends on external factors for both its existence and location; a market did not depend on the activities of the communities near it;” 5) “In this essentially alien institution of the market we see the economy “disembedded;” and 6) “Market goods, however few, move separately from the rest of a society’s organization, for transactions can be and are undertaken on the basis of only the denotation of a good, with no consideration for the connotation either of the good, or its transfer.”<sup>25</sup>

Owen posits that “foreign” goods were moved not for economic profit, but for a kind of cultural profit, one that resulted in an increase in social esteem or political power. Thus, exchange was a cultural, not an economic activity, and the archaeological evidence for the movement of goods should be read as material testaments to a specialized kind of social competition, not as evidence of economic behavior. Although Tandy agrees that goods produced and redistributed locally were subject to a set of social constraints more generally characteristic of pre-modern economies, and also that a reciprocal form of gift-exchange existed by which certain kinds of prestige items circulated among elites, he breaks from the substantivist position by claiming that a disembedded market-style form of exchange came into being during the archaic period, and that this form of goods distribution was especially prominent among the Greek settlements of Sicily and South Italy. This market exchange was limited, however, to only those goods not bound by the social constraints that informed the distribution and consumption patterns for goods produced locally or given as “gifts.” In effect, Tandy argues for a schizophrenic scheme of distribution that features three independent and mutually exclusive activities: some goods move through a socially constrained form of redistribution; others through social network building acts of reciprocity; and still others through a process of unfettered (disembedded), profit-maximizing exchange.

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<sup>23</sup> (Tandy, 1997) 113.

<sup>24</sup> (Tandy, 1997) 114.

<sup>25</sup> See further (Tandy, 1997) 113-7.

Archaic networks were essentially bundles of individually connected cultural relationships that were initiated and maintained, in part, by practices of reciprocal “gift-giving.” The positions taken by Tandy and Owen both require a strict disconnect between social/cultural relationships (networks) and economically motivated exchange. For Tandy, these activities occurred in separate spheres; for Owen, the latter was completely subsumed by the former. However, it is possible to imagine that, although the means of exchange were governed by cultural/social relationships, exchange itself could still remain an economically motivated activity. Moreover, exchange need not have consisted only of the movement of “foreign” or “prestige” items; subsistence goods as well could move through cultural-economic networks. The problem arises when the modern ideal of profit maximization is assigned as the goal of the ancient practice of exchange. If we assume that the impetus for exchange in archaic Greece was risk minimization rather than profit maximization, it becomes possible to assign economic, rather than purely cultural or social, motivations to the movement of goods and people.

### 1.3 *The limits of the literary evidence*

Ancient literary evidence applicable to the reconstruction of historical facts and events appears infrequently during the archaic period itself; most contemporary occurrences are in poetic works of non-historical intent.<sup>26</sup> More extensive classical-era narratives, like the histories of Herodotus and Thucydides, are recommended to modern audiences by their complete preservation, but these focus on Sicily only sporadically; later authors, such as Plutarch and Diodorus Siculus, do at times deal with Sicily at more length.<sup>27</sup> For the most part, the extant prose texts are far from being contemporaneous with the events with which they are concerned, and those chronologically closest deal with the region intermittently at best, and even then only tangentially.<sup>28</sup> When discussing ancient literary evidence for early Greek Sicily, what we have then are a collection of fragments, excerpts and later narratives of varying length, quality, style and genre.

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<sup>26</sup> Passages excerpted from the texts of Homer and Hesiod, for example, have been used to various effect in modern historical discussions about various facets—political, religious, cultural—of archaic Greek overseas settlements. See, e.g.: (Malkin, 1998), (Malkin, 1987) and (Tandy, 1997).

<sup>27</sup> E.g., Plutarch’s lives of *Timoleon* and *Dion*, and large chunks of especially books 11–15 of Diodorus. However, the portion of Diodorus’ history that dealt with the Archaic period (books 8–10) is not extant.

<sup>28</sup> The writings of Antiochus of Syracuse (classical era) and Timaeus of Tauromenion (hellenistic) and others authors whose works today exist only in fragments dealt more extensively with the events of Sicily and the west, but these exist only in fragments or quotations, for which see *FGrHist*. Herodotus and Thucydides tend to deal with the events in the Greek west only when these intersect with their narratives concerning the Persian and Peloponnesian wars, respectively.



To treat this collection of heterogeneous ancient literary sources as records of fact would be to overestimate the reliability of the information they relay. Even after the keeping of written accounts and records become customary, the ancients themselves expressed anxiety and frustrations regarding the fallibility and flexibility of their collective cultural memory.<sup>29</sup> Putting issues of accuracy aside, it would be a mistake to use these texts as factual frameworks for historical interpretation, not least because they were never intended to act as such. These texts were themselves poetic imaginings or historical interpretations, and any attempt to decode them in order to separate fact from fiction or interpretation and thereby pull from them an objective factual framework upon which further archaeological and other research can then be built can only ever be a wholly deductive and ultimately reductive exercise.

### 1.3.1 *Ancient narrative as epistemological foundation?* *Thucydides 6.1-6*

Among the various surviving texts and fragments that deal with archaic Greek Sicily, one in particular has long held pride of place as the document *par excellence* for research concerning any of the Greek settlements on the island: the so-called Sicilian Archaeology, or *Sikelika*, of Thucydides. In these first six chapters of Book Six, Thucydides provides an historical summary of the various populations of Sicily, starting with the legendary arrivals of the Sikels, Sikans and Elymians, mentioning the pre-Greek Phoenician presence, and finally going on to provide a foundation story and brief settlement history for each Greek *polis* on the island. Given its prominence within the modern historiography concerning Greek Sicily, I make a close examination of part of it the starting point for discussion of the viability of ancient literary sources as evidence for the reconstruction of the economic history of Greek settlements in Sicily during the archaic period.

It has been variously noted by modern commentators, albeit to different effect, that the information given in this passage has very little to do with the state of affairs on the island at the time of the Athenian expedition against Sicily in 415. I am not the first to point out that the Sicilian Archaeology is not some sort of purposeless, positivist listing of facts left to posterity by a providential urge that popped into Thucydides' head.<sup>30</sup> However, this sort of reading nevertheless has shaped the way this passage has been read. Take, for example, Dover on Thucydides 6.2-5: "These chapters...constitute a digression, of a kind which Thucydides sometimes inserts in

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<sup>29</sup> Compare, e.g., Thucydides' discussions of the *tyrannicides* (1.20.1-2; 6.54.1-59.1). Thucydides uses the common misunderstanding and misremembrance to enhance the validity of his truth claims about and the overall reliability of his own work, but more relevant for my point is that such confused beliefs about local and relatively recent events could even exist in fifth-century Athens.

<sup>30</sup> A representative sampling of modern commentary considering the thematic and rhetorical complexity of the Sicilian Archaeology can be found in the relevant sections of (Hornblower, 2009).

order to correct inaccuracies or to give us interesting and out-of-the-way information which he thinks we are unlikely to obtain elsewhere.”<sup>31</sup>

Read in a vacuum, as Dover seems to advise, the *Sikelika* indeed appears a rather objective and uncontroversial catalog of the various cities and peoples of Sicily. Each entry is usually accompanied by one or two basic facts, often the date of foundation or a comment on the ethnicity of the people involved. In individual cases, more or different types of information are given from one place or people to the next, but how likely would any reader, ancient or modern, be to notice these in the midst of the narrative flow? After all, this passage as a whole is not particularly long, and there is certainly at least a superficial appearance of consistency of information as Thucydides moves us from point to point on his virtual *periplous* of the island. Even more helpful is that Thucydides seems to have taken the trouble to give a more or less complete listing of what he has set out to describe; no noticeable omission either of a city or an ethnic population of contemporary Sicily, Greek or non-Greek, occurs.

However, despite its prosaic guise, this passage is in fact a highly charged rhetorical excursus that serves the specific purpose of framing Thucydides’ narrative and interpretation of the events surrounding the spectacularly failed Athenian military expedition to Sicily from 415–413. This introduction to book six is most emphatically not an impassive listing of fundamental facts, and one cannot use it to establish reliably anything more than the most basic circumstances of archaic Greek Sicily, and especially not to ascertain the historically elusive situation of its economies. What this text provides is a version of the history of Sicily carefully tailored to fit Thucydides’ own arguments and peculiar presentation of certain actors, places and events, an account skillfully restricted and abridged, yet still plausible and even convincing to the eyes and ears of his intended audience. Information of this sort, while certainly worthy of examination in its own right, does not constitute what could be considered a productive starting point for the organization or deliberation of evidence concerning the economic—or any other—history of pre-classical Greek Sicily. By closely examining part of this text and elucidating Thucydides’ own underlying aims in writing his Sicilian Archaeology, we can see that this passage cannot be made to fit this purpose.

Thucydides has not written a simple source book or a mere meticulous collection of facts, and we ought not base either our understandings or our critiques of his history on any contrary conception.<sup>32</sup> Thus, understanding what Thucydides has written is not a matter of ascertaining or rating his trustworthiness, but rather

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<sup>31</sup> (Dover, 1965) 3. Compare (Gomme, Andrewes and Dover, 1970) 198, which advances a similar viewpoint, highlighting a purported tendency of Thucydides to “give his readers interesting material which they are unlikely to find elsewhere...”

<sup>32</sup> Kosso provides some valuable insights into the limited epistemic value of our sources—most especially Thucydides—for the construction of ancient history (Kosso, 1993).

recognizing that his aims in writing a “history” of the Peloponnesian War need not answer at all to modernist conceptions of what a “history” should or can be.<sup>33</sup> We should not look for the application of something like Elton’s principles for the *Practice of History* when we read Thucydides,<sup>34</sup> not so much because these have been deconstructed and discredited as guidelines for the writing of history today,<sup>35</sup> but rather because there is every indication that to do so would be to fundamentally misread the text.

Nevertheless, the *Sikelika* of Thucydides, because of its apparent comprehensiveness of information and an inferred lack of selectivity available to the author in the inclusion or exclusion of information in such a presentation, has been particularly beset by this interpretative difficulty. For my understanding of the role of this passage within the larger structure of Thucydides’ own historical project, there are two key components: 1) the appearance of completeness in the list Thucydides presents to the reader, and 2) the hardly discernible qualitative informational discrepancies and inequities within it, which, far from being random or inconsequential, are in fact intentional and necessary, and are presented in order to provide a pseudo-factual framework upon which Thucydides’ own visions and explanations of the events of 415–413 B.C. are then able to rest.

A tendency towards completeness has long been noted as a general characteristic of Thucydides’ work; Hornblower has in fact devoted an entire book chapter to this and related concepts.<sup>36</sup> In regard to his account of the Peloponnesian War, Hornblower remarks that “there is...a tension in Thucydides between a desire to record all the particular *erga* of the war (an impossible aim, of course) and an opposite tendency to go to extremes of selectivity and omission, in the desire to draw out the general implications of events.”<sup>37</sup> The latter especially seems a valid and crucial point, but I would prefer phrasing a bit more explicit: Thucydides has a tendency to selectively omit events and facts in order to draw out *what Thucydides*

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<sup>33</sup> Over a century ago Cornford, though not rejecting altogether the factual impeachability of Thucydides or the implications of such a stance, approached such an attitude when he wrote that “...it is possible...even for a writer of history to be something much better than trustworthy... Thucydides is...a great artist.” (Cornford, 1907), vii. Hunter pushed further in a similar vein, while also calling into question the reliability of Thucydides relative even to his ancient colleagues (Hunter, 1973). More recent monographs on Thucydides argue for more constructed readings of Thucydides, approaching the text from a viewpoint that takes for granted its limited epistemic value, of which (Dewald, 2005) is one example. From her introduction: “Postmodernism has shown us the constructedness and ideological power of narrative. We no longer believe that a historical narrative attains the Truth of the Past (something we would not recognize even if it were somehow given us.” (Dewald, 2005) 21.

<sup>34</sup> (Elton, 1967); (Elton, 1991).

<sup>35</sup> See, for example (Jenkins, 1995) 90–96.

<sup>36</sup> “Comprehensiveness or Selectivity?” (Hornblower, 1987).

<sup>37</sup> (Hornblower, 1987) 43.

*regards* as the general implication of events or facts. For, while Thucydides' exile from Athens may have endowed him with a certain impartiality lacking in near contemporaries such as Antiochus of Syracuse,<sup>38</sup> this does not mean he had no agenda or interpretations of his own. Nor can we assume that Thucydides would have avoided employing rhetorical and other devices in order to further these—even at the cost of not presenting, or unevenly presenting, any given set of events or facts.<sup>39</sup>

Upon close examination of the text, one can recognize numerous instances in which Thucydides does exactly this. Luraghi has outlined one example of how Thucydides, by providing his reader with the impression that he has given a complete exhibition of the relevant facts, manages to create an undue weight of authority and irrefutability for his own judgments.<sup>40</sup> Despite what appear to modern scholars to be glaring inconsistencies or even downright deficiencies in his arguments, and even though he has introduced very little or even no new evidence,<sup>41</sup> by the end of the "Archaeology,"<sup>42</sup> Thucydides meets his self-assigned objective of being able to plausibly state to his reader that the subject of his own history is the greatest war ever known.

The crux of the rhetorical trick Thucydides employs throughout the Archaeology is to create the appearance of a reasonably complete presentation of the relevant facts by openly discussing issues and examples his target audience would have expected, while at the same time only citing basic information of which most of his audience would have likely already had at least some degree of awareness. Almost paradoxically, Thucydides manages to use an assumed vast and widespread common knowledge of previous "great" wars as a basis for his denigration of their greatness in

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<sup>38</sup> See, e.g., Hornblower on the "local bias" typical of Antiochus and other ancient historians (Hornblower, 1987) 27.

<sup>39</sup> Compare, for example, de Ste. Croix's discussion of the authorial intent of Thucydides, in which he cites Collingwood's attacks on Thucydides' historical methodology (de Ste. Croix, 1972) 5-8. A quote is excerpted in which Collingwood levels against Thucydides the charge that he is an author who "does not narrate facts for the sake of narrating facts." (Collingwood, 1946) 29. De Ste. Croix proceeds to offer a lengthy apology of Thucydides the historian, presenting a sketch of his ancient colleague as a perfectly modern empiricist, a practitioner of the historical trade whose objectivity is beyond reproach, a man for whom "...*getting the facts right* (sic) was all-important..." (de Ste. Croix, 1972) 6. The very existence of such a debate rests upon a faulty premise, i.e. the idea that we should be evaluating Thucydides and/or his history on such grounds at all.

<sup>40</sup> Luraghi analyzes Thucydides' pre-eminent placement of the Peloponnesian War amongst all known wars (Thucydides, 1.23.1 ff). In this case, Thucydides chooses not to exclude any of the likely challengers, but rather discredits them on highly subjective and constantly varying grounds, all while presenting only uncontroversial information of which his audience was likely to have already been aware (Luraghi, 2000).

<sup>41</sup> (Luraghi, 2000) 228.

<sup>42</sup> Thucydides 1.1-23.

relation to that of the war that is the object of his own study.<sup>43</sup> By overwhelming his reader with a great weight of references and information in a dense and quick succession of sentences, Thucydides is able to gloss over the inconsistencies in his presentation, leaving the awed and perhaps slightly dazed reader oblivious to the logical flaws in his argumentation.<sup>44</sup> Only close and repeated readings of the text combined with the type of comparison of Thucydides' presentation of information with that of other authorities that is characteristic of modern historical methodologies is likely to expose the forensic ruse he has managed to perpetrate on his audience.

Although the structure of the arguments that Luraghi discusses are different than those found in the Sicilian Archaeology, Thucydides again here, as elsewhere, uses the sheer weight of a comprehensive list of information, carefully placed and framed within his text, in order to substantiate claims that might otherwise have been seen as controversial, or at least contestable. Before turning to the sections of the text that relate information that have helped inform modern understanding of the economic activities associated with the places and people of Sicily,<sup>45</sup> a look at the sentences that open the book and introduce this information is worthwhile:

Τοῦ δ' αὐτοῦ χειμῶνος Ἀθηναῖοι ἐβούλοντο αὐθις μείζονι παρασκευῇ τῆς μετὰ Λάχητος καὶ Εὐρυμέδοντος ἐπὶ Σικελίαν πλεύσαντες καταστρέψασθαι, εἰ δύναιτο, ἄπειροι οἱ πολλοὶ ὄντες τοῦ μεγέθους τῆς νήσου καὶ τῶν ἐνοικούντων τοῦ πλήθους καὶ Ἑλλήνων καὶ βαρβάρων, καὶ ὅτι οὐ πολλῶν τινὶ ὑποδεέστερον πόλεμον ἀνηροῦντο ἢ τὸν πρὸς Πελοποννησίου. Σικελίας γὰρ περίπλους μὲν ἐστὶν ὀλκάδι οὐ πολλῶν τινὶ ἔλασσον ἢ ὀκτῶ ἡμερῶν, καὶ τοσαύτη οὔσα ἐνεϊκοσισταδίῳ μάλιστα μέτρῳ τῆς θαλάσσης διείργεται τὸ μῆ.

The same winter the Athenians wanted, by sailing again to Sicily with a greater force than those (previously sent) under Laches and Eurymedon, to subjugate it, if they

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<sup>43</sup> For example, Thucydides uses the commonly held opinion that the Persian War was, prior to the Peloponnesian, the most important ever fought, to reduce the scope of his task. By conceding the preeminent status of the Persian War, Thucydides can plausibly assert that the Peloponnesian War was the most important of all time by a single direct comparison. Canfora and Luraghi discuss the rather arbitrary criteria then employed by Thucydides in order to substantiate his claim that the Peloponnesian was indeed a greater war than the Persian (Canfora, 1997); (Luraghi, 2000) 28-30.

<sup>44</sup> Luraghi points out how Thucydides changes his criteria as needed. For example, in disparaging the Trojan War, he chooses to eschew discussion of its extended length and numerous battles, and instead calls into question its "greatness" on the basis of overall number of combatants, grounds on which the Persian War, e.g., could not have been plausibly assailed. See again (Luraghi, 2000) 28-31. This particular insecurity Thucydides feels when comparing the key battles of his war and the Persian War surfaces again at 4.36.3, where he actually apologizes for comparing Thermopylai to Spacteria. This contrast is noted, albeit with different emphasis, by Hornblower at (Hornblower, 1991) 62.

<sup>45</sup> Thucydides 6.2-6.6, the chapters that constitute what has been traditionally been termed the *Sikelika*.

could. (They wanted to do this) because the majority were ignorant of the great size of the island, of the number of its inhabitants—both Greek and non-Greek—and of the fact that they were taking on a war nearly as great as the one against the Peloponnesians. For the circumnavigation of Sicily takes just under eight days, and, although it is so large, it is separated from the mainland by only about twenty stades of sea. (Thucydides, 6.1)

Two key contentions are here stated directly, without equivocation, and as if they were fact: that the Athenians were intent upon the conquest of the entirety of Sicily; and that undertaking such a campaign was the equivalent of starting a war on the scale of the one the Athenians already had on their hands with Sparta, due to the size of Sicily and the multitude of the island's population. Acceptance of these assumptions is essential to the logic of Thucydides' subsequent presentation of the launching, prosecution and failure of the Sicilian Expedition. Thus, the catalog of the peoples and cities of Sicily, *i.e.* the *Sikelika*, occupies a crucial space within the overall structure of books six and seven. Textually, it lies directly between his contentions concerning the cause and scope of this colossal failure of a campaign and the public debate, channeled in Thucydides' narrative through the characters of Nicias and Alcibiades, over whether or not the Athenians should have undertaken it.<sup>46</sup>

There is *prima facie* a fundamental oddness in the information that Thucydides chooses to provide in the Sicilian Archaeology. This is a strange moment for Thucydides to launch himself upon a lengthy historical ethnographic digression, inasmuch as in doing so he acts quite out of stylistic character.<sup>47</sup> Why then does Thucydides, if not compelled by some sense of formal obligation, present at this particular point information of such seemingly dubious relevance? Why should the reader need to know how and when these settlements were founded,

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<sup>46</sup> In his presentation of the Athenian debate and ultimate decision to embark upon the Sicilian Expedition, Thucydides uses the figures of Alcibiades and Nicias as “code operators” whose words and actions embody more complex and varied sentiments of the Athenian citizen body at large. This is similar to the way in which, a generation or so earlier, Herodotus and others used the figures of Themistokles and Aristeides as “code operators” to represent conflicting ideals and ideas within Athenian culture and politics, as discussed in (Kurke, 2002).

<sup>47</sup> Thucydides does not in other similar circumstances seem to feel compelled to provide this sort of ethnographic information to his audience. For example, when describing the Athenian campaigns in Thrace, Thucydides does provide some information about the geography and people of the area (2.97), but only describes the contemporary conditions that directly inform the campaigns he is describing. An historical ethnographic survey of the peoples with whom the Athenians are fighting does not seem a *pro forma* requirement of Thucydides' historical methodology. Moreover, the beginning of book six is not the first instance Thucydides has had to describe large Athenian campaigns in Sicily; he narrated previous expeditions led by Laches (3.86, 3.90, 3.115) and Eurymedon (3.115, 4.2, 4.65).

much less the origins of the island's native populations? If, as seems to be the case, Thucydides is eager to show the strength and power of these places and peoples in 415, what good is any of the information the Sicilian Archaeology has to offer? As Avery has observed, it is Thucydides' own view and assertion that the Athenians have in mind to conquer and subjugate Sicily from the very start that skews his discussion towards a "colonizing" frame of mind, and thus throughout books six and seven Thucydides engages in "frequent comparison of the expedition to a colonizing venture [that] helps to explain why Thucydides chose to discuss the 'colonization' of Sicily rather than the state of affairs on the island in 415."<sup>48</sup>

It is in regard to Thucydides' second assertion that the expedition against Sicily was from the start a nearly impossible feat that he invokes the kind of rhetoric Luraghi has observed in the Archaeology of book one. I would suggest that by offering such a thorough listing of the island's inhabitants, which includes naming not only the Greek settlements but also the native and Carthaginian elements, immediately after he has for the first time asserted how difficult this venture was likely to prove, Thucydides here engages in a subtle manipulation of his audience via information overload. This rhetorical device can come in the guise of an overwhelmingly long list of information, as it does here or in the Archaeology of book one, or it can be employed through the citation of incredibly large numbers, as when later in his narrative Thucydides claims that twenty thousand slaves escaped from Attica due to the Spartan fortification of Decelea.<sup>49</sup> In either case, the effect upon the reader is much the same. By unexpectedly and continuously listing all the various people and cities of Sicily, Thucydides manages to create an idea of sheer immensity and cultural complexity that must have had a profound psychological effect upon his readers. Of course, many, if not most, of his readers would likely have already had some idea of the number of cities and different kinds of people who lived in Sicily, much as most members of his intended audience would have already known that during the Peloponnesian War the fortification of Decelea by the Spartans had resulted in the loss of an enormous number of slaves. This, however, does not prevent the creation of the desired effect, since it is the listing of all the peoples and places of Sicily together that, in such a concise and uninterrupted format, makes the device work.<sup>50</sup>

Just as revealing as what he chooses to include in the *Sikelika* is the information Thucydides completely excludes; no mention is made at the start of book six of any of the Greek or indigenous settlements of South Italy. On the surface, this omission is not only hard to notice, it even makes sense; from 415–413,

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<sup>48</sup> Avery (1973) 6.

<sup>49</sup> Thucydides, 7.27.5.

<sup>50</sup> Just as prior knowledge of great property loss due to Spartan activity at Decelea would not have mitigated the shock and awe created in the mind of the reader by Thucydides' decision to drop his clearly arbitrary and imprecise figure of twenty thousand lost slaves.

the Athenians fight exclusively in Sicily, never on the Italian mainland itself. It should be noted, however, that South Italy seems to have provided a huge base of economic support and supplies for the Athenians during the course of the war. Amongst the Greeks of the region, the Athenians seem to have had in effect already in 415 an alliance with Metapontion, a fact which Thucydides chooses not to relay until much later in his narrative.<sup>51</sup> Epigraphic evidence also points to an Athenian alliance with Rhegion as early as 433.<sup>52</sup> Moreover, Thucydides in this same section of book seven also refers to the “old friendship” between a certain Artas, leader of the Messapians, and the Athenians.<sup>53</sup> At the beginning of his narrative,<sup>54</sup> however, Thucydides leaves out any mention of the resources the Athenians knew they could rely upon in South Italy, and I would argue that he does so for two reasons: first, it would be detrimental to his assertion that the Athenians were jumping headlong into a huge conflict for which they had not made adequate preparations; second, rhetorically speaking, it does not weaken his point, since the omission of South Italy is likely to go unnoticed and therefore unlikely to detract from the sense of completeness he is presenting to his reader. Thus we can see that the information Thucydides chooses to present is less complete than a first reading would assume, and moreover, that the omissions that do occur are not arbitrary, but rather are suited to the particular and partial interpretations of the author.

Up to this point, I have mainly been interested in demonstrating that the Sicilian Archaeology of Thucydides is a highly rhetorically charged text, one which should not be mistaken for a listing of facts conveniently left for the use of the modern historian or archaeologist. In addition to this more general point, I would also like to address the particular significance behind the types of specific information Thucydides chooses to include for understanding the economies of archaic Greek Sicily. While inconsistencies concerning his brief descriptions of individual places provide further insights into Thucydides’ rhetorical means and interpretative ends, elaboration on all of these points for every place discussed is beyond the scope of this dissertation. Sufficient and most appropriate for my purposes is the case of Zankle/Messana, as discussion of this particular place, in conjunction with the

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<sup>51</sup> Cooperation and alliance between Athens and Metapontion is mentioned by at Thucydides at 7.33.4.

<sup>52</sup> *IG I*<sup>2</sup> 51, 52 = *ML* 63

<sup>53</sup> Thucydides, 7.33.4. Regarding non-Greek aid the Athenians could have expected, and in fact did receive, Thucydides is also silent concerning the Sikels, a group of whom had previously aided Athens’ ally Naxos in her war against Syracuse in 425 (4.25.9). An inscription from the Athenian agora dating from the time of the Peloponnesian War also lists Sikel allies: *IG I*<sup>3</sup> 291. In the last chapter of the *Sikelika* (6.6), Thucydides chooses to mention only the Egesteans as Athenian allies, and even here he fails to mention that this alliance had been in effect since at least 418/7, as is now known through epigraphic evidence (Chambers, Galluci & Spanos, 1990). In the last chapter of the *Sikelika*, Thucydides chooses to mention only the Egesteans as Athenian allies, whose unexpected lack of resources are to become a key element in Thucydides’ narrative of the Sicilian Expedition

<sup>54</sup> That is, the beginning of book six.



analysis offered above, touches directly on the issue of the suitability of the *Sikelika* as a source for the economic history of Zankle from the eighth through sixth century B.C.

Before embarking on such an evaluation, however, a quick presentation and dissection of what Thucydides says about Zankle/Messana is in order:

Ζάγκλη δὲ τὴν μὲν ἀρχὴν ἀπὸ Κύμης τῆς ἐν Ὀπικίᾳ Χαλκιδικῆς πόλεως ληστῶν ἀφικομένων ᾤκίσθη, ὕστερον δὲ καὶ ἀπὸ Χαλκίδος καὶ τῆς ἄλλης Εὐβοίας πλῆθος ἐλθὼν συγκατενεύμαντο τὴν γῆν· καὶ οἰκίσται Περιήρης καὶ Κραταιμένης ἐγένοντο αὐτῆς, ὁ μὲν ἀπὸ Κύμης, ὁ δὲ ἀπὸ Χαλκίδος. ὄνομα δὲ τὸ μὲν πρῶτον Ζάγκλη ἦν ὑπὸ τῶν Σικελῶν κληθεῖσα, ὅτι δρεπανοειδὲς τὴν ἰδέαν τὸ χωρίον ἐστὶ (τὸ δὲ δρέπανον οἱ Σικελοὶ ζάγκλον καλοῦσιν), ὕστερον δ' αὐτοὶ μὲν ὑπὸ Σαμίων καὶ ἄλλων Ἰώνων ἐκπίπτουσιν, οἱ Μήδους φεύγοντες προσέβαλον Σικελίᾳ, τοὺς δὲ Σαμίους Ἀναξίλας Ῥηγίων τύραννος οὐ πολλῶ ὕστερον ἐκβαλὼν καὶ τὴν πόλιν αὐτὸς ξυμμείκτων ἀνθρώπων οἰκίσας Μεσσήνην ἀπὸ τῆς ἑαυτοῦ τὸ ἀρχαῖον πατρίδος ἀντωνόμασεν.

Zankle initially was founded by pirates who had come from the Chalkidian city of Kume in Opikia. Later, after a large number of people had come from Chalkis and the rest of Euboia, they divided up the land jointly among themselves. Perieres of Kume and Krataimenes of Chalkis became its *oikistai*. At first its name was Zankle, because it had been so-called by the Sikels, since the place is sickle-shaped in its appearance, and the Sikels call a sickle a “zanklon.” But later these people were expelled by Samians and other Ionians who came to Sicily because they were fleeing the Persians. A short time later Anaxilas, the tyrant of Rhegion, after he had ejected these Samians and resettled the city with a mixed population, renamed the place Messana, after his own ancient homeland. (Thucydides, 6.4.5-6)

There are two main points I want to pursue concerning Thucydides' treatment of Zankle/Messana: the potential role or value of Messana as perceived by the Athenians as they were embarking on the Sicilian Expedition, and the portrayal of Messana in the *Sikelika* and how it may or may not be pressed into that role. We know from elsewhere in book six the potential strategic importance Messana must have had for the Athenians; already discussed above was the importance for the Athenians as they carried out the expedition of supplies coming from South Italy. Once the Athenian generals Nicias, Alcibiades, and Lamachus have arrived with all their forces in Rhegion, Thucydides has them discuss how they should proceed with the prosecution of the war. At this point, Alcibiades lays out what seems to him to be the best course of action, *i.e.* trying to win over allies in Sicily before attacking either Selinus or Syracuse. More specifically, Alcibiades expresses an eagerness that the Athenians win over the support of Messana, and in fact this is the first place to which

the commanders send envoys.<sup>55</sup> In light of the role Messana might play as the point of north-south connection between Italy and Sicily, the priority Alcibiades places on controlling the strait and the main approach to Sicily from the north comes as no surprise. What may have been surprising to Alcibiades, however, was his inability to win over the Messanians to the Athenian side.

The reason I believe this is supposed to be surprising to (Thucydides' representation of) Alcibiades goes back to two earlier points in the text: Thucydides' description in the *Sikelika* of the settlement history of Zankle/Messana, and an excerpt from the speech of Alcibiades in which he argues *contra* the earlier speech of Nicias (as well as the implied position of Thucydides himself as stated at the beginning of book six) that the Athenians should in fact go ahead with the planned expedition to Sicily. Amongst other arguments, Alcibiades makes specific reference to the weakness of the cities of Sicily, and he does so by leveling a very precise charge. Namely, he asserts that the "cities of Sicily are populated only by a mixed rabble (ὄχλοις τε γὰρ ξυμμείκτοις πολυανδροῦσιν αἱ πόλεις)," and that because of this, conditions in them were easily changeable and susceptible to influence from outsiders, and, so he implies, easily controllable by himself.<sup>56</sup>

This argument of Alcibiades is founded on something like ethnographic *terra firma*. Herodotus, in his description of the Ionians of Asia Minor, also offers up the idea that a "mixed" population is an inherently weak entity, and one ripe for external conquest.<sup>57</sup> Herodotus' hostility towards the Ionians of the western coast of Asia Minor is, of course, a recurrent theme in his history of the Persian War.<sup>58</sup> But we need not trust in Herodotus' judgment of the Ionians as the weakest of the Greeks, much less in the causal ramifications of this alleged ethnic frailty in their struggles against the Persians, in order to appreciate the way in which he chooses to assert this weakness, and the rhetorical precedent he sets (or perhaps follows) in so doing.

Thucydides, unlike Herodotus, only rarely delves into the realm of ethnography. Whereas ethnographic analysis is commonly employed by the latter as both an explanatory and a descriptive tool, the former often remains silent altogether concerning such matters.<sup>59</sup> Accordingly, instances in which Thucydides does choose

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<sup>55</sup> Thucydides, 6.48.

<sup>56</sup> Thucydides, 6.17.2-4.

<sup>57</sup> Herodotus 1.143 and 1.146. The context is Herodotus' discussion of the Lydian and Persian subjugations of the Ionians. The term Herodotus uses to describe the Ionians as "mixed" is ἀναμείχεται, which shares the same root as ξυμμείκτοι, the term used in Thucydides.

<sup>58</sup> Herodotus ascribes various moments of political weakness or military failure, at least partially, to the inherent weakness of the Ionian *ethnos*. For example: the Ionian failure to act against Darius as he retreated from the Scythians (4.136-142), the general hopelessness of the Ionian revolt, and the sudden dissolution of the allied Ionian fleet at Lade and the slow lingering death of the revolt that it engendered (6.9-16).

<sup>59</sup> Herodotus' ethnographies not only describe the peoples he discusses, but also present explanations of events and histories pertaining to them. In Herodotean logic, the intrinsic weakness of the Ionians

to give ethnographic detail should be seen as outstanding rather than ordinary or perfunctory, and the inclusion of such information regarded by modern historians as purpose driven details that require explanation, rather than straightforward data providentially preserved for the benefit of posterity.<sup>60</sup>

It is in light of these circumstances, *i.e.* the military importance of Messina for the Athenian expeditionary force, the speech and actions of Alcibiades that occur later in the text and the intertextual evidence from Herodotus, that I think we must view Thucydides' depiction of the settlement history of Zankle/Messina; the implications of doing so for our understanding of the economy of Zankle are surprising in their depth. Take Thucydides' assertion that Zankle was originally founded as a sort of pirates' haven, with the subsequent influx of settlers from "Chalkis and the rest of Euboea" and division of the land presented as a sort of *ad hoc* afterthought.<sup>61</sup> Setting aside Thucydides' or any of his contemporaries' inability to assess with any meaningful precision the prevalence of specifically piratical activity amongst the earliest Greek settlers at the site of Zankle, it seems evident that he had a ready reason to include this tradition of piracy within his description of early Zankle. Namely, it immediately portrays Messina as a place most interested in and most important for its ability to either inhibit or conduct sea traffic.

This idea of large-scale piracy at early Zankle provides a convenient conceptual continuity with Thucydides' portrayal of Messina as a place whose primary importance for the Athenians was its location on the Strait of Messina, both as a gateway to South Italy to the north and the Adriatic to the east. Of course, the fact that this particular conception is rhetorically advantageous to Thucydides' own narrative does not necessarily mean that early Zankle was not in fact founded by pirates, or that piracy was not an important economic activity for the settlements' earliest inhabitants, or that control of sea traffic was not the military or economic *raison d'être* of the settlement. It does, however, mean that Thucydides had compelling reasons to choose to describe early Zankle in such a manner, and that, if other versions of the foundation of Zankle existed, Thucydides likely would have chosen not to report them. Thus, none of these claims should be accepted as facts, at least not on this authority alone.

Thucydides also opts to describe at some length the numerous turnovers and influxes of populations that Zankle/Messina had experienced since its foundation around the end of the eighth century, yet in the *Sikelika* similar occurrences at other

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helps explain their tendency both to be conquered and to remain subjugated, while the customary rough-and-tumble manner of living and attendant toughness of the Scythians explain why Xerxes' campaign against them was a failure.

<sup>60</sup> At 1.22, Thucydides claims to be writing "for all time," but rhetorical truth claims made by the author need not be taken as either actual declarations of his intent or an indication of any sort of commitment to objectivity on his part.

<sup>61</sup> Thucydides, 6.4.

Greek cities in Sicily are either downplayed or left entirely unmentioned.<sup>62</sup> In this instance, there is admittedly less reason to doubt the veracity of Thucydides' claims regarding the influx of Samian exiles, and his outline of Anaxilas' activities is almost certainly factually accurate.<sup>63</sup> It nevertheless remains important to understand that his primary motivation for providing this and the aforementioned information is not to enlighten his reader for the sake of enlightening his reader, but rather to draw attention to the failure of Alcibiades' ethnographically driven logic and the negative repercussions this had for his military planning.

This point can be drawn out further by contrasting Thucydides' treatment of Syracuse with his treatment of Zankle/Messana. This presentation consists of three main revelations:

Συρακούσας δὲ τοῦ ἐχομένου ἔτους Ἀρχίας τῶν Ἡρακλειδῶν ἐκ Κορίνθου ᾤκισε, Σικελοὺς ἐξέλασας πρῶτον ἐκ τῆς νήσου ἐν ἣ νῦν οὐκέτι περικλυζομένη ἢ πόλις ἢ ἐντός ἐστιν· ὕστερον δὲ χρόνῳ καὶ ἡ ἔξω προστειχισθεῖσα πολυάνθρωπος ἐγένετο.

In the following year Archias, one of the Heraklids from Corinth, founded Syracuse. (He did so) after he had first driven out the Sikels from the island on which, although it is no longer an island, the inner city is situated. Over time the outer city too became populous. (Thucydides 6.3.2-3)

According to Thucydides, Syracuse was founded by a group of settlers led by a Corinthian Heraclid, this foundation process involved the forced removal of local natives, and, subsequent to the activities of this first generation, the city expanded outwards and its population began to grow. When compared with his depiction of Zankle/Messana, there appears to be an at least superficial uniformity of information; in the case of both places the name and ethnicity of an *oikistes* is given, and a basic description of initial foundation and subsequent development narrated. Any appearance of equity and consistency, however, quickly fades once one delves beneath the surface. For, the short description of Syracuse given by Thucydides differs from the account he offers for Zankle/Messana both in the type of information included and excluded and in the manner in which given information is presented. These disparities can be attributed to the distinct roles these two places play in Thucydides' narrative and explanation of the outcome of the Sicilian Expedition.

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<sup>62</sup> For example, there is no mention in the *Sikelika* of the various fifth-century population transfers involving Syracuse, such as the forced introduction of the Megara Hyblaeon elite into the latter's citizen body following Gelon's destruction of the latter city, as narrated at Herodotus, 7.156.

<sup>63</sup> It is, after all, a more recent historical episode, and does accord well with Herodotus' independent account of the westward migration of Samian exiles in the wake of Persian aggression, for which see Herodotus, 6.23-4.

Let us consider two of the items Thucydides covers in his brief write-up of early Syracuse. Regarding the initial foundation, Thucydides provides a rather straightforward account, naming Archias, “one of the Heraclids from Corinth,” as the *oikistes*. Contrast this with the more detailed and complex account given for early Zankle. The point might be raised that Thucydides gives on the one hand a simpler and on the other a more complex account because, in fact, the one is much more straightforward than the other, and thus he is merely reporting the “facts” as he has found them. This, however, seems not to have been the case. His straightforward account of the foundation of Syracuse, which links Syracuse directly not only to Corinth but even to a specific branch of the Corinthian aristocracy, was not the only foundation myth concerning Syracuse current in antiquity. Two later accounts do not question the presence of a Corinthian in a leadership role, but insert a Megarian presence amongst the ranks of the settlers, a detail not included by Thucydides, who, beyond identifying Archias the Corinthian, fails to make any mention at all of the ethnicity of the actual settlers of Syracuse.<sup>64</sup> The more detailed account of Plutarch leaves Archias the Corinthian as sole *oikistes* of Syracuse, but calls into question the relationship between Corinth and Syracuse, making Archias an exiled murderer, an outcast from, rather than an agent of, the Corinthian *polis*.<sup>65</sup>

More revealing, however, is the foundation myth alluded to in an earlier poem of Pindar. In *Olympian 6*, written for a certain Hagesias of Syracuse, Pindar refers to the victor as the “fellow-founder of Syracuse.”<sup>66</sup> The scholiasts on this ode inform us that a certain *gens*, the Iamidai, were the ancestors of Hagesias, and that these Iamidai, being originally from Arkadia, were in fact the co-founders of Syracuse, along with Archias of Corinth.<sup>67</sup> Alternately, the scholiasts may have confused things a bit, and Pindar might here be referring to Arkadian involvement in the *synoikismos* of Syracuse sponsored by Gelon in 485/4.<sup>68</sup>

Regardless of the precise tradition to which Pindar here refers, it is clear that Thucydides has chosen to ignore it, for we receive in his account no mention at all of Arkadians, during either the initial phase of settlement, or subsequent development and expansion. Even if the somewhat biased account of Antiochus of Syracuse was Thucydides’ primary source for the history of early Syracuse,<sup>69</sup> it still must be asked

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<sup>64</sup> Strabo, 6.2.4; Ps. Skymnos, 279–82. See also Diodorus Siculus, 8.10.

<sup>65</sup> Plutarch, *Moralia*, 772e–773b. Dougherty makes extensive use of this text—and its constructed nature—in her discussion of the cultural relationship between exile, colonization and purification at length in (Dougherty, 1993).

<sup>66</sup> Pindar, *Olympian 6.6*.

<sup>67</sup> Scholia as cited at (Hornblower, 2009) 283.

<sup>68</sup> As argued by Luraghi and cited by Hornblower: (Luraghi, 1997) 75 ff.; (Hornblower, 2008) 283.

<sup>69</sup> As may well be the case and is argued by both Dover and Hornblower (Gomme, Andrewes & Dover, 1971) 198 ff.; (Hornblower, 2008) 263, 282.

why an author as careful as Thucydides would have ignored a tradition whose appearance in an ode of Pindar would almost necessitate his familiarity with it.<sup>70</sup>

I would argue that in this introduction to the places he will be discussing throughout his description and interpretation of the disastrous Sicilian Expedition, Thucydides chooses to present a picture of Syracuse appropriate to the role that city will play in the narrative he is about to present to his audience. As events played out, Syracuse became the power most responsible for the undoing of the Athenians' expedition, and in Thucydides' version of these events, the kinship tie between Syracuse and Corinth plays an important role in making this happen.<sup>71</sup> As Hornblower puts it: "The kinship between Syracuse and its mother-city Korinth is perhaps the most important such kinship of all those in the *Sikelika*, because it made a material difference to the outcome of the narrative."<sup>72</sup> To include any of these alternate Arkadian or Megarian Syracusan traditions would only weaken the strength of these ties, for they all would taint the bond of common descent between the late fifth-century citizens of Syracuse and their contemporaries in Corinth. Having Megarians and/or Arkadians present from the start would challenge the fundamental "Corinthian-ness" of the Syracusans, as would the large-scale introduction of ethnic Arkadians in 485/4. Thus, inasmuch as Thucydides' own interpretation of the failure of the Athenians rests in large part upon the cooperation of the Syracusans and Corinthians against them, and because this cooperation is presented as something attributable, at least in part, to their kinship ties,<sup>73</sup> it should not be surprising to discover Thucydides excluding information that would discredit or call into question the strength of such links.

Viewed in this light, the choice to include information concerning mixed populations and large-scale immigrations in the case of Zankle/Messana but not in that of Syracuse is by no means unintentional, reflecting a conscious decision on the part of Thucydides to manipulate and control the flow of information within his narrative in order to make his own historical claims more convincing. That he employs rhetorical techniques such as pseudo-comprehensiveness and overwhelming

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<sup>70</sup> Thucydides' apparent wealth of information regarding Syracuse, as well as this city's preeminent role in the affairs of 415–413, also draws one's attention to the surprising shortness of the description offered at 6.3.2. "The brevity of this notice of the foundation and growth of S.(yracuse) is in striking contrast with the prolixity of modern historians when they introduce the antagonists of ancient powers." (Marchant, 125) 1914. Contrast, however, Hornblower's characterization of this passage as "relatively full." (Hornblower, 2009) 282.

<sup>71</sup> In citing the kinship between Corinth and Syracuse as an explanatory factor in military and political events in Sicily, Thucydides is again following an example set by Herodotus, who reports that Hippocrates, the tyrant of Gelon who flourished circa 500, spared the defeated Syracusans subjugation because of intercession on their behalf by the Corinthians and Corcyreans: Herodotus, 7.154.

<sup>72</sup> For this quote and a sampling of moments wherein the Syracusan-Corinthian kinship tie looms large in the account of Thucydides, see (Hornblower, 2008) 283–4.

<sup>73</sup> See, for example: Thucydides, 6.88.7.

his audience with a sudden and lengthy catalogue of disparate and loaded, yet seemingly uniform and banal, “facts” should neither surprise us as careful readers, nor should they lead us as historians to misunderstand the nature of the information and presentation given to us by Thucydides. To read Thucydides otherwise would be to make the mistake of viewing him as a simple purveyor of facts, rather than as a complex writer presenting his own interpretation of major historical events.

To divorce any one passage from its broader context and ignore the historical aims and rhetoric of its author constitutes an attempt to treat the text as something it is not. Moreover, such a reductive process in fact hinders the task of the historian insofar as it creates poorly formed assumptions, which in turn help to inform the ways in which other types of evidence are subsequently read and utilized. Nevertheless, an overly credulous approach to the *Sikelika* or any other ancient text, along with implicit or explicit reliance upon the analogy of modern colonization,<sup>74</sup> has traditionally provided the basic structural framework for modern understanding of archaic *apoikiai*. In this section, I discuss the impact this has had on the very idea of what these settlements were on the most fundamental of levels; on the acquisition, classification, use, and interpretation of material evidence; and on the consequences for our understanding of how the economies of archaic Greek Sicily functioned.<sup>75</sup>

Even if Zankle/Messana was in reality the sort of place that his description has led many to believe it was, the information provided by Thucydides could never be used to demonstrate as much. Putting aside the troublesome question of the accuracy and precision of the pool of facts from which Thucydides himself was able to draw, the very nature of the text as an historical narrative renders it unfit for this purpose: there is simply no way to understand Thucydides’ portrayal of the place outside the terms of his own construct. A military and political historian views the same places and situations differently than an economist or sociologist, or even an economic or cultural historian; Thucydides describes Zankle/Messana and the Strait of Messina through the eyes of a general and a potential conqueror, not those of a trader or traveler,<sup>76</sup> and thus he sizes it up as a place to be won over or subjugated because of the strategic importance it holds during rare periods of massive military conflict such

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<sup>74</sup> For overviews and statements of the problems, see, e.g.: (Snodgrass, 1994); (De Angelis, 1998); (Owen, 2005); (Snodgrass, 2005).

<sup>75</sup> This reliance on ancient literary sources as the basis for their historical narrative framework still continues; see, e.g., (Osborne, 1998) and (Malkin, 2002). Snodgrass has argued that, while these sorts of acquisitions can be leveled against Classical Archaeology as a field, there has recently been a paradigm shift away from “text-driven” research (Snodgrass, 2002).

<sup>76</sup> Thucydides had himself been an Athenian general, as he himself records in his own history, e.g. at 4.104.1 and following.

as the one he happens to be describing.<sup>77</sup> His account is neither mendacious nor misleading, but an appropriate part of a well-assembled prelude to the narration of a momentous series of events for the Athenian state and empire. However, Thucydides' characterization of Zankle/Messana as a place dominated by maritime concerns underlies modern conceptualizations of the settlement's economy as one especially predicated and dependent upon trade, and more specifically, upon sea traffic and commerce. This picture also fits well with modern ideas about what constitute the underlying causes, structure, and purposes of "colonization." Reliance upon Thucydides as a starting point was as crucial for the influential writings of Vallet concerning economic activity in the area of the Strait of Messina as it was for Dunbabin as he set about creating his idea of the Western Greeks.<sup>78</sup>

In modern conceptions of the place, Zankle is depicted primarily as a center of commercial activity, owing this purported economic role in large part to its situation on the southern edge of the Strait of Messina. The authority and description of Thucydides are commonly cited at the outset of analyses of the archaic settlement, and the articulation of the city as a center of commerce consistently takes the form of a way station, a cog in a larger and centrally organized network. Take Consolo Langher's characterization of the early settlement: "the exceptional strategic position on the Strait attracted the original settlement, offering the promise of tolls, traffic and piracy."<sup>79</sup> She seems to have completely internalized Thucydides' description, presenting early Zankle as a place whose economy was dominated by seaborne commercial concerns, and even going so far as to preserve the preeminent role of piracy in the settlement's foundation that is posited by Thucydides. Elsewhere, she asserts that, "the settlement was founded primarily to ensure control of the Strait by the Chalcidians and to provide a good port for the ships which were traveling from the Aegean to Etruria, searching for products, above all metals."<sup>80</sup> Again, this assertion is inextricably bound to the description of Zankle/Messana as a community existentially bound to its sea-accessible location.<sup>81</sup> Moreover, acceptance of this text-

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<sup>77</sup> See again (Avery, 1973).

<sup>78</sup> (Dunbabin, 1948) and (Vallet, 1958).

<sup>79</sup> Consolo Langher (1996) 380. I focus here on one specific example, but this general trend also permeates Anglophone scholarship on archaic Greek Sicily, e.g. (Graham, 1964); (Graham, 1971); (Malkin, 1987); (Malkin, 1998); (Dominguez, 2006). De Angelis is critical of Dunbabin's approach, but not specifically his use of ancient literary sources (De Angelis, 1998). Osborne adopts a critical approach to ancient literary texts as source evidence, but turns his focus more towards state formation and political history than economies and economic history (Osborne, 1998), while his epistemic devaluing of the ancient sources for the history of archaic Sicilian state formation met with vehement opposition (Malkin, 2002).

<sup>80</sup> Consolo Langher (1999) 31.

<sup>81</sup> Consolo Langher seems to cite Thucydides' description of Zankle as a pirate's den to support her assertion that the settlement was founded to ensure the smooth operation of a long-distance trading



based notion of Zankle directly influences her interpretation of the early coinage of Zankle; rather than seeking an explanation for the early appearance of fractional silver coins,<sup>82</sup> she relies upon what we supposedly already know about the city, and attributes the minting of such small denominations to the need to pay “dockworkers and craftsmen associated with the activities of the port,” whose numbers, she argues, were unusually large because of Zankle’s crucial position in the “Euboean shipping corridor” that ran through the Strait of Messina.<sup>83</sup>

### 1.3.2 *Ancient sources and detailed economic information: Diodorus Siculus 13.81-4*

Book thirteen of Diodorus Siculus’ *Historical Library* deals primarily with the Carthaginian invasion of Sicily in 406 BC. During the course of a war that lasted from 409 to 404, the Carthaginians, led initially by Hannibal Mago and after his death his kinsman Himilco, sacked and destroyed Selinus and Himera, and eventually did the same to Akragas and Gela. The narration of the various Carthaginian invasions of Sicily during this war constitutes a good portion of the second half of book thirteen and much of book fourteen. Embedded within this narrative are a number of digressions, one of which begins at 13.81.4 and continues through 13.84. In these chapters, Diodorus presents his reader with a description of the fantastic wealth of Akragas before its destruction in 406 B.C. Within this sketch Diodorus includes a variety of anecdotal information, designed to impress upon his audience the great prosperity enjoyed by the residents of the city in the generations before the protracted Carthaginian siege, which he narrates in detail at 13.85–88, and its abandonment and sack, which he narrates at 13.89–90.

In each of these three sections, Diodorus discloses information potentially useful for historians interested in a wide range of issues concerning different aspects and types of economic activity in the ancient Mediterranean world. His description at 13.88.2 of the multitude of mercenaries in the Carthaginian camp and his detailing at 13.90.3 of the massive amount of plunder of which the Carthaginians took hold upon the capture of Akragas could be made relevant to any study of the expenses, profitability and overall economics of ancient warfare. Similarly, the plethora of anecdotes Diodorus relates concerning the consumption habits of the wealthy at Akragas, e.g. the fabulous wealth and generosity of Tellias, provide interesting fodder for the historian interested in the use of wealth as a means of cultural capital and a

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network; she fails to notice, or at least fails to comment upon, the apparent logical inconsistency of establishing a pirate’s haven as a means of fostering long-distance trade.

<sup>82</sup> On the late archaic coinage of Zankle, see the relevant sections in chapters two and three below.

<sup>83</sup> (Consolo Langher, 1999) 32.

projection of a constructed self-identity.<sup>84</sup> For the economic historian interested in such issues as the nature and quantity of agricultural production, and the means of distribution and/or trade of agricultural produce, chapter 13.81.4–5 stands out, as here Diodorus asserts that the vineyards of the Akragantines “excelled in their great extent and beauty,” but “the greater part of their territory was planted in olive-trees from which they gathered an abundant harvest and sold to Carthage... (and) the inhabitants of the territory belonging to Akragas took in exchange for their products the wealth of Libya and accumulated fortunes of unbelievable size.”

However useful this information may seem, it must be kept in mind that Diodorus, much like Thucydides, does not write with the purposes of an economist or economic historian in mind. His primary intent in these chapters is clear: to narrate the siege and sack of Akragas as it pertained to the political and military history of late fifth century Sicily. The detailed depiction of the fantastic wealth of Akragas, the difficulties of the siege, and the description of the financial boon the Carthaginians experienced as a result of their success are all included with this end in mind. Thus, while there may be no good reason to doubt the general veracity of his claims concerning either the great wealth of Akragas or the immensity of the plunder recovered by Himilco and his men,<sup>85</sup> it is also clear that the dramatic and emotional effect of his narrative is intensified by presenting the fall of the Akragantines as something like a mass Croesus-esque reversal of fortune. Diodorus, then, does not go to such great lengths to describe the agricultural produce and its distribution simply for the sake of providing this information. Rather he trains his focus on the irony of the situation; as the people of Akragas had, through their commercial dealings with the Carthaginians, taken in “the wealth of Libya,” Himilco, upon sacking the city sent “the most valuable pieces (of art)...to Carthage.”<sup>86</sup> The Akragantines, having been described as living a life luxurious beyond compare, are later depicted fleeing their now captive city and territory on foot, in a state of abject poverty and great despair.

For anyone interested in the economy of classical-era Akragas, this account of Diodorus can be used as a source of information in a way that Thucydides’ account of archaic era Zankle cannot. However, even an account such as this should not be

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<sup>84</sup> I refer here specifically to 13.83.1 and following, wherein the famously wealthy Akragantine Tellias is described as having kept a house full of guest-rooms and a cadre of servants posted outside his gates with orders to invite every stranger to be his guest. For the aristocratic cultural discourse into which such behavior might be fitted see, *e.g.*, (Kurke, 2002) 102, in which Kurke lays out how the charge of being an “inn-keeper”—as opposed to a man like Tellias who, being described as almost a caricature of the idea of a practitioner of proper *xenia*, invites perfect strangers into his home free of charge—was a taunt and criticism leveled at times against Themistokles by his aristocratic enemies.

<sup>85</sup> Given the level of detail Diodorus is able to provide and the number of contemporary and near-contemporary sources he draws upon, there is no reason to doubt his grasp of the basic facts of the situation which he describes, a sharp contrast to the case of Thucydides and his Zanklean pirates.

<sup>86</sup> Diodorus Siculus, 13.90.3.

read uncritically as a basic sourcebook of information.<sup>87</sup> The information provided in these three connected passages can certainly be utilized by an historian interested in the economy of Classical Akragas, as a multitude of (perhaps) unexpected and sensational information can be gleaned from this text,<sup>88</sup> but to take Diodorus at his word on any of these points and not subject the text to strict skepticism and rigorous scrutiny before weaving its content into an historical narrative or model would be to misunderstand and misuse a political and military history constructed within and answerable to a set of historiographical sensibilities far removed from those appropriate for a present day historian of the ancient economy.<sup>89</sup>

### ***1.3.3 Representations of economic activities in ancient texts: ideals, conventions, and normative behaviors***

Generally speaking, and especially in the case of things economic, there tends to be an inverse relationship between the specificity of the information presented in ancient texts and the accuracy of that information. There are of course exceptions to this rule, and some texts can and do shed a direct light on specific aspects of particular types or even instances of ancient economic activity.<sup>90</sup> This kind of textual information, however, is rare. Much more common are poems or historical narratives that incorporate ideologically informed views of the activities of production, distribution, and consumption, or allude to some underlying perception of how economic acts tended to, or might ideally, happen. In such cases, textual

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<sup>87</sup> An obvious, yet immediately troubling example of the need for scrutiny is Diodorus' contradiction of himself in regard to the production of olive oil in Libya during the Classical period. Here (13.81.5) Diodorus says that the Akragantines profitably shipped their olive oil to Carthage because Libya had not as of yet been planted with fruit trees, while at 4.17.4 he says that Herakles had planted much of Libya in vineyards and olive orchards. Given the vagaries of mythic time, Diodorus may not here be directly contradicting himself, but this appearance of inconsistency is enough to at least garner one's attention, and the lack of internal epistemic coherence is disconcerting.

<sup>88</sup> For example, the revelation that Sicilian Greeks, especially Akragantines, and Carthaginians, portrayed in almost exclusively inimical terms elsewhere, are here seen participating in regular and repeated economic interaction. Furthermore, the very regularity of this interaction, the massive profits it seems to have granted Akragas, the effect of distribution opportunities upon production and the dynamic approach to these factors on the part of the Akragantines implicit in this account are all economically noteworthy elements of Diodorus' account.

<sup>89</sup> Most troubling in this regard is Diodorus' contradiction of himself in regard to the production of olive oil in Libya during the Classical period. Here (13.81.5) Diodorus says that the Akragantines profitably shipped their olive oil to Carthage because Libya had not as of yet been planted with fruit trees, while at 4.17.4 he says that Herakles had planted much of Libya in vineyards and olive orchards. Given the vagaries of mythic time, Diodorus may not here be directly contradicting himself, but this appearance of inconsistency is enough to at least garner one's attention.

<sup>90</sup> See, for example, the discussion of Diodorus Siculus' description of classical Akragas in the previous section.

information cannot easily be separated from its discursive framework, and attestations of specific economic activity should be taken as manifestations of an underlying ideal. Nausithoos cannot be taken as paradigmatic of an archaic *oikistes*.<sup>91</sup> Hesiod's father's poverty-induced immigration to Askra, "horrible in the winter, painful in the summer, and not ever good," does not make destitution the cause of all archaic human mobility.<sup>92</sup> Thucydides' report that Athenian exclusion of Megarians from Athenian-controlled ports and markets was a major grievance and one of the immediate causes of the Peloponnesian War does not necessarily mean that such embargoes were common or even normally capable of being effective.<sup>93</sup> Livy's report of the generosity of the Greco-Liparan captain and leader Timasitheus towards a Roman delegation carrying a golden votive bound for Delphi does not prove that during the early fourth century B.C. Rome commanded any special kind of respect within the realm of maritime traffic, or that the Romans had been granted *asylia* by federated Liparan pirates.<sup>94</sup> Plutarch's crediting of the gossip of traders for

<sup>91</sup> ἔνθεν ἀναστήσας ἄγε Ναυσίθοος θεοειδής, εἴσεν δὲ Σχερίη, ἕκας ἀνδρῶν ἀλφηστᾶων, ἀμφὶ δὲ τεῖχος ἔλασσε πόλει καὶ ἐδείματο οἴκους καὶ νηοὺς ποίησε θεῶν καὶ ἐδάσσατ' ἀρούρας.

"From there god-like Nausithoos had removed them, and settled them on Scheria, far away from enterprising men. And he put a wall around the city, and he built houses, and he made temples for the gods, and he divided the plough-land." Homer, *Odyssey*, 6.7-10.

<sup>92</sup> ὅς ποτε καὶ τεῖδ' ἦλθε πολὺν διὰ πόντον ἀνύσσας, Κύμην Αἰολίδα προλιπῶν ἐν νηὶ μελαίνῃ, οὐκ ἄφενος φεύγων οὐδὲ πλοῦτόν τε καὶ ὄλβον, ἀλλὰ κακὴν πενίην, τὴν Ζεὺς ἀνδρεσσι δίδωσιν. Νάσσατο δ' ἄγχ' Ἑλικῶνος ὀιζυρῆ ἐνὶ κώμῃ, Ἄσκηρῃ, χεῖμα κακῆ, θέρει ἀργαλέῃ, οὐδέ ποτ' ἐσθλῆ. "And at some point he came to this place by crossing over a great deal of sea, setting out from Aiolian Kume in a black ship, fleeing neither wealth nor substance, but horrible poverty, which Zeus gives to men. And he settled near Helikon, in a miserable village, Askra, horrible in the winter, painful in the summer, and not ever good." Hesiod, *Works and Days*, 635-40.

<sup>93</sup> καὶ μάλιστα γὰρ πάντων καὶ ἐνδηλότατα προύλεγον τὸ περὶ (Μεγαρέων ψήφισμα καθελοῦσι μὴ ἂν γίγνεσθαι πόλεμον, ἐν ᾧ εἴρητο αὐτοὺς μὴ χρῆσθαι τοῖς λιμέσι τοῖς ἐν τῇ Ἀθηναίων ἀρχῇ μηδὲ τῇ Ἀττικῇ ἀγορᾷ.

"...and above all else, they (the Spartans) made it clear to them (the Athenians) that war might be prevented by the cancellation of the Megarian decree, by which they (the Megarians) were excluded from using harbors within the Athenian empire or the Athenian agora." Thucydides 1.139.

<sup>94</sup> crateramque auream donum Apollini Delphos legati qui ferrent, L. Valerius L. Sergius A. Manlius, missi longa una nave haud procul freto Siculo a piratis Liparensium excepti devehuntur Liparas. Mos erat civitatis velut publico latrocinio partam praedam dividere. Forte eo anno in summo magistratu erat Timasitheus quidam, Romanis vir similior quam suis; qui legatorum nomen donumque et deum cui mitteretur et doni causam veritus ipse multitudinem quoque, quae semper ferme regenti est similes, religionis iustae implevit adductosque in publicum hospitium legatos cum praesidio etiam navium Delphos persecutus, Romam inde sospites restituit. Hospitium cum eo senatus consulto est factum donaque publice data.

"The legates chosen to carry the golden bowl as a gift to Apollo at Delphi were L. Valerius, L. Sergius, and A. Manlius; sent out in a single warship, they were captured, not far from the Straits of Sicily, by Liparaean pirates, and carried to Liparaean islands. It was the custom of this people to divide up plunder obtained through a kind public piracy. It so happened that in that year a certain Timasitheus occupied the highest magistracy, a man more similar to the Romans than to his own people. As he

the spread to Asia Minor of knowledge of Sertorius' military successes in Spain does not necessarily indicate an especially active pattern of exchange between these two far-flung regions of the Mediterranean during the first half of the first-century B.C.<sup>95</sup>

The imaginings of poetry, such as the Phaiakian migration as sung by Homer, or the pseudo-biographical family history offered by Hesiod, speak to pre-discursive historical realities only inasmuch as their content conforms to some contemporary set of perceptions of plausibility and/or convention. That Homer credits an autocratic leader for the organization of the new Phaiakian community on Scheria should be taken as but one example of the poet's consistent celebration of the elite individual rather than as the reflection of a particular reality of "Homeric society."<sup>96</sup> Moreover, this episode is but a pointed example of a larger phenomenon. In Homer, the mobility of individuals and things is normatively accomplished through the extraordinary action of heroes, and not through more quotidian channels. Goods are transferred through acts of *xenia*, heroic individuals move themselves (and others) for personally motivated reasons, and heroes maraud for the sake of gain and glory. Groups of people, like the Phaiakians, only move about under the auspices and control of elite individuals. Goods are rarely moved for redistributive or exchange purposes, instead being valued only as a means of negotiating elite relationships. People who do move themselves and goods for gain are considered with contempt;<sup>97</sup> these roles are often assigned to non-Greeks.<sup>98</sup> These representations, of course, need

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himself held in reverence the name and office of the legates, their gift, and the god to whom it was being sent, so he inspired in the multitude, who nearly always are of the same mind as their ruler, a just sense of religious duty; the legates, after they had been brought to the public guest-house, he provided with ships for their trip to Delphi, and from there brought them safely back to Rome. Friendly relations were established with him by a decree of the senate, and presents publicly given to him." Livy, 5.28.1-5.

<sup>95</sup> μέγα δ' ἤδητὸ Σερτωρίου κλέος ἐφοίτα πανταχόσε, καὶ τῶν περὶ αὐτοῦ λόγων ὥσπερ φορτίων ξενικῶν οἱ πλείοντες ἀπὸ τῆς ἐσπέρας ἀναπεπλήκεσαν τὸν Πόντον

"...the renown of Sertorius was already great and was traveling everywhere, and those sailing from the west had filled the Pontus full of tales about him, like so many foreign wares..." Plutarch, *Sertorius*, 23.1.

<sup>96</sup> Osborne has argued a similar point, which stands in spire of Malkin's forceful rebuttal. (Osborne, 1998); (Malkin, 2003).

<sup>97</sup> οὐ γάρ σ' οὐδέ, ξεῖνε, δαίμονι φωτὶ ἐτσκω ἄθλων, οἷά τε πολλὰ μετ' ἀνθρώποισι πέλονται, ἀλλὰ τῶ, ὅς θ' ἄμα νηὶ πολυκλήιδι θαμίζων, ἀρχὸς ναυτῶν, οἷ τε πρηκτῆρες ἔασι, φόρτου τε μνήμων καὶ ἐπίσκοπος ἧσιν ὁδαίων κερδέων θ' ἀρπαλέων· οὐδ' ἀθλητῆρι ἔοικας.

"I do not liken you, stranger, to a man skilled in contests, such as are plentiful among men, but to one who, traveling about in his many-benched ship, is a leader of sailors and merchants, one who is mindful of his wares, and his greedy gains. You do not have the look of an athlete." *Odyssey*, 8.159-64.

<sup>98</sup> Πηλεΐδης δ' αἶψ' ἄλλα τίθει ταχυτῆτος ἄεθλα ἀργύρεον κρητῆρα τετυγμένον· ἔξ δ' ἄρα μέτρα χάνδανεν, αὐτὰρ κάλλι ἐνίκα πᾶσαν ἐπ' αἶαν πολλόν, ἐπεὶ Σιδόνες πολυδαίδαλοι εὖ ἤσκησαν, Φοίνικες δ' ἄγον ἄνδρες ἐπ' ἠεροειδέα πόντον, στήσαν δ' ἐν λιμένεσσι, Θόαντι δὲ δῶρον ἔδωκαν·

not be at complete odds with reality, and the imaginary world conjured up by Homer provides good evidence for an underlying presence of networks of elites connected by stylized forms of cultural interaction, reciprocity as a means of exchange, that stabilized and enhanced inter-regional connectivity in the archaic period. Nevertheless, it would be a mistake to understand Homer's people and places as directly representative of a contemporary reality. His is a fantasy world, one in which the "hard surfaces" of reality have no place, a poetic space in which ideals are expressed, and sometimes contested. In that the domination of an elitist discourse permeates them, these texts conform to conventions that exist outside the realm of what was realistically plausible as a description of the economic situation that attended and made possible everyday life.

Similarly, Hesiod's general hostility towards the mobility of both people and things does not necessarily reflect the reality of contemporary economic practice as related through the experience of an imagined "typical" subsistence farmer, so much as an idealistic reaction to the risks of poverty and famine inherent to production in the ancient Mediterranean environment. Hesiod's rejection of the independent farmer's need to utilize the redistributive power of the sea, and his division between the means of acquiring "wealth" and the means of "gain",<sup>99</sup> do not so much speak to the reality of archaic practice as to an ideal. Mobility and redistribution of goods are responses to the omnipresent risk of agricultural failure, responses which themselves paradoxically expose the archaic *oikos* to a whole other set of risks and costs, piracy and shipwrecks, middlemen, harbor taxes and other transportation expenses.<sup>100</sup> But Hesiod's poetry does not need to conform to the realities of life. Within the confines of his text, if a man is just and piles "work upon work upon work," Zeus will reward him;<sup>101</sup> his granaries will be full, his risk of famine eliminated, his means of "wealth" assured. The gods are notoriously spiteful of human success,<sup>102</sup> yet the Zeus of Hesiod's poem is an instrument of justice, a just god who rewards just men, making great the straight and low the crooked.<sup>103</sup> Thus, within the poetic universe of Hesiod, Zeus rewards or punishes men based upon the justice or injustice of their actions, and the judgment of Zeus manifests itself in personal abundance or lack of

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"Achilles straightaway set forth other prizes for swiftness: a well-wrought silver krater. It held six measures, and in beauty it was the best in the world, since the many-skilled Sidonians had wrought it well, and the Phoenician men brought it over the deep sea, and brought it into the harbor, and gave it as a gift to Thoas." *Iliad* 23.740-5.

<sup>99</sup> "Wealth" is acquired by the hard work of farming, and the storage of the resulting produce; "gain" is acquired by traffic on the sea. Hesiod, *Works and Days*, 381; 644

<sup>100</sup> (Horden & Purcell, 2000) 151.

<sup>101</sup> Hesiod, *Works and Days*, 381.

<sup>102</sup> Hesiod himself presents Zeus as capable of easily destroying the strong, weakening the mighty and ruining the prosperous at *Works and Days* 5-10.

<sup>103</sup> For example, *Works and Days* 225-247.

the material conditions of life. Real-world responses to risk are irrelevant, and an interest in ships and the movement of goods by sea is transformed into an interest in “gain.” Such things are no longer structural instruments of survival, and the just, hard-working man is freed from having to partake of these inherently risky, and morally ambiguous, enterprises.

Hesiod makes clear his symbolic ostracism of ships and seafaring at *Works and Days* 225–247. For the just, Zeus provides so great a bounty on the land that, “they do not board ships, but the grain-giving earth bears wheat.”<sup>104</sup> For the unjust, Zeus “marks out justice...brings famine along with plague,”<sup>105</sup> and at other times, “takes vengeance on their ships at sea.”<sup>106</sup> The act of taking to a ship is not morally proscribed here; it is the *necessity* to do so which is the mark of the unjust man. For the just, there is no risk of famine or shortage, and “wealth” is ensured by the authority of Zeus. Thus no compulsion to incur the risks and costs of seafaring exists, and only someone desirous of “gain,” according to the advice Hesiod gives Perses, should look to ships and the sea.<sup>107</sup> Just as Homer removes the inglorious elements of mobility and seafaring from the internal logic of his texts, the poetics of Hesiod transform the harsh reality of life in the ancient Mediterranean landscape by eliminating altogether the need for mobility, and most of all seafaring, from its discourse on survival and wealth-accumulation. Like that of Homer, Hesiod’s poetry is not directly responsive to pre-discursive “hard surfaces,” but to ideals and conventions that existed within the bounds of, and as cultural responses to, such realities.

Other ancient texts purport or seem to offer specific historical information about ancient economic activity, such as the examples taken from Thucydides, Livy, and Plutarch cited above. Of course, these texts might be utilized as sources for the precise events or circumstances they discuss. However, the case-specific value of this information is variable, the scope limited. Thucydides’ proclamation that the Athenians were excluding the Megarians from their markets can reasonably be taken as historical fact, as he is reporting a contemporary circumstance about which he likely had firsthand knowledge. On the other hand, the generic quality of Plutarch’s report calls into question the accuracy of his particular claim concerning the way in which Mithridates Eupator learned about the successes of Sertorius in Spain, while the remoteness of Livy’s account raises even more serious doubts about the historicity of the Roman/Liparian interaction he describes.

Focusing on interpretations of texts in ways that demand of them a high degree of factual accuracy forces us as historians to be constantly pondering their epistemic value as sources. Issues of reliability and accuracy aside, such approaches to

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<sup>104</sup> Hesiod, *Works and Days* 234–5.

<sup>105</sup> Hesiod, *Works and Days* 239, 43.

<sup>106</sup> Hesiod, *Works and Days* 247.

<sup>107</sup> Hesiod, *Works and Days* 644 ff.

ancient Greek textual evidence for economic history necessarily limit modern analysis of ancient economies. For they circumscribe the events and issues that can be studied to those that happen to be discussed within the pages of extant texts. For my own project, this restriction is especially limiting due to the tendency of ancient authors to discuss rarely and only tangentially topics or events relevant to economic activity. Instead of limiting the use of textual information to context-specific interpretations of exact historical events, it is possible to consider them as broad generalizations or indications of normative behaviors. Rather than worrying about whether it was a contributing factor in sparking the Peloponnesian War or the specific impact that exclusion from Athenian marketplaces might have had on the Megarians, one might consider the text of Thucydides as evidence for the limited number of circumstances under which such an embargo could be effected, how it could have been deleterious to those excluded, and how it could prove advantageous to the excluders. Similarly, instead of fretting over the historicity of Livy's Liparian pirates, one might take this passage as informative of informal (non-institutional) ways in which states and possibly even individuals dealt with the reality of constant piracy. Rather than as somewhat dubious evidence of an attempted Ibero-Asian alliance against Rome, the passage from Plutarch can be taken as evidence of how information, people, and goods tended to be moved through the same networks and channels, and how extensive and efficient these tended to be.

#### 1.3.4 *Using texts in a constructive way: ancient literature as interpretative constraint*

Historians of archaic Greece have at their disposal a kind of information that does not exist for earlier periods. I have argued above against the use of context-specific narrative excerpts as a foundation for the understanding of ancient economies, and tried to point out the ways these can create misconceptions that in turn produce distorted and predetermined analyses of material evidence. While such an approach is inherently limited, entirely discounting textual evidence is also not a desirable option. For any historian more information is always a good thing; ignoring completely an entire category of evidence because it is difficult to interpret or because its prior interpretation has been overly simplistic and ultimately unhelpful would only constitute another form of evidence abuse, *i.e.* neglect.

Morris has suggested that, “we will make the most sense of our evidence by combining archaeological/non-verbal communication acts with textual/verbal ones.”<sup>108</sup> More specifically, he contends that the role of literary evidence for the historian of archaic Greece should be to act as a constraint upon the otherwise virtually unbounded interpretative possibilities available via analysis of the material

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<sup>108</sup> (Morris, 1998) 6.



evidence. This separates the history of archaic Greece from the study of prehistory, the *modus operandi* of which necessarily requires the introduction of interpretative constraints derived solely from anthropological and/or sociological models.<sup>109</sup> However, such an approach also differs markedly from the kinds of readings of ancient texts critiqued in previous sections of this dissertation. Rather than either lifting narratives whole cloth from textual sources and forcing material evidence into an ancillary role or attempting to approach the material evidence “blind,” we must use a wide array of texts as aids in the creation of a systematic understanding of the cultural behaviors and historical circumstances with which the texts themselves are interacting.

This kind of synthetic reading of a multitude of texts not for the reconstruction of facts but instead for the reconstruction of contemporary discourses, is, as Morris has noted elsewhere, a hallmark of the introduction of the so-called “new humanism” into the study of the Classics. This approach shifts the goal of inquiry away from the “hard surfaces” of history; understanding of ancient discursive fashionings displaces the more traditional historiographical goal of “telling it like it really was.”<sup>110</sup> While Morris ultimately rejects this approach, calling it a “step backwards” and labeling it static because of its inability to address pre-discursive historical realities,<sup>111</sup> I nevertheless contend that it remains the only kind of close textual reading capable of avoiding the reductionism and myopia that result from the application of traditional approaches.

Ancient texts provide a selectively filtered, impressionistic version of the reality within which they were constructed. As Kurke has noted, their content is essentially a record of the contestations over contemporary understandings of those realities.<sup>112</sup> Attempting somehow to think away this discursive element, to process the raw text for the production of a refined reality, most often proves an elusive goal. This is especially the case when the period under study is archaic Greece, the topic under consideration is economic history, and the focus taken more narrow and specific than broad and general.

Relying upon the scattered appearance of reliable comments concerning specific economies or economic activities, weaving together disparate pieces of text-based information and/or latching onto an isolated example that seems particularly useful do not seem to me to constitute a step forward in the re-orientation of

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<sup>109</sup> See again (Morris, 1998) 5-7.

<sup>110</sup> (Morris, 2002) 15-19. Morris focuses especially on the discursive symbolism of silver coinage as conceived by von Reden and Kurke in order to denote this historiographical trend. The contrast here, of course, is with traditional approaches that seek to explain pre-discursive phenomena, and which are thus more in line with the famous guiding principle of von Ranke cited above.

<sup>111</sup> “In retreating from this social-scientific perspective, the new humanists have taken a step backwards.” (Morris, 2002) 29.

<sup>112</sup> (Kurke, 1999) 23.

historical inquiry towards the pre-discursive “hard surfaces” sought by Morris. In order to expand the usefulness of textual information for the study of archaic economies, we need to reconsider how we think about the information they do and do not provide. Taken collectively, the information given in these texts is simply too scattered and too unreliable to be pressed into any kind of foundational role. No source or combination of sources is ever going to provide a picture of how the “real” economies of archaic Greece functioned. The poetry of Homer, Hesiod and other archaic poets is not concerned with presenting such realities, and historical narratives like that of Thucydides are primarily concerned with political and military, not economic narratives. Even the cleverest and most thoughtful readings cannot change the nature of these texts.

Rather, what needs to be accepted and embraced is the essentially anecdotal nature of textual evidence for the structure and functioning of ancient economies. By reconstructing the discursive contestations of archaic poetry we can understand the ideologies and conventions behind the construction of the texts. The protagonists and antagonists of Homer and Hesiod do not provide paradigms for how wealth and livelihoods were actually created and maintained, or how and why economic mobility functioned. But they do, through their expression of ideals, shed light on what were the basic components of economic activity in the archaic world. Although the overall effect of this light is one of distortion, the creation of impossible economic fantasies, it is within these fantasies that we can see expressions of the real anxieties that afflicted the communities for which such verses were sung. Concerns about the instability of agricultural production and the creation of land-based wealth cause Hesiod to dream of a just world ruled by a just Zeus who rewards hard work and proper living with material abundance. This is a world in which the just man can live free from risk, and thus also choose to be free from the inherently risky world of mobility. By understanding the attitudes expressed in this kind of text, we can understand something of the economic world in which they were created. Similarly, other texts can give us broad ideas of normative behavior. Although the specific circumstances of any particular place and time within the archaic world seem beyond the explanatory reach of ancient literature, we can at least use the multitude of texts at our disposal to create a sort of interpretative fog within which we can then examine material evidence and import anthropological and other theory. Readings of archaeological evidence that exist outside this fog lose basic plausibility, as does the application of theories and models that do not fit with the basic patterns of contestation and behavior that manifest themselves within the textual evidence writ large. It is in this sense that ancient literature can be of most use to the historian of ancient economies.

## 1.4 *A New Approach*

In this dissertation, I am attempting to find ways to break away from three traditional guiding lights in the search for understanding the economies of archaic Greek Sicily: the over-privileging and misuse of ancient literary evidence; the analogy of colonization; and the *apoikia/emporion* dichotomy. In doing so, I aim to create an understanding of the economic factors that drove and were in turn driven by the phenomenon of Greek settlement in the western Mediterranean. What is required is a system of explanation that exists outside these associations and labels, one capable of identifying the common fundamental economic goals and strategies of different populations in the region, while at the same time recognizing and attempting to explain the significant disparities and variances that existed among them. I do not seek to whitewash the distinctive circumstances and unique history of the individual place for the sake of advancing a single totalizing model of “the economy of the Greek colony.” Nor do I argue for a particularist’s approach, the creation of discrete narratives of limited scope that deny or marginalize significant commonalities of cause and practice in the formation and functioning of the economies of the various settlements of the Greek west. Rather, I am adopting an approach that might be termed at the same time both a “modeled narrative” and a “modeling narrative.” The primary goal remains the explanation of the specific historical circumstances and realities to which the available bodies of evidence refer (narrative), but the means of using this evidence in order to generate understanding often rely upon model or theory-based assumptions (modeled), while the conclusions thus reached have explanatory implications beyond the particular evidence and precise historical situation at hand (modeling).

In adopting this hybrid approach, I am reacting to what I see as the two major constraints on the economic historian of archaic Greek Sicily. On the one hand, there is the need to remain responsible to the evidence. For this reason, conceptions of economic activity stemming from purely deductive reasoning do not satisfy. These do not interact with the primary evidence on a fundamental level, and thus their explanatory force tends to become generic and non-specific, which in turn diminishes their historical value.<sup>113</sup> On the other hand, one cannot become so overwhelmed by the evidence—or, more precisely the primacy of the evidence—as to

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<sup>113</sup> Take, for example, Tandy’s *Warriors into Traders* (Tandy, 1997). In his BMCR review, Schaps remarked: “...the book suffers from serious problems that are not apparent on a superficial reading. Conclusions are drawn without evidence; evidence that is brought is misunderstood or misapplied; relevant material is ignored; logical inconsistencies are glossed over. This is all the more dismaying because Tandy has obviously taken great care to argue his case methodically, to document it meticulously, and to give fair consideration to other possibilities. But in his enthusiasm for his own hypothesis...Tandy has privileged certain sorts of evidence—particularly anthropological evidence from other societies—beyond what they can bear.”

stifle interpretation altogether. For, mere organized listings of evidence devoid of any attempt at interpretation, to quote Finley, “can only be reportage and crude taxonomy, antiquarianism in its narrowest sense.”<sup>114</sup> No set of evidence is capable of providing explanation *sua sponte*; facts, as it were, do not speak for themselves.

Thus, if we accept that the ultimate goal of the historian is to explain the past, or at least some aspect of the past, then we must also accept the agency of the historian himself in the making of his history. For the economic history of archaic Sicily, this means that merely collecting the available literary and material evidence does not suffice. Traditional approaches have, whether consciously or not, added enough assumption and interpretation to create their narratives.<sup>115</sup> My own approach, in a certain respect, does not fundamentally differ from these. I cannot lay claim to a more direct or unfiltered communion with the evidence; I too must rely on assumption and interpretation in order to achieve explanation. The difference lies in the quality and clarity of the assumptions and interpretations employed; having exposed the flaws inherent in the traditional, it is now my task to defend the assumptions I have chosen to make, and to define the body of evidence to which I apply them.

#### 1.4.1 *Naxos, Leontinoi, Katane, and Zankle as case studies*

In order to meet these competing demands of remaining responsible to the evidence, while at the same time producing compelling explanation, I have adopted a case study approach. Restricting the study to Naxos, Leontinoi, Katane, and Zankle allows for the kind of close consideration of all the evidence that would be impossible if the scope were left unlimited. The primary goal is the production of a finer, more integrated, and more nuanced understanding of the economy of each place chosen for study, through an examination of the ways in which these thrived and evolved within the larger context that saw the proliferation and flourishing of numerous Greek settlements in the surrounding regions of Sicily and South Italy throughout the archaic period.<sup>116</sup> Accordingly, the economies of these settlements are considered

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<sup>114</sup> (Finley, 1999) 32.

<sup>115</sup> An approach overly credulous of the ancient literary sources assumes that the information and conclusions of his sources are reliable, and thus produces interpretations whose explanatory value depend upon the (perhaps dubious) assumed accuracy of its sources. An approach informed by the experiences of modern Western colonization imposes upon the evidence the logic and assumptions of a political and economic system, again producing interpretations only as valid as the initial assumption that the archaic Greek settlements in Sicily bear some relationship to modern colonial enterprises.

<sup>116</sup> Morris argues that, when using material evidence in order to write archaic history, “we need to collect *all* (sic) the evidence to find out what belongs to a general pattern and what is unique, and the temporal and spatial scales on which processes operated” (Morris, 1998) 6–7. By restricting the scope of this study, I am both following and diverging from the path Morris sets out. I follow it in the sense that I am able to consider all the evidence for the places under study; I diverge from it in the sense

not as isolated entities, but as interrelated manifestations responsive to a specific historical context. This context is defined, in part, by four main factors: the fractured unity of the ancient Mediterranean landscape; unique local micro-ecological circumstance; the large wave of overseas Greek settlements in the eighth and seventh centuries; and the high degree of connectivity—especially regional—that the intense Greek settlement of large parts of South Italy and Sicily established and perpetuated. Of course, these factors did not constitute the sole determinants of patterns or even individual or corporate acts of economic activity. They are, rather, specific identifiable historical circumstances and context-specific theoretical constructs that allow the modern observer to create a detailed and analytically satisfying understanding of the ways in which the economies of these places functioned.

In order to accomplish the research goal, this dissertation considers how the specific historical circumstances surrounding the phenomenon of intense Greek settlement in the west altered or enhanced these basic circumstances, and demonstrates, via the selected case studies, how best evidence can be used to demonstrate the plausibility and appeal of the proposed means of interpretation. The end result is a history of the economies of Naxos, Leontinoi, Katana and Zankle that, while based in part on general assumptions concerning ancient economic behavior, is above all else responsive to the unique circumstances of both each individual place and the larger geographical region in which they are located, and also justified by thoughtful application of the available textual and material evidence.

#### ***1.4.2 Evidence, description, and explanation: negotiating the gaps***

Given that I embrace an approach that largely discounts, and at times even dismisses, the context-specific explanatory force of ancient literary *testimonia*, focusing on the Greek settlements of north Sicily may seem an odd choice. For these settlements and their territories have been only sparingly excavated and investigated. As a result, the corresponding archaeological evidence is, for the most part, quite sporadic, and at times virtually nonexistent; gaps in even basic information are commonplace. The evidence available with which to build and test an interpretative framework is, in terms of both quantity and quality, less than ideal. Moreover, the evidence that has been recovered from the different sites cannot always be compared directly, due to inequalities in both the methods of recovery applied and the varying natures of the contexts of original deposition. More recent excavators have unsurprisingly utilized more advanced techniques than their early twentieth century counterparts, and have tended to save and analyze a wider and deeper variety of

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that, to a certain degree, I am considering these four settlements in isolation from other archaic Greek locations, both near and far. Ideally, such a restriction would be eliminated; practically, such a restriction is necessary. The remedy, inasmuch as one exists, is to constantly be considering the larger geographic and economic contexts in which these places were located.

artifacts as well.<sup>117</sup> As such, even when considering different sets of archaeological evidence from the same site, it is often times necessary to adjust one's interpretation in order to account for the possibility of discrepancies or correlations that might be more the product of different methods of recovery and study rather than anything more meaningful.<sup>118</sup> Additionally, when making comparisons or drawing conclusions from the presence or absence of a given class of object, one must also discriminate according to the context in which that object has been found (or not found).

Taken on a site-wide scale, indiscriminating analysis of raw numbers without filtering according to find context could lead to poorly founded and thus misleading conclusions. For example, the majority of excavation at Zankle has been conducted in areas of ancient habitation, whereas at Naxos a significant number of archaic graves and sacred areas are known. Thus, even if we have recovered more imported pottery or metal objects of a certain type from Naxos than from Zankle, conclusions concerning relative import/export patterns must be carefully drawn, due to the disparity in the types of assemblages that have been excavated.

However, while these problems of evidence certainly present a challenge, I contend that they need not prevent the creation of an archaeologically based understanding of local and regional economic history. Once the available evidence is compiled and described, it is the historian's role to construct questions he can answer with his available evidence, rather than point out the deficiencies, which prevent his answering the questions he would have preferred to ask, or taking the approaches he would have liked to have employed.

### 1.4.3 *Economic structures and the movement of goods in the archaic Greek west*

If ancient textual evidence provides helpful, even crucial, interpretative constraints, and archaeological and other material evidence the empirical basis for examining the "hard surfaces" of ancient economic systems, the application of social-scientific and anthropological assumptions and models constitute the interpretative engine of this dissertation. In their introduction to a collection of essays on the ancient economy, Scheidel and von Reden begin by citing North, who asserts that

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<sup>117</sup> Compare the field excavation strategies and archaeological reports of Orsi at the turn of the twentieth century to, e.g., those of the excavation of the sanctuary at Alaimo, near Leontinoi. The kinds of information recovered during the latter, including zooarchaeological remains, were often not even sought a hundred years ago. (Orsi, 1901); (Sudano, 2009).

<sup>118</sup> For example, one would expect these sorts of discrepancies to exist between the relatively recent excavations conducted in Messina by the Italian archaeological service (published in the three volume series *Da Zankle a Messina*) and those that supplied the information for Adolf Holm's 1925 volume on ancient Catania, for which see (Holm, 1925).

the goals of economic history are “the explanation of the structure and performance of economies over time.”<sup>119</sup> This focus on performance is consistent with economic analysis more generally, which tends to concentrate on evaluating current, and predicting future, performance. Differential structural analysis of economic systems is less important for classical and neo-classical economic theory, but crucial to North’s own idea of New Institutional Economics, while understanding and explaining structural systems and forms is more uniformly an objective in historical studies. The diachronic emphasis of North’s formulation of economic history stems at least partly from his economist’s emphasis on measuring performance. While taking a long view and looking at economies over time is surely a helpful approach, there is nevertheless no reason to rule out entirely the potential utility of more synchronically focused studies of historical economies.

For the purposes of this dissertation, I reject without prejudice the aspect of North’s formulation of economic history that concentrates on the measuring of economic growth. Recently, this line of inquiry has been taken up by, among others, Scheidel. In his analyses of the economies of ancient Greece and Rome, he places a heavy focus on the measurement of long-term per annum economic growth, relying in large part upon determinations of demographic and productive trends derived from archaeological and other data.<sup>120</sup> In the first place, this dissertation is not so much interested in measuring economic growth as in describing and explaining forms of economic function and practice; looking at the archaeological evidence, the fact that the economies of the four settlements under study grew over the course of the archaic period seems an obvious given. This is not to say, however, that observations of performance and function should always be considered separately. Economic growth is of course inextricably bound up in the nature and success (or failure) of whatever economic structures are in place. Moreover, I have no objection to Scheidel’s “guesstimate” that “Greece” experienced a 0.15% annual rate of growth from 800 to 300 B.C.<sup>121</sup> The overall pattern that indicates the archaic period is characterized by a relatively high rate of economic growth fits both with the material evidence and with the explanation I offer in chapter three below for the archaic economies of Sicilian Greek *poleis*. However, lacking the appropriate data to measure performance, growth, or demographic trends, I am inclined to restrict myself to questions that in their answering do not require this sort of information.

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<sup>119</sup> (North, 1981) 3, as cited at (Scheidel & von Reden, 2002) 1.

<sup>120</sup> This is a gross simplification, but not inconsistent with the research questions and methodologies discussed in (Scheidel, 2007).

<sup>121</sup> (Scheidel, 2007) 44. I also lack any means of seeking either to prove or disprove this general assertion.

#### 1.4.4 *The importance of risk reduction for economies of the ancient Mediterranean world*

My overall theoretical approach rests upon many of the basic assumptions on how pre-modern economies functioned in the Mediterranean set forth in Horden and Purcell's *The Corrupting Sea*.<sup>122</sup> By assuming these micro-ecologies were connected not only to each other but to other Greek and non-Greek communities both inside and outside the immediate region, I aim to present more well-rounded and dynamic pictures of the economies of Naxos, Leontinoi, Katane and Zankle. A primary goal has been the production of understandings and explanations of these economies that are capable of admitting and embracing a wider range of activities related to production, distribution and consumption than the previously discussed interpretations have suggested. I make several key assumptions about the basic goal of production strategies, the kinds of goods that were being traded and exchanged during the period in question, how these distributions and redistributions were being effected, and the nature and function of consumption within these kinds of economies.<sup>123</sup>

First, I assume that primary production strategies focused above all else on the goal of risk reduction, and that this tends to result in the production of net average surplus.<sup>124</sup> Second, I assume that throughout the archaic period any and everything that was produced could be, and was at any given time, the object of trade and exchange. This includes not only a wide range of non-essential or prestige items, such as fine pottery or metalwork, but also foodstuffs, be they luxury, semi-luxury or basic.<sup>125</sup> Third, I assume that *cabotage* was responsible for the distribution of the vast majority of items that were traded or exchanged via movement over the sea.<sup>126</sup>

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<sup>122</sup> And also upon further ideas concerning mobility and colonization in the archaic period, as put forth in (Purcell, 1990); (Purcell, 2005b); (Purcell, 2005a); (Purcell, 2005c); (Horden and Purcell, 2005).

<sup>123</sup> These assumptions are informed by relevant observations laid out in (Purcell, 2005c). Compare also the following quotation from (Horden and Purcell, 2005) 356: "...we attempted to develop a framework...that shed light on the big questions of unity, distinctiveness and continuity in the region. That conceptual framework included a fragmented topography, the mutable microecology, two-way interaction between humanity and environment, connectivity (especially, of course, by sea)..."

<sup>124</sup> Purcell discusses this link between risk reduction and the promotion of surplus (Purcell, 2005a) 116. The large underground granaries found at Megara Hyblaea attest to the productive efficacy of the early archaic Greek settlements in Sicily, for which see (De Angelis, 2002).

<sup>125</sup> This goes to some degree against the conventional wisdom, which holds that there was, for example, no grain market before Classical era. See, for example (Garnsey, 1988). Horden and Purcell, however, assert that, "there was always a market for food...and one of the most convenient ways redistribution to them could be ensured was by growing, storing and shipping cereals." (Horden and Purcell, 2000) 205. The term "semi-luxury" is taken from (Foxhall, 1998) 306-7.

<sup>126</sup> (Horden and Purcell, 2000) 140.



Finally, I assume that demand for all goods in the archaic period was more or less elastic; "...if more were available, more would be consumed..."<sup>127</sup> The exception to this rule might be basic foodstuffs, the demand for which, in localized instances of famine or crop failure, would have increased.

This dissertation is not, however, pre-determinedly tied to these theoretical assumptions, nor will its purpose be to prove their validity or accuracy. I am rather taking these as my given interpretive guidelines for how economic activity in this period worked, my points of departure for the application of the specific evidence for and historical circumstances of the places under study. In trying to reconstruct and explain archaic Greek settlements in Sicily, De Angelis has warned against the danger of allowing theory to override evidence, forcing information to fit into a predetermined pattern. "We must...make ample allowances for the quality and the quantity of the archaeological data, and treat the data on their own terms, rather than letting a typology or a model direct the discussion."<sup>128</sup> While statements such as this can serve as helpful counterweights against the unbalanced application of theory without regard to the maintenance of responsibility to the available evidence, one must be careful not to allow the pendulum to swing back too far in the other direction.

I am most interested in determining how the phenomenon of Greek settlement in the west affected the basic economic processes of production, distribution and consumption *within the larger context of, rather than on*, such a Mediterranean world. That the impact this process had extended throughout the larger Greek world has long been recognized. Malkin has tied the "invention" of the *polis* to it.<sup>129</sup> Morgan and Hall have shown how the "Achaian" settlements of South Italy helped to create the very notion of a common Achaian identity.<sup>130</sup> De Polignac has cited it as the cause of economic growth throughout the archaic Greek world, although he does little to demonstrate as much.<sup>131</sup>

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<sup>127</sup> Foxhall has argued that, in the archaic Mediterranean, habits of consumption were such that the demand for most goods was essentially inelastic (Foxhall, 1998) 307.

<sup>128</sup> "We must...make ample allowances for the quality and the quantity of the archaeological data, and treat the data on their own terms, rather than letting a typology or a model direct the discussion." (De Angelis, 2003) xvi.

<sup>129</sup> (Malkin, 1987) 262 ff.

<sup>130</sup> (Hall & Morgan, 1996).

<sup>131</sup> "While colonization for the most part took the form of the conquest of new lands, the surplus of goods that resulted engendered new activities, new currents of exchange, thanks to which the entire Greek world, not solely the colonial cities, was in a position to sustain its growth." (de Polignac, 1995) 90-1. Although the basic statement that the "colonial cities" of the west stimulated economic growth seems a likely truism, de Polignac's implicit reliance here upon modern colonial economic structuring, combined with a lack of empirical backing for his statement, produces a certain anxiety about his conclusions.

The focus in this dissertation, however, is on the impact that this burst of settlement activity had upon the economies of the individual settlements. In particular, I explore how the high degree of interconnectedness fostered by this peculiar atmosphere, and the types of knowledge and regional relationships it created might have affected production and distribution strategies and consumption habits in the individual *poleis* of archaic Greek Sicily. In looking at the material evidence for these places, I am trying to define what drove the patterns of behavior that can be observed in the material and historical records.

If minimization of risk largely defines the economic mentality of archaic Greece, how can we make sense of the information we have regarding economic activity in the Greek west during the eighth, seventh and sixth-centuries? If more and more intense contacts, the increase and strengthening of regional and inter-regional networks, created access for individuals and communities to the produce of more environmentally and topographically separate mirco-ecologies, does that not correspond to the creation of economic diversity, which itself is a primary response to economic risk? The stronger these contacts and networks become, the smaller becomes the potential risk of shortage or economic want for each individual community or household.<sup>132</sup> Similarly, the more contacts become connected, the larger and denser networks become, the more risk is spread out among them, again decreasing the chances of acute instances of famine, starvation or other economic crisis. Within this system, opportunities for exploitation still exist,<sup>133</sup> as do opportunities for the acquisition of *kerdos*, as envisioned by Hesiod, Homer, and Tandy alike. Responses to risk are variable, and at different times some will always be more willing or more able to take on risk than others.

It is to these questions, and with these assumptions, that I will be applying the archaeological evidence for the cities of Naxos, Leontinoi, Katana and Zankle. I imagine that these places, during this time period, were peak venues for the kind of “intense connectivity” that could occur in the ancient Mediterranean world.<sup>134</sup> Horden and Purcell are self-avowed historians of *la longue durée*; while this perspective has led to the creation of a powerful model capable of explaining much in the history of the ancient Mediterranean, the telescopic vision this approach produces can also compress and distort the history of specific places over shorter periods of

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<sup>132</sup> “People and goods move around our Mediterranean, perhaps more freely than some of our critics find acceptable. Producers diversify risk and store and redistribute in the face of omnipresent risk. But none of this entails the rarity of shortage and famine. It is precisely because of their endemic nature that all the precautions described in CS chapter VI have been so essential.” (Horden and Purcell, 2005) 368.

<sup>133</sup> (Purcell, 2005a).

<sup>134</sup> “There is nothing, however, in our model to deny remarkable peaks of intense connectivity or equally deep troughs, though we persist enjoining caution on those who wish to predicate such extremes of the whole basin.” (Horden and Purcell, 2005) 352.

time.<sup>135</sup> In the next chapter, I collect, organize and lay out this evidence so that it I may then use it in order to answer the questions laid out in this one.

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<sup>135</sup> Compare (Malkin, 2008). In this review article, Malkin addresses Purcell's tendency towards "a chronological foreshortening of the 'history of events'."

Chapter Two  
The Evidence for the Economies of  
Archaic Naxos, Leontinoi, Katane, and Zankle

*2.1 Dividing and organizing the archaeological evidence*

Naxos, Leontinoi, Katane, and Zankle were all born in a peak period of mobility and connectivity. The very existence of *apoikiai* such as these depended upon the movement of large numbers of people over a long distance, and their subsequent growth and success hinged in large part upon the continual movement of both people and goods over distances both long and short. However, even in the circumstance of intense redistribution fostered by the condition of hyperconnectivity, production must have remained a necessary and key component of the economy of any permanent settlement. From the moment in the archaeological record that we can detect their presence, Greek settlers at Naxos, Leontinoi, Katane, and Zankle were engaging in acts of production and redistribution. The original rationale for each individual settlement need not matter, and its consideration may in fact prove counterproductive for these understanding the structure and functioning of economic life. For the initial idea of these places, in addition to not being recoverable in any sort of reliable way, may not necessarily bear a correlation to what they eventually or even quickly became. When considering the economies of these settlements during the archaic period, the question is not whether they were fully formed and functioning systems consisting of regular and robust acts of production, redistribution and consumption, but rather how the structure of these three basic sectors of economic activity enabled, impeded, altered, or generally affected one another.

If the above assertions are correct, examination of the archaeological record and other available evidence should be able to provide some kind of confirmation of them, as well as lend insight into what I have identified as the unresolved question of the relationship between the basic economic activities of production, redistribution and consumption. Archaeological evidence is inherently better suited for reconstruction of actual function than intention, and the material that has been recovered from Naxos, Leontinoi, Katane, and Zankle should reveal more about normative economic practice than about idealized or intended economic purpose. As it turns out, from the first perceptible signs of inhabitation evidence of local acts of production, redistribution and, of course, consumption are evident in the material record, although not necessarily in the ways that one might want or expect. The purpose of this chapter is to compile and organize this evidence in order to demonstrate, in the first place, that each of the settlements under study were locations of “total” economies, *i.e.* were places whose inhabitants engaged in a full, rather than limited or somehow restricted, range of economic activities. At the same time, this

evidence is reviewed and arranged with an eye towards answering the central question of how the internal poetics of these economies resolved themselves as these cities expanded in size and wealth over the course of the archaic period. The implications and meaning of the evidence adduced and patterns deduced in this chapter are subsequently discussed further below, in chapter three.

This chapter is the empirical heart of the dissertation, and in it I introduce a large body of information. Evidence is presented in chronological order. The overall date range is divided into two sub-periods, c.735-650, and c.650-490. The first is bounded on the upper end by the establishment of the various settlements, while the middle of the seventh century marks the lower end. In the case of all four cities, captured in the first time frame is the establishment of the settlement and a subsequent fifty to seventy-five years in which the material evidence for human inhabitation and activity steadily increases. While the nature of the evidence does not allow for the measurement of economic growth in this period *per se*, a general trend of demographic and economic expansion is clear. In separating off this period from the century and a half that follows, the intent is twofold: to give space for the discrete examination of and reflection upon the evidence for the establishment and early functioning of the economies of these new settlements, and to create a basis of comparison for the evaluation of the period that follows, so that differences in either structure or scale might become more noticeable, and also easier to differentiate. The second period, c.650-490, captures developments from the places seems too apparent to ignore, with a subsequent lack of any obvious or decisive moments of historical change, the impetus to continue with such demarcations fades. The introduction of coinage is an obviously major economic development, but I have rejected using this as a chronological barrier, preferring instead to emphasize aspects of economic continuity rather than change at the end of the archaic period.

Within these two periods, the evidence is presented for each individual site before any attempt at cross-site evaluation is made. Moreover, particular care is taken to differentiate finds and spaces according to usage type. When using material evidence to reconstruct economic activity, it is important to note the context of any given piece of evidence, as the meaning of the appearance of one or multiple example(s) of a given artifact or other piece of information can and does vary according to where (and in what condition) it was found. A pot is never just a pot, nor a wall a wall. To give meaning to objects, and especially to a large number of objects, requires the active input of the compiler. Special attention must be given to physical locations within a topographical matrix, and to the possible meanings of these locations. In this case, because I am trying to create first and foremost an historical representation of the economy of each site, objects and places are first grouped together on this basis. Within this larger grouping, however, further units of space are recognized, the presumed functions of which in turn inform evaluation of the economic meaning of individual places and things. Effort is made to reconcile

difference in material record with difference in context, and, as far as is possible, no information is given without reference to and consideration of these issues.

Following the separate presentation of the evidence pertaining to Naxos, Leontinoi, Katane, and Zankle for both of the designated periods, comes a short synthesis in which the various and varying strands of information are brought together for comparison and brief analysis. Overlaps and gaps in the material record of the different places are noted, superficial explanations of these given or sought, and preliminary interpretative possibilities raised. The primary goal of these sections, however, is to organize and prepare the material for the further analysis that follows in chapter three.

## *2.2 The evidence for the earliest period of settlement: c.735-650*

### *2.2.1 Naxos*

Naxos was located at the modern-day Capo Schisò, on a nearly flat plain nestled in between the sea to the east and the north-south Santa Venera River to the west.<sup>136</sup> The urban area of the early settlement at Naxos was small, and largely restricted to the area immediately along the coast.<sup>137</sup> Most of the eighth-century material has been found clustered together, indicating that the early inhabitants of Naxos originally occupied a densely populated space, with houses located close to one another and no kind of orthogonal grid planning in effect.<sup>138</sup> It is possible that parts of a pre-Greek Bronze Age wall lying just to the north of these eighth-century houses might have been re-used during the earliest phase of the Greek settlement, which would have made the totality of the urban center as small as 10 hectares.<sup>139</sup> The precise location of the harbor is unknown, but speculation has long placed it in the area just north of this Bronze Age wall and east of the Larunchi hill, at a spot along the coast that would have been deep enough in antiquity to accommodate ships of all sizes.<sup>140</sup>

The territory of Naxos was bounded to the east by the sea, to the south by the territory of Katane (perhaps marked by the modern Alcantara River), to the west by the hills and mountains that rise up west of the urban area, and to the north by the territory of Zankle, where the point of intersection might have been Capo

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<sup>136</sup> Figure 2 & Figure 3.

<sup>137</sup> (Lentini, 2000) 116.

<sup>138</sup> (Pelagatti, 1981) 297. Lentini compares the close-together clustering of houses to the early archaic settlement of Zagora on Andros and the area near the port at eighth-century Eretria, (Lentini, 2004) 34.

<sup>139</sup> (Lentini, 2004) 34; (Pelagatti, 1981) 297. See also (Mertens, 2006) 72.

<sup>140</sup> (Pelagatti, 1984-85) 810 n. 3. Excavations have uncovered the remains of late fifth-century shipsheds in this area, but no clearer signs of how this area was used in the archaic period. See (Blackman & Lentini, 2003).

Sant’Alessio, but this remains unknown.<sup>141</sup> The total area of this *chora* consisted of about 600 square kilometers, of which roughly 60% was “agricultural land.”<sup>142</sup> It is unclear to what extent the entirety of this territory was available to or utilized by the inhabitants of early Naxos; information is lacking concerning agricultural production for archaic Naxos. The presence of Naxian and other Greek goods, especially pottery, in various areas of the *chora* and the indigenous settlements surrounding it may attest to economic activity of one type or another.<sup>143</sup> Within the city itself, on the other hand, is ample evidence—both direct and indirect—of local economic production based in part upon utilization of territorial resources, *i.e.*, locally produced pottery.

The remains of one of the earliest houses at Naxos were recovered during 1950s excavations conducted in the eastern extremity of Capo Schisò, revealing the plan of a small, rectangular one-room structure (so-called House 1).<sup>144</sup> Recent excavations have uncovered four more houses dating to this same period;<sup>145</sup> traces of these (so-called Houses 2, 3, 4, and 5) were found underneath the later classical era levels of the city. They share the orientation of the nearby House 1, and this, combined with their location, seems to confirm the idea that the core of the early urban center was located within the eastern periphery of the peninsula.<sup>146</sup> Of the four, only the plan of House 5 has been completely recovered. Like House 1, it consists of only one rectangular room and is also modest in size, measuring 5.8 by 3.6 m.<sup>147</sup> The pottery found associated with House 5 and the adjacent Houses 2, 3, and 4 indicate that all five were in use by at least the end of the eighth century. Of note among the pottery are: Late Geometric Corinthian imports, including Thapsos cups,

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<sup>141</sup> (Fischer-Nielsen, Nielsen & Ampolo, 2004) 218; (De Angelis, 2000) 130.

<sup>142</sup> (De Angelis, 2000) 125. De Angelis has used early modern production data in order to provide an approximation of ancient land usage patterns. The figure that he gives for Naxos means that, based upon the way this land was used in the early twentieth century, 60% of the land he has included in the maximum territorial extent of the settlement would have been suitable for agricultural production of one kind or another. Of course, the validity of these statistics depends directly upon the idea that early modern and archaic Greek agricultural and land usage practices in this region bear a strong relation to each other, an assumption which is practically impossible to test.

<sup>143</sup> Economic interaction between Greek and native settlements is a topic not explored in this dissertation. Delineating such networks and patterns is a future research goal, as understanding the nature and intensity of such interactions would provide valuable insights into the economies of both Sikel and Greek economic systems in archaic Sicily. See, *e.g.*, discussion by Dominguez concerning the possible economic relationship between Katane and the Sikel site of Mendolito (Dominguez, 2006) 335.

<sup>144</sup> (Pelagatti, 1978) 137.

<sup>145</sup> (Lentini, 2004).

<sup>146</sup> (Lentini, 2004) 29.

<sup>147</sup> (Lentini, 2004) 29–30. Lentini also notes that postholes and pottery found directly beneath House 5 indicate that it was built directly on top of a much earlier hut dwelling, which was part of a Middle Bronze Age settlement (Lentini, 1995) 179.

a sherd of a Protocorinthian kotyle, fragments of various (locally made) Euboianizing pots, including numerous jugs with cutaway necks, and fragments of Corinthian A and Attic SOS transport amphorai.<sup>148</sup>

The lower slopes and area just east of Larunchi Hill, located near the coast in the northern part of the plain,<sup>149</sup> also seem to have been part of the settlement from nearly the beginning and to have remained so throughout the archaic and classical periods.<sup>150</sup> There are also some outlier deposits of eighth-century material—marked especially by the presence of Thapsos cups—that perhaps indicate a slightly more expansive early settlement, though one still considerably smaller than those of contemporary Syracuse or Megara Hyblaia.<sup>151</sup> However, on the whole, Lentini suggests that early Naxos was “a village of houses of unequal size and appearance, rectangular in plan, with perhaps some consisting of more than one room.”<sup>152</sup>

Nevertheless, it is clear that, from at least the beginning of the seventh century, the city began to expand westward, quickly taking in the entirety of the level plain—about forty hectares in area—bounded to the north, east and south by the sea, and to the west by the north-south Santa Venera River.<sup>153</sup> Remains of early seventh-century buildings in the area of House 1 share its orientation, which seems to confirm that this period witnessed an expansion, not a relocation, of the urban center.<sup>154</sup> A large north-south road has been excavated, off of which runs a contemporary east-west road in the direction of the Santa Venera River to the west.<sup>155</sup> The first of these leads to the necropolis area to the north of the city. The remains relating to this road and to adjacent structures, however, date to the classical and hellenistic periods. A significant amount of early seventh-century material has been found in this area, but no buildings, structures or specific activities can be associated with them.<sup>156</sup>

Evidence for sacred areas at early Naxos is sparse. Other than the remains of what might be a small shrine found near the houses discussed above,<sup>157</sup> the only

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<sup>148</sup> (Lentini, 2004) 30. In the brief catalog of pottery published by Lentini, she gives examples of: Thapsos cups (no. 1-4); Euboianizing kraters, cups, plates, lekanai and oinochoai (no. 8-15); Euboianizing jugs with cutaway neck (no. 16-17).

<sup>149</sup> The Larunchi hill is one of a series of connected hills in this area, all of which were probably less than 300 meters away from the ancient coastline (Pelagatti, 1972) 212.

<sup>150</sup> Lentini suggests that the early inhabitation of this area might be due to its near-contiguity with the likely location of the ancient harbor (Lentini, 1993-94) 1009.

<sup>151</sup> These areas are recognized as such by the scattered presence of Late Geometric pottery (Pelagatti, 1978) 136.

<sup>152</sup> (Lentini, 2004) 34.

<sup>153</sup> (Pelagatti, 1972) 211.

<sup>154</sup> (Pelagatti, 1978) 137.

<sup>155</sup> (Pelagatti, 1978) 136.

<sup>156</sup> (Pelagatti, 1980-81) 702.

<sup>157</sup> (Pelagatti, 1977) 43; (Mertens, 2006) 72.



information concerning cult places of the early settlement comes from the *Sikelika* of Thucydides. Here is mentioned an altar dedicated to Apollo Archegetes that was supposedly established on the coast just outside the city at the time of its foundation.<sup>158</sup> Despite decades of looking for it, no trace of such a structure has ever been located.

A large necropolis has been located about 200 meters to the north of the archaic and classical settlement itself. Only a probable fraction of its tombs have been excavated, but even still much is known.<sup>159</sup> This necropolis includes tombs from the earliest period of Greek habitation, and was used continuously down throughout the end of the archaic period.<sup>160</sup> The previously mentioned north-south road dating to the fifth century and running to the east of the excavated tombs seems to connect the city to its northern periphery, including this necropolis. It is likely that this was preceded by an archaic road, but no trace of such has been uncovered. Pelagatti suggests that this road may keep running northward, and in fact might ultimately have become a road to Zankle, though even she admits this is pure speculation.<sup>161</sup>

Nearly two hundred individual tombs dating to the eighth through sixth centuries have been excavated. Of these, around twenty are datable to the late eighth or early seventh century. Some of the adult burials are simple depositions of cremated remains into small pits, while others are inhumations in trenches, with or without grave goods. Infants were also inhumed, either in trenches or inside amphorai or pithoi. When present, typical grave goods include pottery, fibulae, and other jewelry. One particularly rich example is the tomb of an adult female, in which were deposited a Protocorinthian globular aryballos datable to the last quarter of the eighth century, a bronze pin and two rings.<sup>162</sup> Nearby was found an infant burial, again an inhumation; in this case, the deceased was buried inside an Attic SOS transport amphora datable to around 700.<sup>163</sup>

Local production of pottery at Naxos seems to have begun almost immediately upon the establishment of the city.<sup>164</sup> In fact, the majority of pottery found in settlement contexts at Naxos during all phases of the archaic period (eighth,

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<sup>158</sup> Thucydides 6.3.

<sup>159</sup> On this necropolis, see (Pelagatti, 1980-81) 697-701.

<sup>160</sup> Continuity is apparently lost after the destruction and re-foundation of the city in 493 and 476, respectively. The new residents of the city seem to have chosen an area west of the Santa Venera for their *necropolis*. The area of the archaic tombs is occupied in the hellenistic period by a kiln (Pelagatti, 1980-81) 698, 701.

<sup>161</sup> (Pelagatti, 1980-81) 700.

<sup>162</sup> (Pelagatti, 1980-81) 699.

<sup>163</sup> This is the only intact SOS amphora found at Naxos, but fragments of others have been recovered, including six referenced by Pelagatti at (Pelagatti, 1980-81) 700, n 18.

<sup>164</sup> As attested by the finds of locally made imitations of Late Geometric Corinthian and Euboian pots, on which see below.

seventh and sixth centuries) appears to have been locally made. Naxian pottery is distinguished by its pale beige fabric and slip of varying shades of lightness, from a darker beige to a lighter cream, and decoration in brown paint.<sup>165</sup> The range of shapes produced is wide, and examples of coarse, cooking and fine fabrics are attested. Among the most common shapes are: kraters, oinochoai, hydriai, amphorai, high-lipped cups and bowls, plates, lekanai, small kylikes and olpai.<sup>166</sup>

Style of decoration varies according to chronology, shape, size, fabric and other factors. Generally speaking, the shapes and decorative patterns typical of local Naxian products throughout the archaic period betray a distinctively Euboian influence.<sup>167</sup> This is reflected in both the shapes of the pots made, and in the decoration that was painted on them. Kraters are produced as early as the eighth century, and are derived from Euboian types, including one example that features figural decoration.<sup>168</sup> Also common among locally produced open-shaped vessels are a style of high-lipped cups and bowls, production of which began in the early seventh century. These are Euboianizing in both their shape and decorative schemes.<sup>169</sup> Produced in large numbers were pots termed lekanai by Pelagatti;<sup>170</sup> Coldstream describes these as having a low and broad shape, and suggests that they were probably used as a sort of bowl for eating.<sup>171</sup> Imitations and variations of Thapsos skyphoi were also produced at early Naxos, along with Corinthianizing kotylai, but overall “local imitation of Corinthian types was much less extensive here than in southern Sicily.”<sup>172</sup>

Among the closed-shaped vessels, fragments of locally produced amphorai and a number of locally produced hydriai, whose shape and decoration style both Lentini and Coldstream ascribe to Cycladic types, have been discovered in contexts ranging between the last quarter of the eighth and the first quarter of the seventh century.<sup>173</sup> On the other hand, fragments of jugs with cutaway neck found associated with Houses 2-5 and in other eighth-century contexts are of distinctively Euboian type.<sup>174</sup>

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<sup>165</sup> (Pelagatti, 1972) 219; (Pelagatti, 1982) 157.

<sup>166</sup> (Lentini, 2000) 117; (Lentini, 1992) 13-4.

<sup>167</sup> (Lentini, 1998) 377.

<sup>168</sup> (Pelagatti, 1982) 153, fig. 15a; (Coldstream, 2004) 46.

<sup>169</sup> (Pelagatti, 1972) 219.

<sup>170</sup> (Pelagatti, 1982) 150-2.

<sup>171</sup> (Coldstream, 2004) 44. Elsewhere Coldstream suggests that skyphoi were used for this purpose during the same period in Central and Aegean Greece (Coldstream, 1998) 304-8.

<sup>172</sup> (Coldstream, 2004) 41. In the eighth century, the production of one-bird skyphoi at Naxos counterbalances the production of the Corinthianizing imitation Thapsos skyphoi. On the Euboian character of the one-bird skyphos type and its production at eighth-century Naxos, see (Coldstream, 2004) 41-3.

<sup>173</sup> (Lentini, 1992) 13-5, 24, 30; (Coldstream, 2004) 47. A selected catalog of the sherds can be found at (Lentini, 1992) 13-5.

<sup>174</sup> (Coldstream, 2004) 44-5.

Coldstream notes only one cutaway neck jug example as coming from an eighth-century context, but Lentini lists two,<sup>175</sup> and notes the manufacture of vases of similar shape and dimensions at contemporary Pithekoussai.<sup>176</sup> Also known are examples of transport amphorai made of local clay, but of the Attic SOS type.<sup>177</sup> Lentini compares the early and abundant production of local Euboianizing pottery at Naxos with the similar situation known from the excavations at Pithekoussai, where local clay beds were also immediately exploited, and shapes and decorative motifs largely based on Euboian types.<sup>178</sup> Another point of comparison is the local pottery of Leontinoi, which trends more towards the Corinthianizing.<sup>179</sup>

The imported pottery of this early period consists mostly of Corinthian wares, and in particular of Thapsos cups.<sup>180</sup> Sherds of Late Geometric Corinthian *pixades* are also known, as are Late Geometric and Early Protocorinthian *kotylai*.<sup>181</sup> Numerous fragments of both Corinthian and Attic SOS transport amphorai have also been found in settlement contexts.<sup>182</sup> Euboian imports, on the other hand, are fewer in number, and Cycladic almost non-existent. This distribution is typical of the early archaic settlements of Greek Sicily in general, both those near the Strait of Messina and those further south, including Syracuse.<sup>183</sup> Among the non-Corinthian early imports are distinctively Euboian Late Geometric *skyphoi* featuring concentric circles on a tall lip and antithetic birds in panels.<sup>184</sup> This type flourished in the third quarter of the eighth century and is found throughout the west, at Pithekoussai, Greek settlements in southern Sicily, and indigenous settlements as well.<sup>185</sup>

### 2.2.2 *Leontinoi*

Leontinoi was unusual among the earliest Greek settlements in that it was located not along the coast, but about ten kilometers inland.<sup>186</sup> The core of the ancient city occupied two north-south ridges that lie along the southern edge of the fertile plain of Catania, and the valley that lies between them.<sup>187</sup> The western ridge is

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<sup>175</sup> (Lentini, 1990) 79.

<sup>176</sup> (Lentini, 1995) 182.

<sup>177</sup> (Pelagatti, 1982) 156.

<sup>178</sup> (Lentini, 2000) 117. For the production of local pottery at early Pithekoussai, see (Ridgway, 1992).

<sup>179</sup> (Grasso, 2009) 5. More on the pottery of Leontinoi follow below.

<sup>180</sup> (Pelagatti, 1972) 219; (Pelagatti, 1982) 143, fig. 6, 9a-c, 10; (Pelagatti, 1984-5) 822 no. 1-2.

<sup>181</sup> (Pelagatti, 1982) 145-6.

<sup>182</sup> (Pelagatti, 1982) 147; (Pelagatti, 1984-5) 823 no. 4. For a deposit featuring Thapsos cups and Corinthian transport amphorai, along with locally made pottery in an otherwise undefined settlement deposit just west of the Castello Paladino, see: (Pelagatti, 1984-85) 814.

<sup>183</sup> (Coldstream, 2004) 41; (Lentini, 2000) 117.

<sup>184</sup> (Pelagatti, 1982) 150.

<sup>185</sup> (Pelagatti, 1982) 150; (Coldstream, 2004) 43.

<sup>186</sup> (De Angelis, 2003) 12; Figure 2.

<sup>187</sup> Figure 4.

composed of the San Mauro and Santa Maria La Cava hills, the eastern of the Metapiccola, Crocefisso, and Castellacio–Tirone hills; the valley also bears the name San Mauro. This entire area is a few kilometers south of the east–west running San Leonardo (ancient Terias) River, and just east of the north–south running Lisso River and parallel San Eligio valley. The San Leonardo River flows out to the sea from its intersection with the Lisso north of the city; this stretch of the river was navigable up until the first decades of the nineteenth century.<sup>188</sup> The sprawling topography of the area, combined with the disconnected nature of the archaeological evidence, makes estimating the size of the earliest settlement difficult. Even more difficult is measuring the size of the territory of early Leontinoi.<sup>189</sup> The eventual *chora* probably included much of the modern plain of Catania, and in all somewhere between 400 to 800 square kilometers of land,<sup>190</sup> nearly all of it arable and fit especially for the production of grain.<sup>191</sup>

The ancient literary tradition has been used, with varying results, to reconstruct the situation and history of the early settlement. Thucydides recounts that Leonitinoi was a Chalcidian settlement, led by the same Theokles who had some years previously founded Naxos.<sup>192</sup> He also asserts that some Megarians, led by the same Lamis who had himself earlier founded Megara Hyblaia, joined the Chalcidians in this foundation, but were ejected there from after only a short period of time.<sup>193</sup> As for the Sikels in the area, whereas Thucydides asserts that these were forcibly removed immediately upon the foundation of Leontinoi, Polyainos claims that there was a short period of cohabitation, and that it was the Megarians—before they themselves were driven out—who ultimately saw to their expulsion.<sup>194</sup>

Concordance with either one or both of these traditions has tended to dominate the interpretation of the earliest material evidence recovered at

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<sup>188</sup> (Basile, 1995) 389.

<sup>189</sup> (De Angelis, 2003) 49.

<sup>190</sup> Known in antiquity as the Leontine plain; for list of ancient sources using this toponym, all of which postdate the archaic period, see (Fischer–Hansen, Nielsen & Ampolo, 2004) 209. Fischer–Hansen *et al.* think that the Leontine plain encompassed an area of about 400 square kilometers. De Angelis, however, estimates that total territory of Leontinoi to have been about 800 square kilometers (De Angelis, 2000) 128–9. These estimates are so wildly divergent because of a lack of firm evidence concerning territorial borders in the area, and there is little to recommend one over the other, although it seems more likely than not that the larger of the two comes closer to the ancient reality, at least by the end of the archaic period.

<sup>191</sup> The importance of grain in particular is noted at Diodorus Siculus, 14.58.1, which reference is also cited at (Fischer–Hansen, Nielsen & Ampolo, 2004) 209. De Angelis designates 80% of the territory of Leontinoi as “agricultural land” (De Angelis, 2000) 125, and also provides a more detailed explanation of the estimated southern, western, and northern boundaries of the *chora*, the eastern terminus being the mouth of the San Leonardo River. (De Angelis, 2000) 126–9.

<sup>192</sup> Thucydides, 6.3.3.

<sup>193</sup> Thucydides, 6.4.1.

<sup>194</sup> (Sammartano, 1994) 62.

Leontinoi.<sup>195</sup> The earliest excavator at Leontinoi was Orsi, who published on the site intermittently over the course of the first thirty years of the twentieth century.<sup>196</sup> His largely conjectural conclusions concerning the urban landscape of the earliest settlement may have been informed by his intimate knowledge of other early western Greek settlements,<sup>197</sup> but they were perhaps also unduly manufactured to fit the description given by Polybius. Most of the subsequent work in and around Leontinoi has been conducted by Rizza, and has focused largely on creating a better understanding of the fortifications, overall plan, and individual sacred and private buildings of the ancient city.<sup>198</sup> The discovery of the line of the city's fortifications has confirmed that the Polybian picture—a description of the hellenistic city—is, at least for the latter half of the archaic period, a mostly accurate one.<sup>199</sup>

As regards the overall makeup of the urban space, there has been little in the way of success; as a result, there is not much that can be said securely about specific aspects of the urban layout.<sup>200</sup> The basic location seems clear: the ridges that include the San Mauro hill and the Metapiccola hill, and the valley between them. Less clear is the whether or not the earliest settlement encompassed the entirety of this area, or whether the settlement of Leontinoi started small and grew out “organically,” as

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<sup>195</sup> (Frasca, 2009) 41–2 compiles an up-to-date recounting and assessment of the various attempts that have been made at untangling the problems of reconciling the literary sources, both with themselves and with the archaeological evidence. Among the questions of highest priority has been establishing the presence (or absence) and location of Sikels in and around Leontinoi in the late eighth and early seventh centuries. More generally, however, the focus of excavation and research throughout the twentieth and now twenty-first centuries “has consisted of the verification of the reliability of the (ancient literary) sources and of identifying more precisely the location of some of the other places cited (by the ancient sources).” (Frasca, 2009) 55. As he goes on to note, Frasca here is referring to the search for places to fit the names or descriptions of places given by various ancient authors: the overall description of the city as offered at Polybius 7.6.1–6; a fort somewhere in the *chora* called Brikinniai mentioned at Thucydides at 5.4.4; acropoleis and necropoleis mentioned at Diodorus 16.72.2; and the late seventh-century gates of the city as tangentially described in an anecdote concerning the tyrant Panetios at Polyaeus 5.47.

<sup>196</sup> These publications range from commentaries on the presence of Greeks and Sikels in the settlement, (Orsi, 1900) and the nearly identical (Orsi, 1901), to pottery studies (Orsi, 1930a), to excavation reports (Orsi, 1930b).

<sup>197</sup> (Orsi, 1930b), as discussed at (Frasca, 2009) 54.

<sup>198</sup> See the bibliography for an extensive listing of relevant excavations conducted and published by Rizza.

<sup>199</sup> Nineteenth and early twentieth-century debates over the topographical location of Leontinoi have been largely resolved with the identification of the San Mauro and Metapiccola hills as the center of the ancient city, for which see (Frasca, 2009) 54–7. It should be noted that, while this second-century B.C. description (Polybius 7.6.1–6) does seem to fairly well match the general description of the urban area in the later archaic period as delineated by the line of the sixth century city walls, it does not necessarily follow that settlement had already taken this precise shape as early as the late eight or even seventh century.

<sup>200</sup> (Frasca, 2009) 63.

apparently happened at Naxos, or if it was extensively laid out and planned from the beginning, as was the case at Megara Hyblaea.<sup>201</sup> Also unclear is the relationship between the rivers and the early city; if there was any sort of early port, no trace of it has been found, but it is still more likely than not that both the Lisso and San Leonardo Rivers were important factors in determining the site of the settlement.<sup>202</sup>

Frasca lists six contexts in which eighth and/or early seventh-century material has been found in significant quantity: 1) the south side of San Mauro hill, 2) associated more specifically with a rock-cut dwelling on the south side of the San Mauro, 3) in the San Mauro valley, near the later southern gate of the city wall, 4) associated with a rock-cut dwelling on the western side of the north end of Metapiccola hill, 5) at the northern edge of the San Mauro valley, near the northern gate of the later city wall, and 6) outside of the San Mauro valley, in the present-day Piazza Umberto, in an area near the Lisso River.

Judging from the wide topographical spread of these areas, Frasca concludes that Leontinoi was not, like Naxos, originally a compact settlement, but that it was rather spread out among various nuclei, one centered on the San Mauro Valley, another along the western side of the San Mauro hill, and a third in the plain immediately to the north of the San Mauro valley.<sup>203</sup> Rizza, on the other hand, has argued that the early archaic remains on San Mauro belong to the Greek settlement, while those on Metapiccola hill belong to an indigenous settlement that was in place before and continued to exist during the first few decades that followed the arrival of the Greeks.<sup>204</sup> According to this view, it was only later that the Greek settlement expanded to take in both hills and the valley that lies between them.<sup>205</sup> That the urban center of Leontinoi did eventually encompass this area is beyond doubt, as it is all enclosed by the sixth-century fortification wall. However, even if the initial hypothesis is correct, that some group of Sikels initially lived on Metapiccola hill in isolation from their new Greek neighbors located on the San Mauro, it is still an open question as to whether or not the Sikels stayed or remained as the two separate settlements merged into one.

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<sup>201</sup> Rizza argues for the former, seeing the southern side of the San Mauro hill as the location of the earliest settlement, with the northern side of this hill and the Metapiccola being inhabited later (Rizza, 1978); (Frasca, 2009) 64.

<sup>202</sup> Grasso notes that this area sees the convergence of these rivers, and another (the S. Eligio and Reina), and from this she speculates that it must have also been “an area of the confluence of traffic and contacts...” (Grasso, 2009) 1.

<sup>203</sup> Frasca further conjectures that these different “quarters” might have been occupied by peoples of different ethnicities, Chalcidian, Phocaeen, and Sikel, but this is nothing more than conjecture inspired by the reports of the various later literary sources. (Frasca, 2009) 64–5.

<sup>204</sup> As Frasca again notes, this interpretation has won the majority of scholarly support, including: (Finley, 1979) 39, and (Cordano, 1986) 109.

<sup>205</sup> (Rizza, 1962) 25; (Rizza, 1957) 66, both as cited at (Frasca, 2009) 42.

Frasca also reports on the possibility, ascribed by him to an opinion once expressed by Vallet at a public lecture, that the Sikel material on Metapiccola hill is in fact altogether earlier than the Greek settlement, and that there was no overlap between Greeks and Sikels there at all.<sup>206</sup> On the opposite end of the spectrum, Leighton—who, it should be noted, approaches the evidence from a somewhat different angle, as his research primarily concerns the archaeology of pre-Greek Sicily—concludes both that the Sikels were still on Metapiccola when the Greeks arrived and that Sikels and Greeks lived together in the early settlement on San Mauro hill.<sup>207</sup> As Frasca notes, Leighton’s position is in large part dependent upon his belief that a certain type of indigenous pottery persisted through the eighth century, as this pottery has been found both on Metapiccola and among the earliest contexts on San Mauro.<sup>208</sup> Frasca himself prefers to follow the suggestion of Vallet, claiming that the “village” on Metapiccola must have already been abandoned by the time of the earliest Greek settlement, due to the fact that its ceramic record lacks examples of the so-called Pantalica Sud style, a type of pottery produced in the area during the last quarter of the eighth century and found, for example, in the pre-Greek strata on San Mauro hill.

This debate gains relevance for the understanding of patterns of economic activity when looked at in light of the architecture of early Leontinoi. The topography of the area only partially explains a rather unusual architectural practice apparently in use throughout and beyond the archaic period: the construction of dwellings and complexes cut directly into the rock along the steep slopes of the San Mauro and Metapiccola hills. Such a building style, although perhaps necessitated by the terrain of hills, was by no means common in contemporary Greek contexts, and the technique used in the construction of the dwellings at Leontinoi is comparable to that used in the construction of earlier and contemporary indigenous dwellings and tombs.<sup>209</sup> This need not necessarily imply that the inhabitants or even builders of these structures were themselves Sikels. However, much like the presence of Sikel pottery, construction in a decidedly non-Greek style at the very least does imply a high level of contact and interaction between the early inhabitants of Leontinoi and the neighboring indigenous population.

Many of these rock-dwelling are still visible on the slopes of the San Mauro and Metapiccola hills, but few have been explored archeologically, and most are of indeterminate usage date.<sup>210</sup> There are, however, a few exceptions. Among these is a

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<sup>206</sup> (Frasca, 2009) 42 n. 30.

<sup>207</sup> (Leighton, 1999) 188.

<sup>208</sup> (Frasca, 2009) 43.

<sup>209</sup> (Frasca, 2009) 71.

<sup>210</sup> Most of these have not been explored archaeologically, and the long periods of usage common to these structures often makes it impossible to date them. This is the case, e.g., with one such structure

three-room structure carved into the rock on the south side of the San Mauro hill.<sup>211</sup> Discovered within these rooms were multiple habitation levels, indicating that these rooms were in use throughout the archaic period. The three rooms are internally connected to one another. At the back of the westernmost room was found a bench carved into the rock, 40 cm tall and 70 cm deep, above which was carved a niche. A large pithos was found placed into a cut in the floor of the middle room, as was a circular pit in the easternmost. The pottery connected to these features all dates to the eighth and seventh centuries, indicating that these rooms were part of the earliest settlement at Leontinoi. On the beaten-earth floors of all of these, underneath other later fills, was found a destruction deposit filled with pottery and marked with traces of burning.

All of the material in this deposit dates to the eighth and seventh centuries. Most abundant are sherds of local pottery of various shapes and sizes, but also present are some Late Geometric Corinthian and Protocorinthian imports, including a large fragment of a Thapsos cup. Independent of this structure, an abundance of late eighth and seventh-century pottery has been recovered on the south end of San Mauro hill. Given their sheer volume, these sherds constitute perhaps the surest evidence concerning the nature and location of the earliest Greek settlement. Otherwise, not much material datable to the eighth and seventh centuries has been found on the hill, where the steepness of the terrain and the re-usage of the same spaces over many centuries has not left many sure traces of the earliest Greek activity in the area.<sup>212</sup> Among the ceramic remains in these rooms and scattered more generally over San Mauro hill are shapes characteristic of Sikel types, including a number of three and four-handled incised bowls, a shape *cum* decorative scheme known from the late eighth century necropolis at Finocchito.<sup>213</sup> However, it is unclear whether the presence of these cups is evidence for the presence of Sikels living within the settlement or of trade or some kind of exchange with neighboring Sikels.

The other deposits of early material at Leontinoi are situated in less clear contexts. A large quantity of material of indeterminate context and dating to the end of the eighth and first half of the seventh century was found in San Mauro valley, in an area underlying a later sixth-century roadbed.<sup>214</sup> More evidence of both the local production and importation of pottery was found during Rizza's excavations of the

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on the south side of San Mauro hill excavated by Rizza, in which material of widely varying dates was found in complete stratigraphical disarray (Rizza, 1957) 69-70.

<sup>211</sup> (Rizza, 1978) 33-4; (Rizza, 1994) 120.

<sup>212</sup> (Rizza, 1978) 33.

<sup>213</sup> The *comparanda* from Finocchito have a date range of 730-650: (Frasca, 2009) 43.

<sup>214</sup> (Rizza, 1978) 35.



city's northern fortifications.<sup>215</sup> Nearby on the Metapiccola side of the valley a small quantity of eighth-century material remains has also been uncovered on Crocefisso hill.<sup>216</sup>

More than a kilometer northwest of the San Mauro/Metapiccola urban center lies the co-called Heraion of Scala Portazza.<sup>217</sup> Located south of the course of the Lisso River, this sanctuary consists of two terraces surrounded by a *temenos* wall.<sup>218</sup> In the lower/northern terrace an altar has been discovered, along with a kiln used to make architectural terracottas. The upper/southern terrace has been less thoroughly explored, and is consequently more poorly understood. There, traces of a number of structures have been found, including some which may be the remains of a temple. The skeletal remains associated with all phases of animal sacrifice at Scala Portazza consist mostly of cow bones, although pig and sheep remains are also common.<sup>219</sup> The discovery of a number of *ostraka* with graffito inscriptions reading HE has led to the tentative identification of this sanctuary as an Heraion.<sup>220</sup>

The earliest material associated with this sanctuary dates to the final quarter of the eighth and first half of the seventh centuries. A thick burnt layer, filled with the charred remains of animal bones and fragments of Corinthian and Euboian pottery, was found directly underneath a succession of later archaic and classical altars. The excavators have suggested that this may be the remains of an early archaic ash altar.<sup>221</sup> The pottery associated with this burnt area consists mostly of small subgeometric kraters and dinoi “similar to Euboio-Cycladic products of the second half of the eighth century,” and Corinthian cups of the late eighth/early seventh century.<sup>222</sup> Directly to the north are the fragmentary remains of an early wall, interpreted by Frasca as a *temenos* boundary wall.<sup>223</sup>

Another of the site's excavators suggests that, given the location of the Scala Portazza sanctuary, it may constitute an early attempt on the part of the settlers to assert their claim over the fertile territory that lies north of the sanctuary.<sup>224</sup> He

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<sup>215</sup> (Rizza, 1978) 35-7. It is possible that the first fortifications at Leontinoi were constructed in the first half of the seventh century, and perhaps even earlier. Tréziny has suggested for Leontinoi a ditch and earthwork fortification analogous to the one recently discovered by the French at early Megara Hyblaia, but the nature and extent of this—if in fact it did exist—is poorly understood. See discussion at (Frasca, 2009) 67-8. The first stone city wall at Leontinoi does not appear until the sixth century.

<sup>216</sup> (Basile, 1995) 390.

<sup>217</sup> Figure 5.

<sup>218</sup> Figure 6.

<sup>219</sup> 35% bovine, 18% swine, 19% sheep/goat, 27% indeterminate (Sudano, 2009) 7.

<sup>220</sup> The earliest of these graffiti dates to the first quarter of the fifth century, and is found on a sherd of a Type B Ionian cup (Frasca, 2005) 143.

<sup>221</sup> (Frasca, 2009) 79; (Sudano, 2009) 3.

<sup>222</sup> With this phrasing, Sudano seems to be leaving open the question of whether or not the kraters and dinoi are imports. (Sudano, 2009) 3.

<sup>223</sup> (Frasca, 2005) 142.

<sup>224</sup> For the general reasoning that underlies this suggestion, see (de Polignac, 1995).

compares this to the story related by Thucydides concerning the foundation of the altar of Apollo Archegetes, seeing the establishment of the divine as a means of legitimating a new communal presence.<sup>225</sup> This narrative of colonization and domination may be somewhat specious; more certain is that this was the site of cultic activity, which itself can be seen a specialized type of economic consumption, in this case of livestock, locally produced and imported pottery, and, most likely, other foodstuffs.

The earliest known burials from the area of Leontinoi date to the late eighth and early seventh centuries, but have not been generally recognized as “Greek.” These are the necropoleis of the Ruccia quarry and S. Aloe, both of which are very near to the settlement itself. Common among the grave goods associated with the burials that have been found are three and four-handled bowls with incised decoration, a type characteristic of eighth and seventh century Sikel style and manufacture.<sup>226</sup> Based upon the presence of these bowls, and the method of burial (fetal position), these have been typically labeled Sikel graves, and thus Sikel graveyards. The late eighth and early seventh century graves of the Ruccia quarry have been associated with an indigenous settlement on Metapiccola hill, an indigenous cemetery for an indigenous settlement. Frasca, however, has pointed out that the indigenous material from Metapiccola most likely dates to the tenth and ninth centuries; he thus rejects the association, as the Ruccia graves must date to no earlier than the late eighth century. The location of a Sikel settlement that could correlate to the S. Aloe necropolis is similarly unknown.<sup>227</sup>

Leighton has preferred a different interpretation of these graves. He argues that this is a mixed cemetery, containing the remains of both Greeks and Sikels, and that Greeks and Sikels are sharing a burial space because these necropoleis belong to a period of cohabitation between the newcomers and natives.<sup>228</sup> Frasca, while conceding that these graves also contain “a large number of vases of Greek production or evidencing a strong Greek influence,”<sup>229</sup> rejects this conclusion outright.<sup>230</sup>

Judging from the totality of the archaeological evidence, local production of pottery seems to have begun nearly contemporaneously to the foundation of Leontioni.<sup>231</sup> In fact, local ceramics make up the preponderant proportion of all the

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<sup>225</sup> (Sudano, 2009) 3.

<sup>226</sup> (Rizza, 1962) fig 5, 14; (Frasca, 1981) 88; (Frasca, 2009) 43-4.

<sup>227</sup> He is careful to point out, however, that the excavations on Metapiccolo have been limited in their scope, leaving open the possibility that later material might be found if more excavation were conducted, especially on the side of hill that faces the Ruccia quarry (Frasca, 2009) 44.

<sup>228</sup> (Leighton, 1999) 241 ff.

<sup>229</sup> (Frasca, 2009) 44.

<sup>230</sup> (Frasca, 2009) 32-5.

<sup>231</sup> (Rizza, 1985).

sherds excavated in the area of ancient Leontinoi, and appear in large numbers in nearly all the archaic deposits and fills dug throughout the site.<sup>232</sup> This locally made pottery consists of a variety of types, both in regard to the technique of their production, and in regard to their decoration. Rizza notes that, in particular, a Corinthianizing style seems to have flourished at Leontinoi during the last quarter of the eighth and early seventh centuries.<sup>233</sup> At the same time, while Euboian imports are fewer in number, a Euboianizing influence can also be seen in the local products. Overall, the repertoire of shapes produced locally is similar to those made at Naxos,<sup>234</sup> which, as discussed above, were heavily influenced by Euboian and Cycladic styles. The most commonly produced shapes, according to Frasca, include: lekanai, kraters with out-turned lips, wide-rimmed plates, skyphoi, large drinking cups, bottles and hyrdia, along with Corinthianizing shapes such as skyphoi, kotylai and Thapsos cups.<sup>235</sup>

Production at Leontinoi—as opposed to production at Naxos—also prominently included large decorated pots, especially kraters with feet, deinoi and cylindrical-necked amphorai. Rizza notes an overall predominance in the seventh century of orientalizing decorative motifs, although this is a common feature of local pottery production throughout early archaic Greek Sicily.<sup>236</sup> The larger vessels were typically decorated with geometric designs (groups of lines, meander patters, chevrons, etc.), often set within reserved panels. While birds are the most common type of figural decoration,<sup>237</sup> human figures also appear amongst the decorative motifs of these larger pots with notable frequency.<sup>238</sup>

While much might be said about specific examples, or even decorative trends and the links between Leontinoi and other places that these might imply, it is more immediately important to note the extent and range of fineware pottery that was produced in the late eighth and early seventh centuries at Leontinoi, and the variety of uses to which this pottery seems to have been put. Frasca suggests the larger decorated pots may have been used as grave markers, although none were found in

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<sup>232</sup> (Rizza, 1978) 36.

<sup>233</sup> Imports and locally made pottery are primarily distinguished by the color and character of the clay, and quality of the execution of the firing technique. (Rizza, 1978) 35. Frasca's description of the texture of the local pottery: "the local products are characterized by a clay grayish pink in color, covered in a matte paint that varies in tone from black to brown to red, on top of a clear slip...(and) the firing tends to be non-uniform, resulting in technical defects, which appear as blisters and other surface irregularities." (Frasca, 2009) 84.

<sup>234</sup> (Frasca, 2009) 84.

<sup>235</sup> (Frasca, 2009) 84.

<sup>236</sup> (Rizza, 1978) 36; (Rizza & De Miro, 1985) 140-2, 151-4, 167-9.

<sup>237</sup> (Rizza, 1978) 37.

<sup>238</sup> Frasca provides a few examples at (Frasca, 2009) 84-9, one of which I reproduce as Figure 7.

such a context.<sup>239</sup> Regional export is another possibility, and usage as votive objects in graves is attested at the nearby S. Aloe necropolis.<sup>240</sup>

The imported pottery record from the settlement contexts matches roughly those of early Megara Hyblaia, Syracuse, and Naxos, featuring in the earliest period large quantities of Corinthian Late Geometric and Protocorinthian, and in the seventh century an increasing amount of Cycladic and East Greek material. Smaller quantities of Euboian imports appear throughout the early archaic record; Attic imports do not begin to appear in large numbers until the sixth century.<sup>241</sup>

### 2.2.3 *Katane*

Due to the fact of continual urban habitation of the site down through the present day, very little of ancient Katane has been excavated, leaving it “the least understood of the Sicilian cities.”<sup>242</sup> It seems clear that the site of Katane was inhabited prior to the establishment of the Greek settlement, as earlier remains have been discovered in nearly all the excavations conducted throughout the site of the ancient city.<sup>243</sup> However, very little material dating to the period just before the foundation of the Greek city in the last quarter of the eighth century has been found.<sup>244</sup> As for the extra-urban territory of the settlement, by the end of the archaic period, the *chora* of Katane included somewhere between 400–800 square kilometers of land. This territory, consisting of the northern half of the modern plain of Catania, and the slopes of Mount Etna, was bounded to the north by the territory of Naxos, the west and south by the territories of Leontinoi and various Sikel settlements, and to the east by the sea.<sup>245</sup> De Angelis estimates that roughly 60% of this was arable land.<sup>246</sup>

The modern Montevergine hill has seen more excavation than other parts of the city, and it is about this area of the archaic settlement that we know the most. It seems that this height was part of the Greek settlement from the very beginning; given its topographical location, Frasca labels it an acropolis.<sup>247</sup>

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<sup>239</sup> (Frasca, 2009) 86.

<sup>240</sup> (Frasca, 2009) 89.

<sup>241</sup> (Frasca, 2009) 77–9.

<sup>242</sup> (Frasca, 2000) 119.

<sup>243</sup> (Branciforti, 2005) 52. For extensive discussion of the pre-Greek remains, see (Procelli, 1992). See Figure 8 for the locations of excavations within the modern city.

<sup>244</sup> Frasca is able to cite only a single sherd (Frasca, 2000) 119.

<sup>245</sup> 400 square meters: (Fischer-Hansen, Nielsen & Ampolo) 206; 830 square meters: (De Angelis, 2000) 129. Much as is the case for Leontinoi, these estimates vary widely, but there is not much to choose between the two.

<sup>246</sup> Although he provides this estimate, De Angelis also concedes that “at present there exists no evidence on how Katane made use of its territory.” (De Angelis, 2000) 125, 129.

<sup>247</sup> (Frasca, 2000) 120.

Three excavations on Montevergine hill have revealed traces of early Katane. Some of these were found in the late 1970's and early 1980's excavations in the Benedictine Monastery on the hill.<sup>248</sup> No significant architectural remains were recovered, but large quantities of pottery dating to the end of the eighth and first half of the seventh century were unearthed. Among these were fragments of Thapsos cups, Protocorinthian kotylai, Rhodian band cups, kraters and other vessels of Euboian manufacture, Attic SOS transport amphorai, and local pottery decorated with geometric designs.<sup>249</sup> In the Reclusorio della Purità excavations on Montevergine hill, very little material belonging to the earliest settlement was recovered. Nothing ascribable to the eighth century was found, and a single sherd of a Protocorinthian kotyle is the only testament to the usage of this area during the first half of the seventh century.<sup>250</sup> The excavations in the Castello Ursino, southwest of Montevergine hill, also uncovered material dating to the late eighth and first half of the seventh century, including Thapsos cups.<sup>251</sup> For Rizza, these limited finds betray "the frequency and richness of the commercial and cultural relations between Katane and the most import centers in the Greek world."<sup>252</sup>

#### 2.2.4 *Zankle*

The city of Zankle was centered on a small tract of coastal plain nestled behind a sickle-shaped peninsula that juts out into the Strait of Messina to the north.<sup>253</sup> The urban area occupied both the peninsula (modern name San Ranieri) and the plain behind it. The peninsula, today a "low-lying sandy tongue," was in antiquity a few meters higher, while the port inlet was conversely much deeper.<sup>254</sup> This plain is bounded to the northeast by the course of the Portalegni River, and to the southwest by the basin of the Zaera River.<sup>255</sup> This entire stretch of coastline is fairly flat, sloping only slightly upward toward the Peloritani mountains that lie to the south.

Little is known of the character or plan of the urban center, since excavation has been sporadic and largely limited by continual habitation of the area up through the present day.<sup>256</sup> Frequent alluvial deposits and the occasional drastic seismic activity may have combined to partially obliterate the fabric of the ancient city and

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<sup>248</sup> (Giudice, Procelli, Frasca, Albanese, 1979) [*non vidi*]; (Rizza, 1984-5) 848-53; (Frasca, 2000) 120-1.

<sup>249</sup> (Rizza, 1996) 15.

<sup>250</sup> (Amari, 2005) 62.

<sup>251</sup> (Rizza, 1996) 17; (Patanè, 1993-94) 912.

<sup>252</sup> (Rizza, 1996) 17.

<sup>253</sup> Figure 2 & Figure 9.

<sup>254</sup> (Bacci, 2002a) 25-6.

<sup>255</sup> About 1000 meters, measured north to south (Scibona, 1987) 448; (Bacci, 2000) 240; (Gras, 2002) 20.

<sup>256</sup> On the causes and nature of this problem, see (Gras, 2002).

alter the organization and appearance of its territory.<sup>257</sup> One cannot speak of any real plan or regular overall alignment; areas apparently purposely left empty, quite near to both the known structures and to the port area, seem to have existed, but no explanation for these seems apparent.<sup>258</sup>

Chance finds and rescue excavations have brought to light clusters of archaic and classical remains that were part of the main habitation center of the Greek city.<sup>259</sup> These come from five distinct sectors of the modern city of Messina: the San Ranieri peninsula, the area situated around the port, the “central station” and piazza Cairoli, via Cesare Battisti and the area to the south of it, the area of via S. Marta and via S. Cecelia in the southeastern part of the city, and the area surrounding the San Cosimo river, about 1300m south of the city proper.<sup>260</sup> In this area, all the buildings are set out on a roughly consistent northwest-southeast orientation, aligned perpendicularly with the coastline and parallel to the rivers. Two major phases of building have been distinguished, both by pottery dates and by stylistic considerations of construction technique. The first is roughly dated to the late eighth and seventh centuries (principally Isolati 224 and T); the more recent date from the sixth/fifth centuries.<sup>261</sup> Isolato 224 revealed remnants of three houses belonging to the same “insula,” which were divided by narrow walkways. Found associated with these houses was an assortment of pottery, both local and imported. Among the latter category, there are fragments of Thapsos Cups and a multitude of various Protocorinthian sherds.<sup>262</sup> Further west, in Isolato 158, excavations conducted in the 1990’s uncovered a series of sixteen wells that were found to contain Thapsos cups and other ceramic material datable to the eighth and first half of the seventh centuries.<sup>263</sup>

The ancient port area, which included the mouth of the Portalegni River, comprised the innermost part of the bay that lay directly north of the city. In the area directly behind the bay has been discovered archaic material,<sup>264</sup> and probably also in the very southwestern-most part of the peninsula itself. The rest of the peninsula seems never to have been fully “urbanized.” However, at the northern extremity of the peninsula, there is evidence for religious activity from the late eighth through

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<sup>257</sup> (Bacci, 2000) 240.

<sup>258</sup> This reservation of space calls to mind the early urban layout of Megara Hyblaia, and contrasts with the picture sketched above for early Naxos.

<sup>259</sup> (Bacci, 2000); (Bacci, 2002).

<sup>260</sup> (Gras, 2002) 14.

<sup>261</sup> (Bacci, 2000) 241-3; (Bacci, 2002a) 26-8.

<sup>262</sup> (Scibona, 1987) 436; (Gras, 2002) 17.

<sup>263</sup> (Gras, 2002) 19.

<sup>264</sup> Primarily the area marked “Chiesa dell’Alemanna” on the map, but also further inland near the modern Piazza Cairoli, where quantities of Protocorinthian sherds have been excavated (Scibona, 1987) 436. Slightly further east, in the area of Isolato 290, fragments of Thapsos cups have been recovered, and these are easily the earliest pottery known from the site (Scibona, 1987) 436, 448; (Gras, 2002) 16.

sixth centuries. In the area now known as Forte S. Salvatore, Orsi uncovered a votive deposit of material from eighth and seventh centuries, including Protocorinthian aryballoi.<sup>265</sup> Thus, this deposit dates to the earliest period of the Greek city, and is the earliest known sanctuary area at Zankle.

The territory of Zankle seems to have extended from a very early period into the plain of Mylai that lies further west on the coast.<sup>266</sup> Otherwise, the *chora* is acutely circumscribed to the north and east by the sea, and to the south by the sharply rising Peloritani mountains. De Angelis estimates that, inclusive of the plain of Mylai, Zankle eventually had a territory of over 1,100 square meters, of which about 60% would have been “agricultural land.”<sup>267</sup> This land, like the *chora* of Naxos, seems to have been particularly well-suited for vine cultivation.<sup>268</sup>

The Peloritani mountains separate clearly the two parts—Ionian and Tyrrhenian—of the *chora* of Zankle. This range, which rises south of the urban center of Zankle, is an unusually metal-rich area of Sicily.<sup>269</sup> Veins of metal—primarily copper and lead, but also iron—are situated close to the surface, an “obvious advantage given protohistoric technology.” Judging from the location of indigenous settlements sites, exploitation of these metal resources was an integral component of economic life in this region; the vast majority of Late Bronze Age, Final Bronze Age, and Early Iron Age sites in the Peloritani mountain range are areas with mining potential, especially during the Iron Age, when there are only two known exceptions to this rule.<sup>270</sup> Giardino cites, in particular, a settlement at Fiumedinisi as a likely producer of metals in the Late Iron Age.<sup>271</sup> For the larger *chora*, Bacci suggests the Mela river might have marked the western boundary, beyond which are found the fortified settlements of Monte San Onofrio and Monti Ciappa e Pirgo, which are perhaps to be identified with the “Siculo-Greek” center of Longane.<sup>272</sup>

As at Naxos and Leontinoi, it seems that local pottery was produced at Zankle almost immediately upon the establishment of the settlement. The styles of these pots—both shapes and decorations—were derived mostly, but not exclusively, from Euboian types. Examples of these have been found among the earliest levels of habitation, and continue to be produced for “quite a long period” thereafter. More

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<sup>265</sup> (Orsi, 1929); (Gras, 2002) 15.

<sup>266</sup> (De Angelis, 2000) 131; (Bacci, 2000) 242.

<sup>267</sup> (De Angelis, 2000) 125.

<sup>268</sup> (De Angelis, 2000) 131; (Pace, 1958) 400; *BTCGI* 10.9-10.

<sup>269</sup> (Giardino, 1995) 307-8.

<sup>270</sup> Giardino's Figures 63, 64, 65, lists of Late Bronze Age, Final Bronze Age, and Early Iron Age metal-rich sites in the Peloritani mountains.

<sup>271</sup> Bacci even suggests the possibility of ancient silver-mining at Fiumedinisi (Bacci, 2000) 243. Compare (Rutter, 1997) 105, wherein he asserts that there was no source of silver in all of Sicily.

<sup>272</sup> (Bacci, 2000) 243.

specifically, this early pottery can be directly compared to counterparts from Naxos, as well from Pithekoussai and Kumai.<sup>273</sup>

Prominent among the open-shaped vessels are various fragments of *lekanai*—the type Coldstream suggests was used as eating bowls—all of a Late and Sub-Geometric Euboianizing style, and all from the very late eighth and seventh centuries. Common decorative motifs include stars, wheels, whirls, and nearly concentric dots clustered around the outside. Many of these can be directly compared to counterparts from Naxos or Pithekoussai.<sup>274</sup> Corinthianizing cups are also known from the late eighth and seventh centuries, especially imitation Thapsos cups. These are distinguished from imports by their reduced size, thinner walls, and “S” profile. The production of imitation Protocorinthian *kotylai* is evidenced by a sherd whose decoration features a “bowtie” and vertical lines below the lip.<sup>275</sup> Other non-Euboian types include a fragment of a large cup with many small panels of zigzag decoration, connected stylistically with Cycladic prototypes, and *krater* fragments, comparable to a subgeometric orientaling Attic type datable to the first half of the seventh century, and found frequently at Megara Hyblaia.

Also attested by the evidence from the earliest levels at Zankle is the local production of imitation Phoenician red-slip plates. Bacci speculates that the presence of locally produced imitation red-slip ware is indicative of “residents of Phoenician origin.”<sup>276</sup> She also notes that, among Greek settlements in Sicily, this sort of imitation red-slip ware is found exclusively at Zankle.<sup>277</sup> Coldstream, on the other hand, compares the plates made at Zankle to eighth-century imitations of Phoenician red-slip plates at Pithekoussai,<sup>278</sup> which are distinguished by the addition Late Geometric decorative motifs to the distinctive red-slip.<sup>279</sup>

Among closed-shaped vessels, *oinochoai* are common.<sup>280</sup> One pot compares directly with a known example from the island of Naxos, another from Sicilian Naxos. The other sherds are largely characterized by their eclectic decoration patterns, *e.g.*, a serpentine line punctuated by dots, or a curvilinear orientaling motif. A couple in their decorative syntax approach examples of a Kumaian or Italo-Geometric (central Italy) of style, which had been in turn influenced by Pithekoussan and Kumaian types. Bacci considers the above described to be local, but also lists five others she labels imports. Also present in large numbers: small one-handled jugs of a type considered, in a broad sense, “colonial,” and documented at a number of

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<sup>273</sup> (Bacci Spigo, 1986) 249–50.

<sup>274</sup> For specific examples, see (Bacci Spigo, 1986) 253–4.

<sup>275</sup> (Bacci Spigo, 1986) 258.

<sup>276</sup> (Bacci, 2000) 244.

<sup>277</sup> (Bacci, 1998)

<sup>278</sup> (Coldstream, 2004) 44.

<sup>279</sup> (Buchner, 1982) 289–90.

<sup>280</sup> On the *oinochoi*, see (Bacci Spigo, 1986) 254–5, from which the following information is culled.



“Euboian” sites (Mylai, Metauros and Naxos), as well as at sites from the Middle/Lower Tyrrhenian area “frequented by Euboian commerce.” Production of these lasts from end of the eighth century the end of the seventh.<sup>281</sup> Fragments of locally made hydriai found at Zankle are of a type that dates from the end of the eighth century down through the first decades of the sixth. The type is above all known at Samos, but was prevalent throughout East Greece, and was widely diffused throughout the west, including notably at Megara Hyblaia, Selinus, Gela, Himera, Mylai and, Naxos though not Metauros.<sup>282</sup> Bacci considers, however, most of the examples known from Zankle to be local products.

From the foundation of the settlement and throughout the seventh century, Corinthian “abounds” among the imported pottery at Zankle.<sup>283</sup> The earliest are Late Geometric and Protocorinthian Thapsos cups. Although these are attested both with and without panel decoration, three types of metope decoration, all well known in the Greek west, are attested at Zankle: series of vertical sigmas in three segments, lozenges connected with a central point, and small reversed sigmas. Almost all the fragments belong to medium or large size cups. Their size and careful decoration make two especially large Corinthian kraters from Corinth, datable to the first half of the seventh century, worthy of note.<sup>284</sup>

Frequent, but less common, are Euboio-Cycladic imports. The earliest Late are Geometric cups, including fragments of chevron skyphoi.<sup>285</sup> Late Geometric kraters of Euboian type are also known, including fragments featuring bird panel decoration.<sup>286</sup> Hydriai similar in style to the local products mentioned above attest to the importation of East Greek wares. Attic imports in the early period are mostly limited to SOS transport amphorai,<sup>287</sup> although Attic black-figure comes to predominate among the sixth-century imports.

Phoenicio-Punic red-slip ware has also been found in the late eighth and seventh-century levels.<sup>288</sup> Etruscan bucherro, specifically carinated kantharoi with

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<sup>281</sup> (Bacci Spigo, 1986) 255.

<sup>282</sup> (Bacci Spigo, 1986) 257-8.

<sup>283</sup> (Bacci Spigo, 1986) 269. Bacci considers most, if not all, of the examples known from Zankle to be local products.

<sup>284</sup> (Pelagatti, 1982) suggests these might have been “prestige gifts”; (Bacci, 2000) 244 similarly suggests that they might have been ended up at Zankle for “motives other than commercial concerns.”

<sup>285</sup> Examples include: at least one chevron skyphos fragment, a cup with large reserved band between the handles, which likely would have been horizontal like those of a chevron skyphos (likely Late Geometric because of its high profile and the regularity of the panels), a small fragment of a cup comparable to cups decorated with small panels of fillers made up of marginal lozenges. (Bacci Spigo, 1986) 251 ff.

<sup>286</sup> (Bacci Spigo, 1986) 253.

<sup>287</sup> (Bacci, 2000) 245.

<sup>288</sup> (Bacci, 2000) 243.

rosette decoration, is also present.<sup>289</sup> Egyptian ushabti vases that perhaps come from the area of the Camaro River, and compare to material found in the oldest Greek tombs on Lipari, round out the early import record.<sup>290</sup>

### ***2.3 The early period: summary, synthesis, and preliminary analysis***

As this review has shown, the evidence for the economies of early Naxos, Leontinoi, Katane, and Zankle is limited, but the situation is far from hopeless. The available information does create a number of starting points for investigation, and angles for the pursuit of explanation. Here I offer a brief summary of the evidence discussed at length above, organizing the material in ways perhaps more conducive to thinking about economic function, and anticipating slightly the uses to which this and similar evidence will be put in chapter three.

Uniformly lacking is information concerning the *chora* of these cities, both the extent thereof and production within. In particular, direct evidence for agricultural activity is almost non-existent. This is due in large part to the lack of archaeological survey that has been conducted in Sicily.<sup>291</sup> The situation as it stands leaves little in the way of firm evidence on which to base our understanding of land usage and division. Borders and boundaries must be guessed at from the location of rivers, mountains, or other settlements, making it nearly impossible to estimate maximum productive capacities. Even more of a closed book is how these lands were used. De Angelis uses agricultural production data from the Early Modern period in order to make his assumptions about land usage and his estimates about carrying rates, but this methodology is far from ideal. Even if the natural components of the local ecologies did not vary over time, there is no good reason to think that the other variable in the land usage equation, patterns of human behavior and interaction with the land, remained constant over the course of the millennia that separate these periods. Given this dearth of direct information, and a lack of reliable comparative data, resort must be made to various forms of indirect evidence. And there might indeed be ways of using what evidence we do have to get around this and similar problems, at least to some degree, especially through creative use of the ceramic record. At Naxos, for example, the production of certain types of pottery may be taken as evidence for local production, and finds of locally made storage pots of all kinds most plausibly can be taken to imply the consumption of locally produced foodstuffs. Contemporary evidence for the storage of surpluses of grain at Megara Hyblaia establishes firmly the productive potential of the early Greek settlements,<sup>292</sup> and even if there is good reason to think that land usage patterns there may have

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<sup>289</sup> (Bacci, 2000) 240.

<sup>290</sup> (Bacci, 2000) 244; (Bernabó Brea, 1997).

<sup>291</sup> This problem is discussed in (De Angelis, 2000) and (De Angelis, 2003).

<sup>292</sup> (De Angelis, 2002).

differed considerably from those of places like Naxos or Zankle, one should not discount entirely the value of such information when contemplating neighboring early archaic economies.

For the structure and organization of the urban centers of early Naxos and Leontinoi, the archaeological record provides a better basis for account. For the former, the evidence presents a picture of a compact settlement that gradually sprawled out over the course of the seventh century. For the latter, it seems that the individual nodes of habitation and activity of the early settlement were more spread out from the start, and that, in this case, the gradual development was the strong urban nucleus. The situation at Zankle is less clear, due largely to the necessarily sporadic and disjointed nature of excavations under the modern city of Messina. Even more of a closed book is Katane, as the situation of modern Catania directly over top of the ancient city has allowed for only the partial excavation of a very small percentage of the early Greek settlement.

While the nature and extent of a settlement does not provide direct evidence for its economy, understanding the physical structure of a place and its relation to the area surrounding it does offer some insight into how its inhabitants chose and were able to interact with both their environment and populations outside their immediate and extended area of settlement. For example, the expansive nature of early Leontinoi may indicate that it was a place much more connected to and integrated with the surrounding people and areas than contemporary Naxos, whose compact settlement distribution centered on a coastal plain may imply a pattern of economy less engaged with outlying people and places.

Conjecture based upon observation of settlement pattern, however, could easily prove misleading, and in the case of Naxos and Leontinoi examination of finds within the city and the settlements and areas surrounding them can put such questions into clearer focus. The single most important class of evidence for the reconstruction of these economies, especially in this early period, is the pottery recovered at each site. In the first instance, the presence of so much locally made pottery, and from so early on, demonstrates that all of these places were, in some way, centers of production. Moreover, locally produced pottery can be used as evidence for specific kinds of production and consumption. Some can be tied to agricultural production, while in other cases, the variance and sophistication of shapes and decoration indicate more generally that the production of pottery transcended purely utilitarian concerns, that these were not objects made solely to meet only the most basic of needs.

All kinds of pottery can also be used to identify patterns of regional redistribution. While much attention is often given to the presence in the west of imports from Central Aegean Greece, long-distance traffic makes up only a part of the story. Local and regional movement of goods dwarfs long-distance interaction in terms of both volume and frequency. However, due to similarities in style and the

composition of the clay used to make the pots, it is nearly impossible to identify the movement of this class of goods between the Greek settlements in the ceramic record.<sup>293</sup>

## 2.4 *The archaeological evidence, c.650–490*

### 2.4.1 *Naxos*

Over the course of the second half of the seventh and the sixth centuries, the urban settlement at Naxos gradually continued gradually to expand.<sup>294</sup> The overall plan of the archaic city came to feature a network of rectilinear streets; these, however, were placed not within an orthogonal grid, but had various orientations.<sup>295</sup> The easternmost area of the peninsula, which constituted the core of the early settlement, did not fall out of use. Houses 2, 3, 4, and 5 seem to have been in continual use until their destruction at the end of the sixth century,<sup>296</sup> and a number of seventh-century and later structures have been found in the areas surrounding them, including the so-called Pastas House and other buildings adjacent to the area of the Castello Paladino.<sup>297</sup>

Just south of the Castello Paladino, were found the remains of an east-west seventh-century road and a number of structures built adjacent to it. Here “the good conservation of the remains, along with the near-total absence of classical-era houses, allows for the identification of two houses, and also provides insight into certain aspects of the organization of the city in the early archaic period.”<sup>298</sup> The two houses date to the middle of the seventh century, and were in use with only minor modifications until the end of the sixth. Although it is more characteristic of sacred buildings, the walls of some seventh and sixth-century houses feature polygonal masonry of the distinctive Lesbian style,<sup>299</sup> and these are among them. Of the two houses, one is poorly understood;<sup>300</sup> the plan of the other, the so-called Pastas House,<sup>301</sup> has been fully recovered.<sup>302</sup>

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<sup>293</sup> (Barone, et al., 2005); (Barone, et al., 2010).

<sup>294</sup> Figure 3; (Lentini, 2000) 116; (Mertens, 2006) 72.

<sup>295</sup> (Pelagatti, 1981) 297–302; (Mertens, 2006) 72. On the layout of Naxos within the context of urban planning in archaic Sicily, see (Di Vita, 1995).

<sup>296</sup> (Lentini, 2004) 30.

<sup>297</sup> (Lentini, 2004) 29.

<sup>298</sup> (Pelagatti, 1984–85) 815.

<sup>299</sup> (Lentini, 2000) 118.

<sup>300</sup> This is largely due to interference caused by a sixth-century reworking of the building that was part of its annexation to the property of the Pastas House (Pelagatti, 1984–85) 820–1.

<sup>301</sup> So-called because it conforms to the “pastas” style of house, characterized by a central courtyard off of which two to three smaller rooms open, a type that is known from sites throughout the archaic Greek world. For the type in general, see (Pelagatti, 1984–5) 819 n. 23–24. For this house as an example of a pastas house, see (Corden, 1995).

The outer walls of the house constitute a 13.5 by 7 m rectangle. The interior space is divided into three smaller rectangular rooms of roughly equal size (A, B and C), all of which open onto a long and narrow courtyard (D). Originally, this courtyard extended the entire length of the house uninterrupted; at some point during the sixth-century, however, a cross-wall was built to close off the southern end. The courtyard opens onto a narrow access road that itself opens onto the large east-west road that lies to immediately to the south. There is some evidence that a mechanism for a door or gateway was placed at the juncture of the city road and this narrow road, indicating that this was a private access-way that could be closed and secured from the inside. Directly across from courtyard D and opening off of this same narrow road, is another large courtyard, apparently an outdoor extension of the property.

Pottery accounts for by far the majority of material recovered from the Pastas House. This includes sherds of pots of all types: small and medium-sized open-shaped vessels (mostly cups and kraters), medium-sized and large closed-shaped vessels, cooking vessels, a “conspicuous quantity” of fragments of transport amphorai, and “some fragments” of pithoi.<sup>303</sup> Pelagatti remarks in particular on both the very large numbers of fragments of Corinthian, Attic, and, though less common, East Greek and Cycladic amphorai fragments that were recovered during the excavation of this house. A number of containers for foodstuffs, including these amphorai, came from the area of the courtyards, which may indicate that these were at least partially covered.<sup>304</sup> Conversely, she notes the relative paucity of imported fineware datable to before the first half of the seventh century.<sup>305</sup> The area of the narrow access road yielded a few fragments of Late Protocorinthian kotylai, locally made Euboianizing skyphoi, an imitation Thapsos cup and an imitation late Protocorinthian kotyle, as well as a sherd of a jug with cutaway neck,<sup>306</sup> the possible significance of which I discuss below in more detail. Room A contained mostly fragments of locally made imitation Protocorinthian and Euboianizing kotylai and skyphoi.<sup>307</sup> Many fragments of locally produced lekanai were found throughout the house,<sup>308</sup> of the type that Coldstream has suggested were used as eating bowls.<sup>309</sup>

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<sup>302</sup> Figure 10. Pelagatti refers to this house either as “casa a pastas n.1” or simply as “casa 1.” I will call it “Pastas House” in order to avoid confusion with the previously discussed houses of the eighth century, which are known only by arbitrarily assigned numbers. The following description of the Pastas House is compiled from the account given in (Pelagatti, 1984-5) 815-20.

<sup>303</sup> (Pelagatti, 1984-85) 820.

<sup>304</sup> (Pelagatti, 1984-5) 820 n. 27, 49-53.

<sup>305</sup> (Pelagatti, 1984-5) 836-37.

<sup>306</sup> (Pelagatti, 1984-85) no. 20-2, 28, 26, 29, and 24, respectively.

<sup>307</sup> (Pelagatti, 1984-85) no. 32-44.

<sup>308</sup> (Pelagatti, 1984-5) 838.

<sup>309</sup> See above discussion of pottery from early Naxos.

Both Pelagatti and Lentini compare the more elaborate form, more advanced and substantial masonry, and larger square footage of the Pastas House to the simpler plan, more basic construction, and smaller size of the earlier eighth-century houses (Houses 1-5). These differences are seen as evidence of a new, or at least more advanced, “social stratification” at Naxos during the seventh-century.<sup>310</sup> This may or may not be correct, but at the very least the Pastas House represents a single instance of an increase in the expenditure of resources on the construction and elaboration of domestic space. Whether this was due to an overall greater availability of resources at the time, a new concentration of resources in the hands of a particular individual who was both able and willing to expend resources in such a manner, or a combination of these factors, is harder to say.

Another archaic domestic area may have been uncovered in the northern sector of the city. The remains of a group of houses, and perhaps the traces of two parallel north-south roads, were uncovered on the south slopes of the Larunchi Hill. These all date to the post-archaic phase of the city, but underneath them were found the poorly preserved remains of older structures, whose polygonal masonry and associated pottery date broadly to the latter half of the seventh and sixth centuries. This pottery includes numerous cups featuring black-figure decoration, most of them of local or regional manufacture, and one outstanding example of a locally or regionally made small column krater. Fragments of architectural terracottas were also found.<sup>311</sup>

City walls were built at Naxos around the end of the sixth century. Large traces of the western extent of these, which ran along the Santa Venera River, have been uncovered,<sup>312</sup> as have portions of the eastern and southern spans. The walls feature polygonal masonry and gates that are in line with the earlier seventh-century city plan.<sup>313</sup>

The archaic harbor has long been assumed to lie in the northern part of the peninsula, east and perhaps south of Larunchi Hill.<sup>314</sup> Recently, at the foot of this hill, the remains of classical-era shipsheds have been identified and thoroughly excavated.<sup>315</sup> There are no indications, however, that this area was used for such purposes prior to the second half of the fifth century. The only archaic remains discovered in the area are seven pits located directly underneath the foundations for the shipsheds.<sup>316</sup> Within these, pottery dating from the late eighth through late sixth centuries was found. Most common are locally made Ionian Type B cups, oinochoai,

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<sup>310</sup> (Pelagatti, 1984-85) 821; (Lentini, 2000) 1009.

<sup>311</sup> (Pelagatti, 1982) 214, fig. 15-18.

<sup>312</sup> (Lentini, 1995) 180.

<sup>313</sup> (Pelagatti, 1972) 213-6.

<sup>314</sup> (Pelagatti, 1976-77) 538; (Lentini, 1993-4) 1009.

<sup>315</sup> (Blackman & Lentini, 2003) 387-8.

<sup>316</sup> (Blackman & Lentini, 2003) 428-34.

hydria, and lekanai. A few sherds of imported fineware were also recovered, including: a Euboian Late Geometric skyphos, Subgeometric Euboian kraters, a late seventh-century Chiot chalice, and fragments of Early and Middle Corinthian kotylai. Fragments of transport amphorai, mostly of the Corinthian A and Attic SOS types, were also found. The excavators speculate that, during the classical period, the area of the shipsheds may have been an exclusively military harbor,<sup>317</sup> but this does not preclude the utilization of this area in the archaic period as a more general usage harbor.

Just north of what seems to have been the city proper, and to the east of Larunchi Hill, have been found the remains of a series of three kilns.<sup>318</sup> The earliest of these dates to the late sixth century, while the material associated with the latest period of usage dates to the late fifth century. This is the first positive evidence for the location of a potters' quarter at Naxos outside of a sanctuary setting.<sup>319</sup> By the end of the archaic period, it seems likely that at least two potters' quarters were active.<sup>320</sup> Associated with the Scalia-Maloprovvido sanctuary just to the west of the city is a small circular kiln, the former lying to the north of the sacred area, situated just to the east of the small temple H. This is dated roughly to the first half of the fifth century B.C., and is aligned in its orientation to the streets of the classical city plan.<sup>321</sup> Nearby, however, were found a large number of archaic figurines, indicating that the production of ceramics may pre-date the construction of these particular structures.<sup>322</sup>

Mertens has suggested that the agora of Naxos might have been located in a largely unexplored triangular area in the middle of the city or in the old eastern quarter of the city, but both of these suggestions are equally speculative.<sup>323</sup> The latter, while not rendered impossible by the findings of Blackman and Lentini, is certainly not strengthened by them.<sup>324</sup>

The sacred space and architecture of the seventh and sixth centuries at Naxos is known through the remains of a number of buildings, and an even larger number of fragments of architectural revetments. Small shrines dot the areas to the north and northeast of the main area of habitation. Perhaps more significantly, two larger

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<sup>317</sup> (Blackman & Lentini, 2003)

<sup>318</sup> (Pelagatti, 1972) 213-5.

<sup>319</sup> Earlier sixth-century material indicates that this area might have been used for similar purposes before the construction of these particular kilns, but more precise information on how this space was utilized is not available (Pelagatti, 1972) 215.

<sup>320</sup> (Pelagatti, 1981) 297-302; (Lentini, 1995) 183. Although we know that pottery was being produced as early as the eighth century, we have no direct evidence for the location of this production until the late sixth century.

<sup>321</sup> (Lentini, 2000) 1013-14.

<sup>322</sup> (Lentini, 2000) 1014.

<sup>323</sup> (Mertens, 2006) 73.

<sup>324</sup> (Blackman & Lentini, 2003) 389.

sanctuaries have been found to the west; an “urban” one on the near, and a “suburban” one the far side of the Santa Venera River.<sup>325</sup>

Just east of the Santa Venera, in the southwestern area of the plain that constitutes the archaic city, lie the remains of a large sanctuary.<sup>326</sup> The material found within it suggests that this sanctuary was in use from around the end of the seventh century through the end of the archaic and into the classical period.<sup>327</sup> The divinity associated with this sanctuary is in dispute, with Aphrodite and Hera both having been suggested.<sup>328</sup>

Among the earliest features recovered are stretches of the foundations of two walls that separate the area from the mouth of the Santa Venera River that lies to the south and west (Walls F and C, respectively), a slightly later east-west wall that marks the northern temenos boundary (Wall E), and the scrappy remains of an small temple/shrine (Temple A). Temple A dates to the last quarter of the seventh century, and was destroyed in the second half of the sixth century.<sup>329</sup> The south *temenos* wall (Wall D), which also seems to have functioned as a city wall,<sup>330</sup> features the “most emblematic” example of the Lesbian-style polygonal masonry that proliferated throughout seventh and sixth century Naxos.<sup>331</sup> Gras speculates that the appearance of the widespread East Greek building technique might be indicative of the presence of itinerant craftsman from the eastern Aegean.<sup>332</sup>

Dating from the first quarter of the sixth century is a small altar, around which were found a scattered deposit rich in charcoal and animal bone. Finds include stele bases and deposits of pottery in the areas in between the walls, temple/shrine and altar.<sup>333</sup> There is also good evidence for the production of ceramics within the sanctuary during this period: the remains of two kilns.<sup>334</sup> Both were in use by the end of the seventh century, and seem to have continued to be used throughout the entirety of the sixth.<sup>335</sup> One is round, the other rectangular. The former was used for firing pots, perhaps specifically votives for use in the sanctuary, the latter for

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<sup>325</sup> (Lentini, 2000) 118.

<sup>326</sup> Figure 11.

<sup>327</sup> (Pelagatti, 1972) 215.

<sup>328</sup> (Lentini, 2000) 119.

<sup>329</sup> (Pelagatti, 1964) 153. For archaic terracottas associated with this temple, see (Gentili, 1956) fig. 9.

<sup>330</sup> (Gentili, 1956) 327, 330, fig. 4; (Pelagatti, 1964) 154.

<sup>331</sup> (Pelagatti, 1964) 155-60; (Lentini, 1993-4) 1019; (Lentini, 2000) 118. For fuller discussion of the prevalence and proliferation of so-called Lesbian walls in archaic Sicily, see (Barletta, 1983). This particular wall is dated by deposits of mid-sixth-century pottery, both imports and local products, associated with its foundations (Gentili, 1956) fig. 5-6.

<sup>332</sup> (Gras, 1998) 105 ff. [*non vidi*], as cited at (Lentini, 2000) 118.

<sup>333</sup> (Pelagatti, 1972, 215-6.

<sup>334</sup> (Pelagatti, 1972) fig 2; (Gentili, 1956), 331; (Lentini, 1993-4) 1014.

<sup>335</sup> (Pelagatti, 1964) 153; compare (Gentili, 1956) 331, fig.8, who assigns a fifth-century date.



terracotta revetments.<sup>336</sup> Fragments of sixth-century architectural terracottas, found nearby in various states of completeness, are likely products of the rectangular kiln.<sup>337</sup> These mainly take the form of sphinxes and gorgon heads/faces, but a large number of antefixes featuring the face of Silenus have also been recovered,<sup>338</sup> and may point to cult activity related to Dionysus.<sup>339</sup>

The sanctuary underwent a radical reconstruction during the third quarter of the sixth century.<sup>340</sup> It appears that a flood submerged most of the western and southern parts of the sanctuary, depositing a large amount of alluvial soil and necessitating a subsequent leveling off of the terrain. The *hekatompedon* building (Temple B) that apparently replaced Temple A seems to have been built towards the very end of the century.<sup>341</sup> Its foundations measure 38 by 16 m.<sup>342</sup>

A wide variety of material was found in this sanctuary. Small figurines imported from Gela and mainland Greece, datable to the first half of the sixth-century, are testaments to the importation of such items from both other parts of Sicily and from the Aegean world. The Geloan type has been found elsewhere at Naxos, outside of the sanctuary, in the form of local imitations. Also, outside of the southern temenos wall (D), was found a cache of figurines and small masks, some of the former being Rhodian in style.<sup>343</sup> The small votive deposits found within the sanctuary contained a variety of items.<sup>344</sup> These consist primarily of local—perhaps even made on-site—pottery, but a smaller quantity of imports has also been recovered. These are mostly Protocorinthian, Corinthian, and Attic cups, but some examples of Lakonian kraters and incised Etruscan bucchero kantharoi are also known.<sup>345</sup> Among the local pottery, the most common shapes are a kind of Ionian cup, whose unique profile and dimensions mark it as a distinctively local vessel. This type is dated by the imports with which the examples were found—transitional Protocorinthian and Corinthian cups, along with Type B2 Ionian cups—to between c.620-570. Other than these, the most common ceramic imports in these deposits are Ionian kylikes that date to roughly the same period.<sup>346</sup> Also present in relatively large

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<sup>336</sup> (Lentini, 1995) 180-1.

<sup>337</sup> (Pelagatti, 1964) 161-2; (Pelagatti, 1972) 217.

<sup>338</sup> (Pelagatti, 1977) 50-5. On fragments of two Silenus antefixes found to the west of the sanctuary, see (Lentini, 1996).

<sup>339</sup> As suggested at (Lentini, 1995) 170; 184.

<sup>340</sup> (Pelagatti, 1972) 217.

<sup>341</sup> (Pelagatti, 1972) 217; (Lentini, 2000) 157.

<sup>342</sup> (Lentini, 1995) 181.

<sup>343</sup> (Gentili, 1956) fig. 10-14; (Pelagatti, 1964) 154; (Pelagatti, 1972) 217-8, figs 36, 37.

<sup>344</sup> (Pelagatti, 1964) 154.

<sup>345</sup> (Lentini, 1995) 184.

<sup>346</sup> (Pelagatti, 1964) 154.

numbers in these votive deposits were various types of weapons, most of which are different kinds of spears and javelins with iron points.<sup>347</sup>

The Scalia-Maloproviddo sanctuary, so-called for the names of the modern property owners, is located just outside ancient city, west of both the Santa Venera stream and the sixth-century city walls.<sup>348</sup> The earliest material associated with it is datable to the last decades of the seventh century, while the largest percentage of material dates to the mid-sixth. It did not completely fall out of use until the fourth century.<sup>349</sup> This was a large sanctuary, with a total area likely no less than 10,000 square meters.<sup>350</sup> The internal plan and full range of cultic activities within it, however, are not well understood.<sup>351</sup>

Judging from the number of architectural fragments and foundations recovered, as well as from the presence of a large bipartite altar (“Altar B-C”),<sup>352</sup> it seems likely that multiple divinities were worshipped here. In addition to this bipartite altar, remains of other structures have also been excavated: the ruins of a small temple or altar (so-called “Temple A”), on top of which the classical Altar B-C was built;<sup>353</sup> the foundations of two small *in antis* temples (so-called “Temple H” and “Temple I”); and two walls (so-called “Wall J” and “Wall K”).

The vast majority of these buildings and finds associated with them date to the middle of the sixth century.<sup>354</sup> The best understood areas are those related to Wall K and Temple H, and that related to Temple I. Temple H and Wall K, in addition to being topographically close to one another, present other indications that they are related, both chronologically and functionally. Wall K shares its orientation and alignment with Temple H, and stands only three meters to the south. A street runs between the two; a street of the same width (3 m.) connects the sanctuary to the

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<sup>347</sup> (Lentini, 2000a) 156-9.

<sup>348</sup> Figure 12.

<sup>349</sup> (Lentini, 2000) 119.

<sup>350</sup> (Lentini, 1993-4) 1012.

<sup>351</sup> Lentini suggests that perhaps there were multiple adjacent sanctuaries in this area, but the boundaries between them are difficult to recognize. Furthermore, the mixed nature of many of the levels and deposits leaves open the possibility that archaeological findspots have been affected by post-deposition floods and other activities, contributing to the uncertainty over the precise layout and appearance of the sanctuary in the archaic period (Lentini, 1995) 180.

<sup>352</sup> It should be noted, however, that this altar is a classical era structure (Lentini, 2000) 119; (Lentini, 1995) 180.

<sup>353</sup> (Pelagatti, 1980-81) 703.

<sup>354</sup> More precisely, Lentini notes that the eastern part of the sanctuary seems to have fallen out of use by the end of the fifth century, while in the northwestern sector material associated with the hellenistic and early imperial periods has been recovered; the bipartite Altar B-C seems to have been in use as late as the fourth century (Lentini, 1993-4) 1014-5.

city.<sup>355</sup> On its other side, wall K borders a road, and as such Lentini labels it a peribolos wall.<sup>356</sup>

Temple H itself is fairly well preserved, and much datable material associated with it has been recovered. It is rectangular in plan, but not overly elongated, measuring 15 by 7m. The interior space is divided into two parts, a pronaos and a cella. The pronaos is fronted by two columns *in antis*, the space between these being 2.70m. A structure found directly in front of the temple has been interpreted as a ramp. From the terracotta fragments recovered, Lentini believes she can reconstruct the roof and frieze, both of the Doric order. Most of these were found on the eastern side of the building. Also found were fragments of three painted slabs that stylistically recall the early archaic painted metopes found at Thermon and Kalydon.<sup>357</sup> Judging from the composition of the clay, however, it is likely that both the architectural terracottas and the painted plaques are of local Naxian manufacture.<sup>358</sup>

Enough of the wall survives for comment and conjecture on their superstructure. The masonry throughout seems to be polygonal in style; the surviving portions of the exterior walls feature the Lesbian technique, while their interior counterparts are of a more irregular type. Upper courses of mudbrick—of which no traces remain—should probably be reconstructed.<sup>359</sup> The large, round and unworked stones of the foundation for the surviving southern wall seem to be of local origin, and similar foundation stones have been found near Temple I.<sup>360</sup> Pottery recovered from within the foundation of smaller worked stones upon which the northern wall rested has provided a secure date for the construction of the building. Fragments of Ionian cups with conical bases and Middle Corinthian vessels of various types give Temple H a last quarter of the seventh/first quarter of the sixth century date range. No trace of an altar has been found in the vicinity of the temple, despite the fact that the area in front of the eastern façade has been explored.<sup>361</sup> The already mentioned Wall K lies just to the south of Temple H, with which it is contemporary.<sup>362</sup> The surviving extent of the wall measures 75m, aligned in its

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<sup>355</sup> (Lentini, 1993-4) 1018.

<sup>356</sup> (Lentini, 1993-4) 1013.

<sup>357</sup> Lentini refers to these slabs as metopes. However, much like the slabs from Thermon to which she compares them, these seem perhaps too thick to have served as metopes, and, this concern aside, it remains unclear how such slabs might have been fitted into place as part of a Doric frieze (Lentini, 1993-4) 1017. For a more technical and detailed reconstruction of the roof, see (Lentini, 1993-4) 1019-20.

<sup>358</sup> (Lentini, 1993-4) 1020.

<sup>359</sup> (Lentini, 1993-4) 1019.

<sup>360</sup> Lentini suggests that Taormina might have been the source of this stone (Lentini, 1993-4) 1019.

<sup>361</sup> Lentini suggests that the temple's location so close to the peribolos wall might account for this absence.

<sup>362</sup> On peribolos Wall K, see (Lentini, 1993-4) 1021-3.

western expanse with Temple H, and in the east curving southward toward the sea. This is most likely a terracing wall, as its location along a naturally occurring contour line would explain the curve in its eastern section.<sup>363</sup>

Temple I lies over 40 m to the southeast of Temple H, along the edge of a modern road.<sup>364</sup> It is constructed on a different orientation than Temple H and Wall K. Finds and pottery associated with the building, especially the walls, date it to the middle of the sixth century. Of the building itself, only the foundations are preserved. The composition and form of these foundations are comparable to those of Temple H and Wall K, featuring large, roughly-worked roundish stones. Also similar to Temple H is the plan: a rectangular, slightly less oblong (14 by 7 m) structure divided into cella and pronaos, the porch being fronted by two columns *in antis*. Unlike Temple H, however, Temple I is oriented north-south, with the pronaos opening to the south. This different orientation, suggests Lentini, makes it probable that we are also dealing with a different cult.

Wall J, which lies just north of and aligns with altar B-C, might have been a retaining wall.<sup>365</sup> It runs northwest-southeast, and its extant extent measures 72 m. This is a rubble wall built on irregular foundations. Amongst the material used in its construction are potsherds and architectural terracotta fragments, datable to the late seventh and sixth centuries, and consistent with the materials found associated with Sacella H and I, and Wall K. Thus, this wall should postdate the construction and also (at least partial) destruction of these, giving it a post-archaic date. The areas immediately surrounding the wall on both sides was found to be generally devoid of ancient material, the exception being a small votive deposit, in which was found, among other items, an Athena “Promachos” ceramic statuette head.<sup>366</sup>

Among the most important finds associated with the Scalia-Maloprovvido sanctuary is a late seventh-century marble stele inscribed with a dedication to the goddess Enyo.<sup>367</sup> The epichoric script of the inscription is that used on contemporary Cycladic Naxos. Also of note is the large number of locally produced architectural terracottas recovered from this area, which date from the end of the seventh through the end of the sixth century. These feature great variations in style, and inspirations

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<sup>363</sup> This is a suggestion of Lentini, who admits that there is little physical evidence to support the hypothesis (Lentini, 1993-4) 1022. Alternately, it seems to me that this might be a kind of internal *temenos* wall, creating a distinct subdivision of the area surrounding Temple H within what appears to be a larger and diversely occupied sacred area.

<sup>364</sup> For details on Temple H, see (Lentini, 1993-4) 1023-4.

<sup>365</sup> (Lentini, 1993-4) 1013. For more detailed information on Wall J, see (Lentini, 1993-4) 1024-5.

<sup>366</sup> (Lentini, 2000) 119. Lentini elsewhere notes that the Athena head was found in a context associated with Wall J (Lentini, 1993-4) 1017.

<sup>367</sup> (Guarducci, 1985).

and parallels for them are to be found throughout the archaic Greek world.<sup>368</sup> Unlike the local pottery at Naxos, which compares well with that produced at nearby Sicilian Greek settlements, these architectural terracottas are often without precedent or parallel anywhere on the island.<sup>369</sup> Lentini asserts that the various fragments of simai and cassettai belong to no fewer than four separate friezes, implying that perhaps more small temples or other buildings remain to be found in this area. Also of note is a cache of archaic terracotta figurines found in the vicinity of this sanctuary, although the exact find spots are unknown.<sup>370</sup>

Just outside the southeastern corner of the Pastas House discussed above, and dug into the little path that skirts the eastern side of the building, was found a small votive pit. Among the items recovered from this pit were fragments of a locally produced jug with cutaway neck. As Coldstream also points out, the shape of the mouth of this jug is a peculiar, the trefoil lip oinochoi being much more common throughout the Greek world.<sup>371</sup> Given its find spot, Lentini suggests that this jug was likely used in the pouring of libations, *i.e.* in a ritual context. Given that, of the other seven examples of this type of jug known from this period at Naxos, one comes from the Santa Venera sanctuary and a few others from contexts near smaller sacred areas, Lentini's suggestion that this local style of jug might have been produced specifically for religious purposes seems at least plausible.<sup>372</sup>

Graves continued throughout the archaic period to be placed in the necropolis area north of the urban center. Locally made hydriai frequently appear in the context of the mid-seventh to early sixth century burials, as do to a lesser degree locally made amphorai.<sup>373</sup> These burials were of mixed type (inhumations and cremations), and the hydriai and amphorai were put to a variety of uses, including the inhumation of infants, the deposition of ashes, and the marking of graves.<sup>374</sup>

As has been seen in the review of finds from various settlement contexts, local production of specifically Euboianizing pottery continued throughout the seventh century.<sup>375</sup> Ionian Type B cups are especially common; Coldstream mentions in particular skyphoi decorated with lattice-work, dotted lozenge nets, or vertical wavy

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<sup>368</sup> Lentini offers *comparanda* from a wide range of places when discussing these architectural fragments, including: Locri, Metauros, Thermon, Corcyra, and Paestum. (Lentini, 1997) 123 ff; (Lentini, 2000) 119-22.

<sup>369</sup> (Lentini, 2000) 121.

<sup>370</sup> Lentini, without further comment, acknowledges that information concerning the precise findspots of these figurines has suffered an undisclosed modern "dislocation." (Lentini, 1992-4) 1014.

<sup>371</sup> (Coldstream, 2004) 45.

<sup>372</sup> (Lentini, 1990) 76.

<sup>373</sup> Lentini provides a catalog of all 29 hydriai found in this context (Lentini, 1992) 15-24, and of two amphorai fragments (Lentini, 1992) 25.

<sup>374</sup> (Coldstream, 2004) 48.

<sup>375</sup> (Lentini, 1990) 70 ff.

lines.<sup>376</sup> Also common are kraters, lekanai, hydriai and oinochoai. Lentini notes a general affinity in pottery styles during this period among the Sicilian Euboian settlements, asserting that there also must have been a high level of exchange between these communities. In particular, she notes in this context the Euboian-type, locally produced style of hydria (jug with cutaway neck) that appears in settlement contexts at Naxos and in burials contexts at both seventh-century Naxos and Mylai.<sup>377</sup> These jugs are of the same basic type that was already being locally produced in the late eighth century, featuring little to nothing in the way of decoration.<sup>378</sup> Lentini, citing comparanda from contemporary Attica, suggests that these locally made hydriai might actually have been used as wine-storage/transport vessels.<sup>379</sup> If so, the large numbers of these found in settlement contexts might be indicative of an intense production, storage, and consumption of local wine.

Over the course of the seventh and sixth centuries, there is a sharp decrease in the overall amount of imported pottery found in settlement contexts at Naxos. Corinthian and (later) Attic black-figure are only present in limited numbers, and even more scarce are fragments of Etruscan bucchero, East Greek and Lakonian wares.<sup>380</sup> Euboian imports also continue to appear, though infrequently. Noting this downward trend in the importation of pottery at both Naxos and Leontinoi in the seventh and sixth centuries, Grasso suggests that these cities may have been less “extroverted” than the “Euboians of the Straight (of Messina),” by which she presumably means Zankle and Rhegion.<sup>381</sup>

A new type of evidence for the economy appears in the latter half of the sixth-century. The coinage of Naxos is the subject of Cahn’s 1940s die-study.<sup>382</sup> The first group of coins issued at Naxos probably dates to the end of the third quarter/beginning of the last quarter of the sixth century. Cahn assigns a c.550 date on the basis of stylistic comparisons of the types of the early Naxian coins with Attic sculpture and black-figured pottery.<sup>383</sup> Rutter, however, is wary of this methodology, based as it is on cross-media stylistic comparison, and suggests that, because the earliest coins of Naxos feature both an obverse and reverse type, the Athenian “owl” tetradrachms should provide the *terminus ante quem* for their

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<sup>376</sup> (Coldstream, 2004) 43, citing (Pelagatti, 1982) 148-50 and (Lentini, 1998) 381-2, where these are called “coppe-calici.”

<sup>377</sup> (Lentini, 2000) 117; (Coldstream, 2004) 48. Lentini is careful to note, however, that the corresponding contexts at Katane and Leontinoi are poorly known, and as such her inclusion of these in this general phenomenon must necessarily be somewhat speculative.

<sup>378</sup> (Coldstream, 2004) 48.

<sup>379</sup> (Lentini, 1992) 30.

<sup>380</sup> (Pelagatti, 1972) 219.

<sup>381</sup> (Grasso, 2009) 5.

<sup>382</sup> (Cahn, 1944).

<sup>383</sup> (Cahn, 1944) 30-2, Plate IX.

minting. He thus assigns a c.525 date to the earliest Naxian emissions.<sup>384</sup> Holloway, however, points out that Naxos and Zankle were apparently the first to issue coins bearing legends with the full name /ethnic of the issuing city/people inscribed.<sup>385</sup> Perhaps Rutter is wrong to assume that the Athenian “owls” must have been the first to feature both obverse and reverse types? We are seemingly left with two alternatives: Cahn’s high chronology that demands two groups of sporadic emissions, the first from c.550 to 530, the second from c.530 to 490,<sup>386</sup> or Rutter’s low chronology that allows for two groups of more compact emissions, the first from c.525 to 510, the second from c.510 to 493.<sup>387</sup> On their own, neither stylistic comparison is completely convincing. However, given that the results of Cahn’s own die-linking indicate that both groups feature a relatively low number of die-combinations,<sup>388</sup> something like Rutter’s lower chronology should probably be adopted, unless one is willing to accept a very limited and sporadic pattern of emissions. A start date of c.535–20 seems a good working estimate.

Cahn’s corpus consists of 121 archaic era coins, which he divides into two chronologically distinct groups.<sup>389</sup> All feature the same basic design: on the obverse, the head of Dionysus in profile, on the reverse a bunch of grapes with the legend NAXION underneath.<sup>390</sup> The coins were minted on the Euboic-Chalcidian standard, in two denominations, drachma and litra/obol. Cahn refers to the smaller denomination coins as litrae,<sup>391</sup> but Rutter maintains that all the fractional coins should be considered obols.<sup>392</sup> While there is a great deal of individual variability (0.50 to 1.09 g), the majority of these coins do weigh between 0.75 and 0.90 g, putting them somewhere in the neighborhood of 0.96 g, or one-sixth of 5.8 g, the theoretical weight of a Euboic drachma. The fractional coinages of archaic Himera display a similar variability in weight, but there two different obverse designs were in use, and it is possible that more than one fractional weight was being issued.<sup>393</sup> On the other hand, Cahn’s suggestion that these are litrae seems both unfounded and unnecessary.<sup>394</sup>

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<sup>384</sup> (Rutter, 1997) 112–3.

<sup>385</sup> (Holloway, 2000) 182 n. 2. Though, for the case of Zankle, this is not strictly true, since the earliest coins from there bear one of two legends: DANK or DANKL. It is only on a second series that the legend DANKLE appears. See below for more details and discussion.

<sup>386</sup> (Cahn, 1944) 32–3.

<sup>387</sup> (Rutter, 1997) 113.

<sup>388</sup> (Cahn, 1944) 17–41.

<sup>389</sup> 74 belong to the first group, 47 to the second (Cahn, 1944) 17–41; 102–14.

<sup>390</sup> Figure 13.

<sup>391</sup> (Cahn, 1944) 21–2.

<sup>392</sup> (Rutter, 1997) 111.

<sup>393</sup> As Kraay suggests, and Rutter accepts: (Kraay, 1983); (Rutter, 1997) 108.

<sup>394</sup> (Robinson, 1946) 14.

At any rate, both the drachmae and obols seem to have been issued throughout the archaic period, although there are more obol than drachma die-combinations among the early group (21:11), and more drachma than obol among the later (18: 4).<sup>395</sup> Rutter notes that the Naxian drachmae are on average 4% lighter than the contemporary Himeran, and 2% lighter than the contemporary Zanklean, even though all three mints appear to have operated on the same weight standard.<sup>396</sup> The relative lightness of the Naxian drachma might strengthen Rutter's designation of all the early small change as obols, since an underweight obol should perhaps logically accompany an underweight drachma.

The find spots of individual coins are generally unknown. The exceptions are those coins known to have been found in hoards, and these are listed and described in the *IGCH*.<sup>397</sup> There three hoards that contained archaic coins from Naxos are included in the corpus. The descriptions from the *ICGH*:

2061: Burial, c.500 at Caltabiano, 5 km SW of Taormina: contained two drachmae from Naxos and six from Zankle.

2062: Burial c.493, Messina, 156 drachmae (6 reverse dolphin incuse; 150 reverse shell in incuse square) from Zankle, 30 from Naxos.

2064: Burial 490-80, Naxos, 26 drachmae from Zankle (reverse shell in incuse square), Naxos, and Rhegion.

One can only speculate as to the source(s) of the silver used to mint the archaic coinage of Naxos. There is no evidence for the exploitation of silver mines in ancient Sicily,<sup>398</sup> so the silver must have come from overseas, or, more immediately, from pre-existing local reserves. Raw silver may have been imported from both the Aegean world and Spain; coined silver from central Greece is another known source.<sup>399</sup>

#### 2.4.2 *Leontinoi*

As at Naxos, the first stone city wall at Leontinoi dates to the sixth century.<sup>400</sup> It took in the ridges that included the San Mauro and Metapiccola hills and the valley between them.<sup>401</sup> This demonstrates definitively that, by the time these walls were

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<sup>395</sup> (Cahn, 1944) 102-14.

<sup>396</sup> (Rutter, 1997) 111.

<sup>397</sup> (Thompson, M., Mørkholm, O. & Kraay, C.M., 1973) 206 ff.

<sup>398</sup> The first coins known to minted using Sicilian silver belong to an issue of the eighteenth-century A.D. Holy Roman Emperor Charles VI (Giardino, 1995) 307.

<sup>399</sup> The archaic silver hoard from Selinus is perhaps instructive in this context; it contained a large number of coins from, among other places, Aegina, along with stamped ingots of silver, implying that melting down and re-minting of foreign currencies may have been common practice in archaic Sicily. See (Arnold-Biucchi, Beer-Tobey & Waggoner, 1988).

<sup>400</sup> (Rizza, 2000) 58 ff.

<sup>401</sup> The hypothetical line of this wall is shown as dotted blue line in Figure 5.



built, both hills and the valley were part of the urban center of Leontinoi.<sup>402</sup> The total extent of this walled area was about forty hectares.<sup>403</sup> On the construction and technique of this wall, Frasca cites Mertens,<sup>404</sup> who asserts that the quality of both the stone was “high,” and the stones “perfectly joined,” while the overall style of masonry is similar to that found in the later archaic walls of Megara Hyblaia. This style is one that was “diffuse throughout the Ionian–Euboian colonial world, and one which had likely originated in Ionia proper...”<sup>405</sup> While Rizza originally dated the city wall at Leontinoi to the late seventh or early sixth century, Frasca follows Mertens in lowering it to the mid-sixth, on the basis of both ceramic and stylistic evidence.<sup>406</sup> Judging from Polyainos’ account of Panaitios’ seizure of power, it is possible that the third-century gates described by Polybius may have already been erected by the end of the seventh century.<sup>407</sup> Excavation has shown, at any rate, that this wall included a southern gate between the San Mauro and Metapiccola hills, and a northern gate between the Castellaccio hill and the north face of the San Mauro.<sup>408</sup> Knowing the location of these gates is important, inasmuch as it allows us to imagine from and to where goods and people moved into and out of the urban center.

Scientific sourcing of the wall’s individual stones has been conducted, and it seems likely that they come from quarries located east of Leontinoi, near the mouth of the San Leonardo–Terias River. Frasca assumes that these stones were likely to have been imported to Leontinoi along the river itself. Another quarry located to the northeast at Castellano seems to have provided some of the stone for the construction of the city wall.<sup>409</sup> At any rate, what has certainly been demonstrated is that, around the middle of the sixth century, the inhabitants of Leontinoi were able, either directly or indirectly, to utilize these coastal stone quarries.

Apart from the wall, little more is known about the development of the urban area from c.650 to 500. Following the suggestion of Orsi,<sup>410</sup> Frasca identifies a sacred area on the summit of San Mauro hill.<sup>411</sup> This identification rests largely upon the recovery a large number of fragments of architectural terracottas, which presumably belonged to otherwise unknown building(s) located in the immediate area. The

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<sup>402</sup> As Rizza points out, the extent of the archaic city thus matches fairly well the one Polybius describes (Rizza, 1978) 26.

<sup>403</sup> (Hansen & Nielsen, 2004) 210. Frasca estimates the total area of the later archaic city at sixty hectares, but this includes some areas that were not intramural (Frasca, 2009) 68.

<sup>404</sup> (Mertens, 2006) 129.

<sup>405</sup> (Frasca, 2009) 68–9.

<sup>406</sup> See (Rizza, 2000) 58–62; (Mertens, 2006) 129; (Frasca, 2009) 69.

<sup>407</sup> Polyainos 5.47; Polybius 7.6.1–6.

<sup>408</sup> (Frasca, 2009) 58.

<sup>409</sup> (Frasca, 2009) 69, which also references the stone sourcing analysis and the Castellana and other coastal quarries east of Leontinoi: (Felici & Buscemi-Felice, 2004) 42 ff.; (Pulivirenti, 2004) 142 ff.

<sup>410</sup> (Orsi, 1930b) 26 ff.

<sup>411</sup> (Frasca, 2009) 74.

terracottas themselves date to from the end of the seventh through the beginning of the fifth century.

Located near the very top of the San Mauro hill is a cluster of rooms, trapezoidal in shape, with north-facing entrances, and connected to one another by a circular passageway cut into the rock.<sup>412</sup> On their floor, mixed with a layer of ash, was found a deposit of sixth-century pottery. Pits cut into the bedrock were filled with sherds of Ionian cups and clay weights covered over, perhaps intentionally, by a mixture of clay. Adamesteanu interpreted these as votive pits, physical remnants of sixth-century cultic practice on the summit of San Mauro hill (a mixed layer of mostly classical remains was found on top of this archaic context). Rizza later excavated another north-facing rock-cut room adjacent to, but not directly in communication with, the two published by Adamesteanu.<sup>413</sup> Here he discovered three distinct levels of usage, the earliest of which dates to the sixth century. Rizza, however, found no evidence of cult activity, which in turn has caused Adamesteanu to call into question his own earlier interpretation.<sup>414</sup> It is possible that all three of these rooms were residences, and that Orsi's original suggestion that the summit of the San Mauro was a sacred area needs to be reevaluated.

A sixth-century room, more securely identified as a house, located on Metapiccola hill, and composed entirely of freestanding walls, has been excavated.<sup>415</sup> It consists of at least three rooms, two of which are connected, the other of which is fronted by 2.5 m deep well. Frasca also notes that another house of similar plan and construction has also been found nearby, directly above the remains of a hut that was part of the pre-Greek settlement on the hill.<sup>416</sup>

It is still unclear precisely where the civic and commercial of the city lay,<sup>417</sup> but Frasca does discuss the possibility of an archaic port located on the Lisso River.<sup>418</sup> Basile speaks in general terms about "...recent research (that) shows a settlement on the plain, at the confluence between the S. Mauro and Ruccia valleys on the shores of the Garunchio River, (that) dates to the seventh century BC and was probably the port quarter."<sup>419</sup> This Garunchio River is a small tributary of the larger San Leonardo. He further elaborates on this area:

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<sup>412</sup> (Adamesteanu, 1951) 406 ff.

<sup>413</sup> (Rizza, 1994) 121.

<sup>414</sup> (Adamesteanu, 1986) 35.

<sup>415</sup> These remains are located south of the sixth-century temple built on the hill's summit (Frasca, 1995) 425.

<sup>416</sup> (Frasca, 2009) 73.

<sup>417</sup> (Frasca, 2009) 58.

<sup>418</sup> (Frasca, 2009) 61-2. This is the area marked "E" in Figure 5.

<sup>419</sup> (Basile, 1995) 390.

At the juncture of the San Mauro and Sant'Eligio valleys, just outside of the later northern city gate, underneath the Casa Liberto, the existence of a quarter connected to the river port has been discovered, which was in place already at the end of the seventh century, as attested by the remains of archaic houses datable to that period that were found in the course of excavations in the modern Piazza Umberto (excavations that are unpublished).<sup>420</sup>

While the details remain unclear, it seems like that by the end of the seventh century (at the latest), the greater settlement of Leontinoi included area(s) to the north of the San Mauro valley, closer and perhaps closely related to the various rivers in the area.

Within the city itself, a few areas have been identified as the possible location of sanctuaries. In addition to the areas already discussed, evidence of a possible sacred area has been recovered on the extreme northern end of San Mauro hill; a single *simā* was found in a garden directly beneath the hill, allowing for the speculation that a corresponding building might have once stood on the edge of the height above.<sup>421</sup> At least two areas of Metapiccola hill seem to have been associated with religious practices. On the northern end of the hill, near its summit, have been found traces of the foundations of a sixth-century temple. Measuring 32 by 16.5 m,<sup>422</sup> its plan is similar to the archaic temples at Naxos, featuring two rooms: a *pronaos* and a *cella*. A variety of architectural terracottas, pottery and other votive items associated with this structure provide a sixth century date.<sup>423</sup> On the western slopes of the hill a large cache of objects interpreted as a votive deposit has been found. This consists mostly of imported pottery—predominantly Attic—and votive statuettes “of the Ionian type,” all datable to the mid-sixth century.<sup>424</sup>

Outside the urban center of Leontinoi have been discovered two sanctuaries, one of which seems to have originated in the seventh century. The sanctuary of Alaimo, so-called after the family name of the modern property owners, is located on the southwestern edge of the Leontine plain, a little more than a kilometer northwest of the city proper.<sup>425</sup> Although the excavation of this sanctuary has been limited—only the partial remains of three structures have been uncovered, and of these only one is well understood—a large quantity of material has been recovered, which has allowed for a fairly reliable understanding of the site.<sup>426</sup> The pottery recovered during the course of excavations indicates that the sanctuary flourished from the

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<sup>420</sup> (Basile, 2004) 114.

<sup>421</sup> (Orsi, 1930b) 27.

<sup>422</sup> Slightly different dimensions (32 by 10.6) are given at (Frasca, 1995) 425.

<sup>423</sup> (Rizza, 1957) 68; (Rizza, 1994) 118.

<sup>424</sup> (Rizza, 1963) 342-7; (Frasca, 1995) 425.

<sup>425</sup> (Grasso, 2009) 1. For the general location, see Figure 5. For a plan of the sanctuary, see Figure 14.

<sup>426</sup> Three features have been discovered: a wall, a roadbed, and a rectangular enclosure filled with pottery (Grasso, 2009) 2.

middle of the seventh through the first quarter of the sixth century.<sup>427</sup> Most, but not all, of the pottery recovered is fineware, of both imported and of local/regional manufacture.<sup>428</sup> The majority of these are drinking vessels and small perfume jars, which are sometimes accompanied by utensils, weapons, or burned pieces of animal bone.<sup>429</sup>

Because no cult building has been discovered, the excavators have suggested that this may have been a location dedicated to the practice of open-air animal sacrifice.<sup>430</sup> There is debate over what divinity was worshiped here during the archaic period. The presence among the more typical ovine, swine, and bovine burnt offerings of bones belonging to deer and other wild animals has led to the suggestion this may have been a sanctuary devoted to Artemis or some other "liminal" female divinity associated with hunting.<sup>431</sup> A graffito dedication to the Dioskouri on a fifth-century sherd indicates that these heroes may have been objects of worship at Alaimo during the classical period.<sup>432</sup>

Of the imported pottery excavated at Alaimo,<sup>433</sup> Corinthian is predominant. These are mostly aryballoi, but also present in large numbers are alabastra and lekythoi; very few fragments of open-shaped vessels and one fragment of a Type B Corinthian transport amphora have been recovered. The aryballoi and alabastra are decorated in typical Protocorinthian and Corinthian style, and include a few examples of black-figure, while the lekythoi feature monochrome decoration. Pyxides constitute the majority of East Greek pottery found at Alaimo, although other small containers are common, including Rhodian red-slip aryballoi and fusiform jars. A few sherds of Ionian cups and one of a banded cup constitute the entirety of East Greek open-shaped vessels that have been recovered; one sherd of an East Greek transport amphora has also been found. Finally, assorted fragments of

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<sup>427</sup> (Frasca, 2009) 76. (Grasso, 2009) 5.

<sup>428</sup> Sherds of imported and local/regional pottery have been found "in equal measure." It is more likely that the pottery that Grasso labels "of local or colonial fabric" is in fact locally made, but the similarity in fabrics and styles among the ceramic products of the different Greek settlement in eastern Sicily often makes it impossible to make certain distinctions. Only "a few" fragments of coarseware and "some" fragments of amphorai have been found. (Grasso, 2009) 3-4.

<sup>429</sup> (Grasso, 2009) 3-4, 7.

<sup>430</sup> (Grasso, 2008) 149. The rectangular enclosure filled with votive vases is perhaps the most compelling evidence for this interpretation.

<sup>431</sup> Grasso provides the following percentages concerning the skeletal remains at Alaimo: 68.8% sheep, 13.65% pig, 15.12% cow, 2.43% other. (Grasso, 2009) 9.

<sup>432</sup> Frasca seems to be alone in wanting to take this inscription as evidence for cultic activity relating to the Dioskouri during the archaic period (Frasca, 2005) 140. On this inscription, see also: (Frasca, 2009) 79; (Grasso, 2008) 155. For a more general discussion on the possible identities of the deities worshipped at Alaimo, and more specifically the argument for Artemis and Apollo, see (Grasso, 2009) 10-14.

<sup>433</sup> The brief description of the imported pottery at Alaimo provided here is culled from (Grasso, 2009) 5-6, 8.

Attic and Etruscan bucchero have also been found in smaller numbers.<sup>434</sup> Notable for their near-absence are Euboian imports.<sup>435</sup> The Corinthian, East Greek and Etruscan bucchero all date between c.650–575, while some of the Attic dates to as late as the fifth century.<sup>436</sup>

The local pottery, on the other hand, consists mostly of open-shaped vessels: cups for drinking, and pitchers for pouring.<sup>437</sup> The other class of local pottery commonly found at Alaimo has been miniatures, which mimic the shapes of pitchers, amphorai, olpai, etc., but on a much smaller scale. Grasso interprets these as one-time usage objects made explicitly for the performance of cultic practices.<sup>438</sup> Conspicuous by its absence on the local pottery found at Alaimo is figural decoration, especially as there are numerous contemporary examples known from Leontinoi proper.<sup>439</sup> There are, however, no other significant differences in terms of fabric or decoration between the pottery excavated at Alaimo and Leontinoi.<sup>440</sup> Like the imports, the vast majority of the locally produced pottery dates to between c.650–575.

Bronze and iron weapons have been found spread throughout the sanctuary at Alaimo, among which are a bronze spearhead, four iron spearheads, a curved-blade knife, and an assortment of sword and knife hilts. Other small finds include: amber and glass beads of various shapes and sizes, an amber bird statuette, bronze and iron rings, bracelets, pendants, studs, pins, and fibulae.<sup>441</sup>

Regardless of its precise religious function, the sanctuary of Alaimo is important for the large quantity of pottery found within it, and for what this ceramic record might tell us about productive, redistributive and consumptive practices at Leontinoi. The sanctuary does seem to have been located in a high-traffic area, as a number of roads and rivers virtually encompass the site.<sup>442</sup> Grasso argues that the abundance of Corinthian and East Greek pottery recovered at Alaimo indicates that Corinthian and East Greek traders frequented the site, and that these were the agents of redistribution responsible for the movement of goods between the Aegean Greek world and Sicily and the west in general.<sup>443</sup> She even suggests that the Thucydidean reference to a quarter of Leontinoi called “Phocacia” could stem from the permanent

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<sup>434</sup> Attic: SOS transport amphorai (late seventh/early sixth); kraters and skypoi (late sixth/fifth).

Etruscan bucchero: Type 3e kantharoi, including two partial inscriptions—one of a dedicator, the other a production signature—(late seventh/early sixth), but no amphorai. (Grasso, 2009) 6, 8, 10–11.

<sup>435</sup> (Grasso, 2009) 4.

<sup>436</sup> (Grasso, 2009) 5.

<sup>437</sup> (Grasso, 2009) 4.

<sup>438</sup> (Grasso, 2009) 4, 7–9.

<sup>439</sup> (Rizza, 1978) 36–7; (Biondi, 2000) 104–9.

<sup>440</sup> (Grasso, 2009) 5.

<sup>441</sup> (Grasso, 2009) 8–9.

<sup>442</sup> See again Figure 5.

<sup>443</sup> “Certainly merchants from Corinth came to Alaimo...” (Grasso, 2009) 5.

residence in the city of Phocaian traders.<sup>444</sup> Whether or not we accept these conclusions, the record of imported pottery at Alaimo fits in well with the overall pattern of the redistribution of pottery from mainland and Aegean Greece in the seventh and first half of the sixth centuries. During this period Corinthian, and to a lesser degree, East Greek pottery made its way to sites throughout Sicily and southern Italy, and the record from the sanctuary of Alaimo provides no exception to this general trend,<sup>445</sup> nor does it contrast with the import record at Leontinoi itself.<sup>446</sup> The apparent abandonment of the sanctuary at the end of the first quarter of the sixth century is not easily explained. No known destruction or invasion of Leontinoi is datable to this period, and the site itself shows no signs of violence or destruction.<sup>447</sup>

A second phase of the Heraion of Scala Portazza dates to the second half of the seventh and first half of the sixth centuries.<sup>448</sup> This is marked by the construction of a stone altar on top of the earlier ash altar.<sup>449</sup> A third phase of the Heraion of Scala Portazza dates to the second half of the sixth century, around the same time that the first stone city wall was constructed at Leontinoi. A stepped monumental altar, measuring 25 by 6 m, was built at this time, in the same location and along the same orientation as the earlier stone altar it apparently replaced.<sup>450</sup> A kiln built in the northwestern corner of the sanctuary, just to the west of the stone altar, and just inside an entryway found in the peribolos wall, seems to date to the beginning of this phase. It seems that this kiln was used to make tiles and architectural terracottas used in the buildings that belong to this third phase of the sanctuary; after construction was complete, it was destroyed and covered over,<sup>451</sup> and in its place was erected a rectangular base, possibly for a statue or votive monument.<sup>452</sup> Datable also to this third phase of the sanctuary are the remnants of various smaller buildings located in

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<sup>444</sup> Thucydides 4.52. Grasso also cites Herodotus 1.163, in which the Phocaian prominence in western Mediterranean trade is more broadly asserted (Grasso, 2009) 6.

<sup>445</sup> (Gras, 1996); (Gras, 2000).

<sup>446</sup> (Grasso, 2009) 6. For imports at Leontinoi proper, see, for example, the publication of the pottery recovered from the area of the southern gate of the city wall (Biondi, 2000).

<sup>447</sup> (Grasso, 2009) 11.

<sup>448</sup> (Frasca, 2009) 79.

<sup>449</sup> Stylistically, Sudano compares this to the contemporary altar of Malophoros at Selinus. (Sudano, 2009) 4.

<sup>450</sup> (Frasca, 2009) 78-9. For a more detailed analysis of the design and style of this monumental altar, see (Sudano, 2009) 4-6.

<sup>451</sup> Found in association with this kiln were two unfinished architectural terracottas, enhancing the argument that the purpose of this kiln was the production of terracottas for buildings within the sanctuary itself. Also, the pottery associated with the covering over of the kiln dates to between the second and third quarters of the sixth century, indicating that the kiln fell out of usage long before the other buildings of the third phase. (Frasca, 2005) 140.

<sup>452</sup> (Frasca, 2005) 141.

the southern terrace, one of which may have been a small temple.<sup>453</sup> All of these features, including the peribolos wall, the monumental altar, and the other buildings to the south, fell out of use during the first quarter of the fifth century, probably as a consequence of the historically attested Denominid invasion and repopulation of Leontioni.<sup>454</sup>

The pottery recovered in association with the altar during this period includes sherds of tablewares of both Ionian and Attic types, both monochrome and black-figure.<sup>455</sup> Nearly all of these sherds are extremely small, and nearly all are of open-shaped vessels such as drinking cups. Sudano suggests that these have been broken on purpose, as part of a cultic ritual.<sup>456</sup> Also found were a large and diverse number of cooking pots, including casserole dishes and other similar shapes, which seem to indicate that in this sanctuary food was prepared and cooked, and not only on the altar. A large number of amphorai and amphorai sherds have also been recovered; these seem, for the most part, to have contained wine.<sup>457</sup> Some metal objects, most likely votive in nature, have also been recovered, but these are much fewer in number than those found at Alaimo.

To the north of the ancient city have been found a few tombs datable to the end of the seventh century,<sup>458</sup> and the general usage of the area as a necropolis is attested by a proliferation of burials throughout the archaic and classical periods.<sup>459</sup> Although many of these were looted rather than excavated, and publication of them still remains preliminary in nature, the goods associated with these graves that have been recovered provide a late seventh-century *terminus post quem* for the usage of the area as a necropolis.<sup>460</sup>

In the necropolis of Piscitello, also north of the city, in which most of the graves date to the classical era, there have also been found a number a tombs datable to the late sixth/early fifth century.<sup>461</sup> These were all trench graves covered by a fill of stones. Grave goods were "modest," consisting mostly of pots, especially lekythoi and skyphoi. Because of this "modesty," Orsi speculated that this was a "bourgeois" cemetery, and that the "aristocratic" cemetery must be yet to be found.<sup>462</sup>

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<sup>453</sup> (Frasca, 2009) 80. Frasca tentatively identifies one partial set of foundations as a temple due to the "superior quality" of its construction and its unique orientation in respect to the other buildings (Frasca, 2005) 142.

<sup>454</sup> Sudano cites the stylistic dates of black-figure cups as the basis for dating of the abandonment of the sanctuary to the first quarter of the fifth century (Sudano, 2009) 6.

<sup>455</sup> (Sudano, 2009) 7.

<sup>456</sup> (Sudano, 2009) 7.

<sup>457</sup> (Sudano, 2009) 7.

<sup>458</sup> (Basile, 1995) 391-2.

<sup>459</sup> See map given at (Basile, 2004) 116

<sup>460</sup> (Frasca, 2009) 81.

<sup>461</sup> (Orsi, 1900) 90; (Frasca, 2009) 82.

<sup>462</sup> (Orsi, 1900) \_\_\_.

A number of tombs have also been found south of Leontinoi, outside of the southern gate of the city walls, alongside the route that presumably led from the city to Syracuse.<sup>463</sup> This necropolis is especially rich in classical and Hellenistic era graves, but a smaller number of archaic burials have also been found just outside the gate, dating from the middle of the sixth through the beginning of the fifth century.<sup>464</sup> The burials are mixed in type; some are inhumations in trenches, others cremations in clay urns, although the former type predominates.<sup>465</sup> Additionally, inhumations are usually adults, cremations children.<sup>466</sup> The grave goods associated with these burials are generally poor, although the pottery is mostly imported, Corinthian and Attic, and some East Greek.<sup>467</sup> One c.500 burial contained two Zanklean drachmae.<sup>468</sup>

### 2.4.3 *Katane*

As discussed in the previous section, early Katane is poorly understood; this remains the case as we look at the archaeological evidence for the settlement from c.650 to about 500. Again, what excavation has been conducted centers on Montevergine hill, centrally located in the modern city of Catania.<sup>469</sup>

Scattered remnants of floors and walls associated with seventh and sixth-century pottery attest to the continued usage of the area of the modern Benedictine Monastery in the centuries following the foundation of the settlement.<sup>470</sup> Within this area were found the remains of what appears to be a group of sixth-century houses.<sup>471</sup> Dating to the second half of the century, these are the foundations for small rectangular structures, which featured beaten-earth floors, tiled roofs, and polygonal walls. The exact size and internal organization of these houses is difficult to reconstruct. The one example that does bear such scrutiny seems to consist of three small, interconnected rooms. Inside another of the houses was found a pithos dug into the beaten-earth floor. Within the structures were found sherds of fineware pottery, along with coarseware and cookware sherds in nearly equal proportion. Also common are loomweights, another possible sign of a domestic setting. A burnt layer containing pottery datable to the first quarter of the fifth-century, possibly the result of an intentional destruction, covered this entire area.

In the area of the Ex Reclusorio della Purità excavations on the northeastern side of Montevergine hill have been found habitation remains dating to the first half

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<sup>463</sup> (Rizza, 1955) 289-346; (Rizza, 1957) 70.

<sup>464</sup> (Rizza, 1955); (Frasca, 2009) 83. A handful more of similar tombs dating to the same period were found by Rizza in the early 1980's (Rizza, 1984-85) 847-8.

<sup>465</sup> (Rizza, 1955) 338-9; (Basile, 1995) 392.

<sup>466</sup> ((Rizza, 1955) 337-9; Rizza, 1957) 70.

<sup>467</sup> (Frasca, 2009) 83.

<sup>468</sup> (Thompson, M., Mørkholm, O. & Kraay, C.M., 1963) no. 2060.

<sup>469</sup> Figure 8.

<sup>470</sup> (Rizza, 1984-85) 851, 853.

<sup>471</sup> (Giudice, Procelli, Frasca, Albanese, 1979) [*non vidi*]; (Frasca, 2000) 120-1.



of the sixth century. These include a well-preserved segment of a north-south wall. This wall originally dates to the first quarter of the sixth century and features a form of polygonal masonry wherein the outer faces consists of large ashlar stones, the core in between of stones of rubble.<sup>472</sup> The floor to the east of this wall consists of a rudimentary paving made up of small stones; to the west is a simple beaten-earth floor. The construction of the wall is dated by material found within the rubble core of the wall and by material found in its western foundation trench. It seems, however, that this area remained in usage through the end of the archaic period, as material associated with the floors both to the east and west of the wall dates as late as the first quarter of the fifth century.<sup>473</sup> The poorly preserved remains of two east-west walls that lie underneath this wall, and perhaps form part of the foundations of a building, can only be dated and understood in relation to the north-south wall, as no material was able to be recovered associated with either its foundations or the usage of the space in between them; Branciforti assigns a general seventh-century date.<sup>474</sup>

Among the pottery associated with this north-south wall are two notable East Greek imports: bowls with brown circular lines painted on the bottom of the foot that compare well to examples known at Massilia, and a sherd of a Type B1 Ionian cup, datable to 620-565. A misfired sherd, featuring East Greek style decoration and found in the same context, indicates that local imitations of subgeometric East Greek pottery were being manufactured at seventh and sixth-century Katane.<sup>475</sup> Among the pottery associated with the floors on either side of the north-south wall are examples of both local and imported fineware and amphorai. A lekane of local/regional production, "typical in its decoration of sixth-century Sicilian Greek style," attests again to the consumption of local/regional wares. Of similar significance is a fragment of a western Greek amphora, pseudo-Chiot in style, and datable to the end of the sixth/beginning of the fifth century. On the other hand, the presence of a Late Corinthian globular aryballos shows that imports from Corinth were still being consumed during the sixth century. Finally, a sherd of Attic black-figure, stylistically dated to 510-490, attests to the presence of Attic imports in the late archaic period.<sup>476</sup>

On Montevergine hill, near the sixth-century houses, fragments of architectural terracottas and large cut-blocks suggest that an otherwise unknown

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<sup>472</sup> Branciforti notes that polygonal masonry was also commonly employed at Naxos during this period (Branciforti, 2005) 54-5.

<sup>473</sup> Fragments of local pottery and East Greek imports that date from the middle of the seventh to the first quarter of the sixth century provide the date for the construction of the wall. A variety of different ceramics, including Attic and Corinthian imports, demonstrate that the area was still in use during the first few decades of the fifth century (Branciforti, 2005) 54.

<sup>474</sup> (Branciforti, 2005) 55.

<sup>475</sup> Only a small fraction of the pottery associated with this wall and the floors on either side of it have been published (Amari, 2005) 60; the pottery associated directly with the north-south wall that is published is discussed at (Amari, 2005) 64.

<sup>476</sup> (Amari, 2005) 64-5; 71-3.

small temple dating to the second half of the sixth and early fifth century might have been located in this area.<sup>477</sup> This area seems to have suffered the same early fifth-century destruction as the nearby houses discussed above.

Elsewhere, a rich votive deposit was found during the course of rescue excavations conducted in the late 1950s;<sup>478</sup> this contained a multitude of material—mostly pottery and terracotta figurines—dating from the late seventh/early sixth through the late fifth century.<sup>479</sup> Among the figurines, one type is by far the most common: a female holding a torch and a piglet, which Rizza identifies with Kore.<sup>480</sup> All of these, however, date to the classical period. The archaic figurines, on the other hand, are of varied types, with no one being predominant.<sup>481</sup> Judging by the quality of the firing and the composition of the clay, most of these figurines appear to be locally made, although there do seem to be some imports as well.<sup>482</sup>

Similarly, the majority of the pottery recovered also seems to have been locally produced,<sup>483</sup> although no archaic kilns have been found at Katane to date. Common shapes include: amphorai, hydriai, skyphoi, and kraters. Outstanding examples include: an amphora decorated with a war scene and featuring a dipinto in Chalcidian script; numerous hydria featuring figural decoration; and kraters featuring animal figures and/or geometric designs.<sup>484</sup>

Among the imports, Corinthian predominates, followed by Attic, with Lakonian and East Greek (Rhodian and Chiot) also known.<sup>485</sup> The Corinthian imports are represented by a wide array of shapes, including: globular aryballoi, pyxides of various types, alabstra, amphoriskoi, kotylai of various sizes, large oinochoai, olpai, hydriai, cups, kothones, lekanai, large decorated plates, and jars of various shapes and sizes. The vast majority of these feature decorative motifs (panels filled with orientalizing animals and floral fillers) attributable to the Middle and Late Corinthian styles.<sup>486</sup> Among the Attic imports, sherds of black-figure Komast and Siana cups, datable to the first and second quarters of the sixth century, are the most numerous. Fragments of Little Master cups—of both the band and lip style—attest to

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<sup>477</sup> (Giudice, Procelli, Frasca, Albanese, 1979) [*non vidi*]; (Frasca, 2000) 121.

<sup>478</sup> This deposit was found within the modern city, to the south of Montevergine hill, in the Piazza S. Francesco, at the end of via Crociferi (Rizza, 1960).

<sup>479</sup> (Rizza, 1960) 248. Rizza relates that 1,200 storage boxes were filled with the material excavated from this 3 meter deep deposit (Rizza, 1996) 13.

<sup>480</sup> (Rizza, 1996) 13; (Rizza, 1960) 258-9.

<sup>481</sup> (Rizza, 1996) 13-4.

<sup>482</sup> (Rizza, 1960) 252-8; (Rizza, 1996) 14.

<sup>483</sup> The attribution of this kind of pottery was still being debated when Rizza initially published the deposit in 1960, but it is of the type now uncontroversially recognized as of Sicilian manufacture (Rizza, 1960) 251; (Rizza, 1996) 13.

<sup>484</sup> (Rizza, 1960) 251.

<sup>485</sup> (Rizza, 1960) 248-54; (Rizza, 1996) 14.

<sup>486</sup> (Rizza, 1960) 248-9; fig. 3-5.

the continued importation of Attic drinking vessels around the middle and into the third quarter of the century, and the presence of Droop cups extends this pattern of importation into the last quarter. Fragments of Attic shapes other than these kylikes found in large numbers include: skyphoi, lekanai, pyxides, oinochoai, lekythoi, kraters, and amphorai. These featured either black-figure or complete black-glaze decoration; red-figure is extremely rare.<sup>487</sup> Lakonian imports, mostly kylikes and other types of cups, are also well represented throughout the entirety of the sixth century pottery record.<sup>488</sup> Pots of various shapes and sizes from Chios, Rhodes and other East Greek areas are present as well, but in smaller numbers.<sup>489</sup>

The ex Recluserio della Purità excavations have also revealed six late archaic graves that are likely to be just a small part of a larger necropoleis.<sup>490</sup> These six inhumation burials are set along the same orientation in three parallel lines, in an area of about twenty square meters, and are located about twelve meters east of the habitation remains discussed above. Five of the six graves contain the remains of adults, all of whose corpses were buried facing west, and the sixth a baby. The corpse of the baby, of which only the cranium is still well-preserved, was covered over by large fragments of pots: the shoulder and partial handle of a Samian amphora was placed over top the body, while the foot of a locally made Lakonian-style stamnos or hydria covered the head. The Samian amphora is of a type usually dated to the late seventh/early sixth century; the imitation Lakonian sherd, on the other hand, belongs to the sixth century more generally.<sup>491</sup>

Of the adult burials, only one (Tomb 3) contained a significant amount of grave goods. Among the sherds found are examples of: locally-made wares with “geometric” decoration, Attic black-glaze, East Greek, and Etruscan bucchero.<sup>492</sup> Two sherds stand out for their diagnostic importance: a small cup of local production and an Attic lekythos, both of which date stylistically to the first quarter of the fifth century.<sup>493</sup> In addition to the pottery, a bronze fibula, an iron ring, and an ivory pendant were also buried in Tomb 3.<sup>494</sup> Tomb 3 provides the *terminus ante quem* for this group of graves, the baby grave the *terminus post quem*. It is likely that these burials date to the last quarter of the sixth/first quarter of the fifth century.<sup>495</sup> Walls

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<sup>487</sup> On the Attic imports, see (Rizza, 1960) 249-50; fig. 6-9.

<sup>488</sup> (Rizza, 1960) 250-1.

<sup>489</sup> (Rizza, 1960) 251-2.

<sup>490</sup> The following description of these burials is taken from (Branciforti, 2005) 52.

<sup>491</sup> (Amari, 2005) 62.

<sup>492</sup> Of these, the local wares predominate (Branciforti, 2005) 52.

<sup>493</sup> All of the pottery, except for the East Greek sherds, were found in Tomb 3 (Amari, 2005) 62-3.

<sup>494</sup> (Branciforti, 2005) 52.

<sup>495</sup> Branciforti assigns a blanket sixth-century date, but two pots datable to the first quarter of the fifth century found in Tomb 3 must push the date of at least that burial into the fifth century.

built over top of these burials, datable to the second quarter of the fifth century, indicate that this area ceased to function as a necropolis at this time.<sup>496</sup>

#### 2.4.4 *Zankle*

Although the evidence is limited to the necessarily uneven results of rescue excavation, there is enough information to provide an idea of what Zankle came to look like in the seventh and sixth centuries. There seems to be no great departure from the form and area of the early city, with a concentration of habitation in the region south of San Ranieri peninsula, and the rivers Portalegni and Zaera marking the western and eastern boundaries.<sup>497</sup> While the basic topography of the city does not seem to change, a more intense development and usage of the urban area, as marked by an increase in archaeological material recovered, is characteristic of the later archaic period at Zankle.

Partially superimposed on top of the early remains of houses in Isolato 224 are a group structures datable to the sixth/fifth-century phase of the settlement. The walls of these buildings feature a form of “pseudo-polygonal” masonry, and the pottery associated with them include a variety of local wares (especially Ionian cups), along with many fragments of transport amphorai, and other East Greek, Etruscan, and Phoenician imports.<sup>498</sup> A rectangular structure excavated in the nearby Isolato 195 features the same style of masonry, and is orientated along the same axis.<sup>499</sup> Fragmentary remains of other buildings, along with pottery of similar character, have been discovered in the area around these two insulae.<sup>500</sup> Traces of what may have been sixth-century walls have been found in this central zone, underneath via Cesare Battisti.<sup>501</sup>

Vallet found seventh and sixth-century pottery related to areas of habitation in the center of modern Messina, *i.e.* the area around via S. Cecilia. Finds from this area include Ionian and Attic black-figure cups; in his analysis of these remains, Vallet could not decide whether this apparently residential area was inside or outside the urban center of archaic Zankle.<sup>502</sup> It is, however, on the near side of the Portalegna River, and its place as part of the settlement should not be in doubt. Votive deposits near the tip of the San Ranieri peninsula attest to the presence of a sacred space at this extremity of the city. A sixth-century votive deposit, containing both local pottery and fragments of Attic black-figure, found even further northwest at the very tip of the sickle-shaped peninsula, in the area of Madonnina del Porto, provides

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<sup>496</sup> (Branciforti, 2005) 52.

<sup>497</sup> Figure 9.

<sup>498</sup> (Scibona, 1987) 436; (Gras, 2002) 17.

<sup>499</sup> (Scibona, 1987) 436, 450; (Gras, 2002) 17.

<sup>500</sup> For an inventory of these, see (Gras, 2002) 17-9.

<sup>501</sup> (Scibona, 1997) 436.

<sup>502</sup> (Vallet, 1958) 114-5; (Gras, 2002) 16.

confirmation that this remained a sacred area through the end of the archaic period.<sup>503</sup> Other than this, however, little is known of the sacred spaces in the city. A concentration of votive *thysiai* were found underneath the modern via F. Faranda, at the edge of the Hellenistic necropolis that later dominated the area,<sup>504</sup> but nothing more specific can be said about the function of this space. Outside the city proper, a sanctuary identified as that of Artemis Phaeclitis has been excavated in the area of Mylai. Bacci speculates this might have been a sort of “boundary sanctuary,” marking off the limit of the larger territory of Zankle.<sup>505</sup>

There is no known necropolis for Zankle proper in the archaic period. Some material found in the area of the Cosimo River, just southeast of the urban center and on the far side of the Zaera River, dates to the end of the seventh/first half of sixth and may represent the partial remains of an archaic burial ground.<sup>506</sup> Vallet definitively labeled this area a cemetery,<sup>507</sup> although it is possible that the finds are related to habitation rather than burial.<sup>508</sup> The finds include fragments of local and imported (Corinthian, Ionian, Rhodian, Chalcidian, and Attic black and red-figure) pottery dating from the end of the seventh to the middle of the fifth century.<sup>509</sup> Local *hydriai* (jugs with cutaway neck), comparable to the ones at Naxos, were found in several seventh and sixth-century graves at Mylai.<sup>510</sup>

Pottery produced during the late archaic and classical period at Zankle conforms to a “western Greek koine that Villard has seen as a typical marker of the late archaic period.” Bacci speculates that this is a byproduct of Zankle becoming less “emporion-like” in character over the course of the seventh and sixth centuries,<sup>511</sup> but as was seen above, locally produced pottery began to appear at Zankle from early on. Individually, it is hard to know if pots were produced at Zankle itself, or were imported from another production center in the region of north/east Sicily. Chemical and petrographic analysis has indicated that the traditional assignation of these products to local Sicilian/Calabrian workshops is correct,<sup>512</sup> but finer sourcing distinctions have proven harder to ascertain.<sup>513</sup> The styles of these cups are based, for the most part, on Attic and Ionian types, above all black-glazed anionic cups of Attic style, Ionian Type A and B banded cups. As at Naxos, locally or regionally produced

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<sup>503</sup> (Vallet, 1958) 114; (Bacci, 2000) 240; (Gras, 2002) 16.

<sup>504</sup> (Bacci, 2000) 242.

<sup>505</sup> (Bacci, 2000) 243.

<sup>506</sup> (Bacci, 200) 241.

<sup>507</sup> (Vallet, 1958) 114.

<sup>508</sup> Bacci has suggested that the area around the Cosimo River was for habitation (Bacci, 2000) 247.

Gras, however, maintains his preference for the earlier interpretation of Vallet (Gras, 2002) 21.

<sup>509</sup> (Gras, 2002) 15.

<sup>510</sup> (Coldstream, 2004) 48; (Bernabo-Brea-Cavalier) pls. 40-1.

<sup>511</sup> (Bacci, 2000) 244.

<sup>512</sup> (Barone, et al., 2005).

<sup>513</sup> (Barone, et al., 2010).

figured pottery is rare; Bacci (2000: 246) speculates it was a “luxury” item, reserved for tombs, votives and export. Only one such piece has been found in habitation levels at Zankle, the lid of a lekane.<sup>514</sup>

Corinthian predominates among fineware imports until the second half of the sixth century, when Attic black-figure becomes the most commonly type of imported pottery at Zankle.<sup>515</sup> The large-scale presence of Attic black-figure ware has long since been known; a cache containing large amounts of it, datable broadly to the latter half of the sixth century, was discovered in 1908 in the area of Insula 283, having been revealed as a result of a severe earthquake.<sup>516</sup> Subsequent excavation of sixth-century levels has also regularly produced Attic black-figure. Some East Greek imports begin to show up in the last quarter of the seventh century, including grey ware aryballoi and Egyptianizing faience vases. Few examples of Lakonian imports have been found at Zankle; most of what has been found dates from the beginning of the second half of the sixth century. These consist mostly of fragments of kraters and transport amphorai.<sup>517</sup> Beginning from the second half of the sixth century, transport amphorai recovered at Zankle are predominantly of western Greek origin,<sup>518</sup> while Etruscan types datable to the sixth and fifth centuries are also known.<sup>519</sup>

Zankle, along with Selinus, Himera, and Naxos, was among the first cities on Sicily to mint its own coins. Gielow’s 1931 die-study remains the only comprehensive study of this archaic coinage. Her corpus consists of only seventy-five specimens; among these, however, are sixty-one obverses.<sup>520</sup> She divides the drachmae by formal analysis into four distinct chronological groups.<sup>521</sup> Group One features is minted in a true incuse style, in the manner of the coinages of South Italy; the obverse type is a dolphin, with the legend DANKLE underneath, the reverse a negative imprint of the same, less legend. The obverse type of the dolphin is constant throughout all four groups. Coins of Group Two are distinguished by their abbreviated legend (DANK) and a switch to an incuse square with central seashell reverse type; this becomes the reserve type for all the remaining groups. The distinguishing characteristics of Gielow’s Group Three are the addition of four rectangular projections above the dolphin on the obverse, and the expansion, in some cases, of the ethnic legend to DANKL. Finally, coins that once again feature the full ethnic DANKLE constitute Group Four. Gielow places the fractional coins into a

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<sup>514</sup> (Bacci, 2000) 246.

<sup>515</sup> (Bacci, 2000) 245.

<sup>516</sup> (Scibona, 1987) 447.

<sup>517</sup> (Bacci, 2000) 245.

<sup>518</sup> (Bacci, 2000) 246.

<sup>519</sup> (Bacci, 2000) 244.

<sup>520</sup> Group One: 6 drachmae, obverses 1-4; Group Two: 13 drachmae, obverses 5-16; Group Three: 8 drachmae, obverses 17-24; Group Four: 47 drachmae, obverses 24-69; Group Five: 14 obols, 1 one-sixth obol, obverses 70-81 (Gielow, 1931).

<sup>521</sup> (Gielow, 1931) 11. See Figure 15 for illustrations of these types.

fifth group; these tend to compare most favorably to types of Groups Two and Three.<sup>522</sup>

The archaic coinage of Zankle begins c.525 and continues until the introduction of new types after the arrival of the Samian immigrants in 493. These coins were minted on the same Euboic-Chalcidian standard that was used at Himera, Naxos, and Rhegion.<sup>523</sup> The earliest coins minted were drachmae, and these were followed by obols, which have a weight range of 0.70 to 0.90g. These were followed in turn by an issue of 0.12 g, which Rutter identifies as 1/6 obols, rather than onkiai.<sup>524</sup> Though most known findspots are within the area of northeast Sicily, Zanklean drachmae of Zankle have been recovered in Near Eastern hoards, including ones in Jordan, Egypt, and Ecbatana.<sup>525</sup> Conversely, the only known findspot for the fractional coinage is in the area of Messina itself.<sup>526</sup>

## 2.5 c.650-490: summary, synthesis, and preliminary analysis

Before moving on to chapter three, in which the evidence introduced in this chapter is applied to treat more specific aspects of economic activity, I offer here a brief synopsis of and a few comments on the material presented in the preceding section.

As is the case for the earliest period of the histories of Naxos, Leontinoi, Katane, and Zankle, the available evidence for the economies of each varies from city to city. However, a general trend of growth from c.650 to 490 is certainly observable in the archaeological record. At Naxos, this is attested by a physical expansion of the city's area; at Leontinoi, the settlement seems to continue to sprawl, even while the urban core, centered around the San Mauro valley, continues to develop; Zankle sees an increasing density of settlement and activity within its original confines; while at Katane, the evidence is just too limited to comment on potential urban expansion. These topographical expansions are matched by an apparent increase in the total amount of resources expended on the construction of buildings of all types. At Naxos there is evidence for larger, more expansive houses, while both Leontinoi and Naxos see the construction of large sanctuaries, complete with stone temples and altars. City walls also are put into place in the sixth century at

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<sup>522</sup> (Gielow, 1931) 29-31.

<sup>523</sup> (Rutter, 1997) 108. Rather than seeing this as evidence for common economic interests, however, Bacci comments on how this "confirms two constants that characterized Zankle's political life: the "association" with the other cities of Chalcidian origin, and the city's "projection" into the area of the Tyrrhenian Sea." (Bacci, 2000) 245.

<sup>524</sup> (Rutter, 1997) 108-9. Only one specimen, number 81, is included in Gielow's corpus (Gielow, 1931) 31.

<sup>525</sup> *IGCH* 1644, 2060, 2062, 2064, 2079; (Price & Waggoner, 1975) 125; (Caccamo Caltabiano, 1993) 12;

<sup>526</sup> (Boehrer, 1984-5) 111.

these two sites, the construction of which would have required a considerable expenditure of material and human resources.

Already documented were the difficulties that plague understanding of the *chora* of these cities. Indirect evidence, however, points to increasing utilization, and perhaps even control, of the areas surrounding Naxos, Leontinoi, and Zankle in the seventh and sixth centuries. The use of stone quarried from outlying districts at both Naxos and Leontinoi indicates that these settlements had either direct or indirect access to these areas, while the quarrying of stone on a larger scale in turn indicates an intensified utilization of natural resources, spurred at least in part by the presence and demands of these Greek settlements. The increased presence of locally produced hydria, possibly used for the storage of wine, may attest to an increased production of wine in the *chora* of Naxos; these vessels, while adequate for the purposes of storage, are not ideally suited for transport of liquids over long or even short distances (*i.e.*, they do not seem capable of serving in lieu of transport amphorai); the high frequency with which these vases appear, then, may be in direct correlation to a high rate of production and consumption of local wine at Naxos.

Elements of similarity and difference in the archaeological record also offer possible glimpses into economic patterns. The general uniformity of pottery imports at all Sicilian Greek sites, but especially Naxos, Leontinoi, Katane, and Zankle attest to the shared networks of connectivity that connected these settlement to the areas surrounding them, one another, and the larger Mediterranean world. The similarity of goods indicates a similarity of traffic; Zankle, despite its location on the Strait of Messina, did not experience a fundamentally different pattern of economic interaction than the less “centrally” located Leontinoi. Differences in these records do exist, however, and these also require explanation. Perhaps most notable in this regard is the presence of Phoenician wares at Zankle, and the possibility that geography plays a role here must be considered. Evidence for the movement of ideas, or at least of information, comes in the form of building styles and techniques employed in the seventh and sixth centuries. In particular, the religious architecture of Naxos and Leontinoi compares quite well; pottery shapes and styles develop into a kind of koine, and this syncretization, far from being an obvious outcome, requires explanation. Meanwhile the employment of distinctive styles of polygonal masonry at all four sites may speak to a current through which technical innovation and inspiration circulated throughout the Greek world, inclusive of these places. Finally, the introduction of coinage at late archaic Naxos and Zankle provides an important new evidentiary window onto the economies of these two cities, and this is an area that I explore in more depth in the following chapter.



## Chapter 3 The Connected Economies of Greek Sicily

### 3.1 *Describing and explaining the archaic economies of Naxos, Leontinoi, Katane, and Zankle*

Chapter one addressed issues of historiographical context, approach, and purpose; chapter two compiled and organized the evidence available for analysis of the places identified as case studies. The third chapter combines the discussion and agenda laid out in the first with the information presented in the second. It is a synthesis of argued-assumption and correlated data, both a description of the prevailing patterns of economic activity in Naxos, Leontinoi, Katane, and Zankle during the archaic period, and an explanation of the creation and maintenance of the structures that underlay the practices and habits observable in material record. Bringing together the different kinds of archaeological evidence analyzed in chapter two, this chapter argues that the Euboian colonies of eastern Sicily were engaged in agricultural production and in a broader Mediterranean network of *cabotage* from their inception. There are also hints in the material record that there were constant economic interactions between them, creating an impression of a kind of regional economy that is supported, in the last section of the chapter, by a study of the production and circulation of coinage in these cities down to c.490.

The chapter begins with a partial re-telling of the information compiled in chapter two as a narrative of economic practice. The evidence, largely the material record, is resolved as an incomplete receipt of the countless transactions of these fundamental types that in their performance made manifest the economies of the cities/regions in which they were completed. Explanation of this story follows, utilizing assumptions about dominant modes of behavior customized to the specific historical time and place in which they took place; the distinct, yet linked, processes of production, distribution and consumption are examined as outcomes of historically and geographically proscribed circumstance. A culminating section devoted to the late-appearing phenomenon of coinage ties together the strands of both evidence and explanation, and also acts as one proposed point of departure for subsequent study, discussed further in the concluding chapter. From these components, an explanatory narrative of the economies of the places under study emerges, its plausibility founded upon its level of evidentiary detail, straightforward discussion and application of guiding assumptions, and the transparent combination of the two.

### 3.2 *A Descriptive Narrative*

The evidence presented in the preceding chapter presents *prima facie* a compelling case for a level of connectivity in the economies of archaic Naxos,

Katane, Leontinoi, and Zankle remarkable both in its breadth and depth. In the case of all four places, the archaeological record provides positive indication of a frequent and regular influx of foreign goods. Most telling is the ceramic record. Pottery proves the best testament, largely due to the accident of its survival. The ceramic record has long been used in the fields of archaeology and art history for a variety of purposes. Not least among these is the establishment of relative chronologies, the dating of periods of occupation of a given site of ancient habitation, and the cultural input that accounts for the style and decoration of given types.

The primary emphasis of analysis here is, by contrast, the unpacking of information related to economic practice that the pottery associated with Naxos, Leontinoi, Katane and Zankle is capable of providing. Looking back at the data compiled in chapter two, some constant features appear throughout the archaic period in the ceramic record of each place: the presence of a large number of imports of various types; an even larger number and wide range of locally/regionally produced pots; and often distinctive patterns of where and when certain imported and local types have been recovered. Focusing on the first of these for now, I want to review in detail to explore what this information reveals about the depth and direction of outside connections in the economic structures of these places.

### 3.2.1 *Naxos*

At early Naxos, imported Greek pottery is fairly commonplace. Dominant amongst decorated wares are Late Geometric and Early Protocorinthian produced at Corinth. Thapsos cups and kotylai are known from the habitation areas,<sup>527</sup> while examples of Protocorinthian aryballoi are known from the necropolis area north of the early settlement.<sup>528</sup> While the Corinthian imports predominate, a sprinkling of Euboian wares has also been recovered in habitation contexts.<sup>529</sup> Both Corinthian A and Attic SOS transport amphorai have been found in habitation areas, and also in a handful of child and other burial contexts.<sup>530</sup> While regular importation of pottery continues through the remainder of the archaic period, the percentage of non-local sherds decreases sharply over the course of the seventh and sixth centuries, especially in the case of decorated wares.<sup>531</sup> Corinthian, and eventually Attic, black-figure are known from habitation contexts, but in proportionally smaller numbers than their Late Geometric and Protocorinthian predecessors.

However, in contrast to the earlier period, from the latter half of the seventh through the sixth and into the fifth century, this smaller bulk of imported pottery features a wider range of styles and points of production. In addition to the more

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<sup>527</sup> (Lentini, 2004) 30.

<sup>528</sup> (Pelagatti, 1980–81) 699–700.

<sup>529</sup> (Lentini, 2000) 117.

<sup>530</sup> (Pelagatti, 1980–81) 700, n. 18

<sup>531</sup> (Grasso, 2009) 5.

common Corinthian and Attic imports, Etruscan, East Greek, Lakonian, and Euboian decorated pottery has also been recovered, albeit in limited numbers.<sup>532</sup> From a series of pits found beneath the Classical ship-sheds east of the Larunchi hill comes a wealth of locally manufactured cups, jugs, and bowls and multiple fragments of Middle Corinthian kotylai, but also a late seventh-century Chiot kantharos.<sup>533</sup> Mixed amongst the numerous local, Corinthian, and Attic amphorai fragments recovered from the mid-to-late seventh-century Pastas House are East Greek and Cycladic imports;<sup>534</sup> mixed amongst the mostly local pottery in the late-seventh/sixth century Santa Venera sanctuary are sherds of transitional Protocorinthian, Corinthian and Attic cups, along with contemporary Ionic cups and kylikes, Lakonian kraters and Etruscan bucchero kantharoi.<sup>535</sup> Perhaps related and worthy of note, large quantities of imported ceramic figurines found in the Santa Venera sanctuary come broadly from mainland Greece, but also and especially from Gela, while a deposit of figurines and small masks found just outside this same sanctuary are mostly Rhodian in type, if not manufacture.<sup>536</sup> Thus, we observe a certain dissonance in the record of ceramic imports over time: although the overall quantity of imported pottery seems to decrease over time, the material comes from an increasingly larger number of production areas.

### 3.2.2 *Leontinoi*

The archaeological findings in the area of ancient Leontinoi display a similar diachronic pattern.<sup>537</sup> At the so-called Heraion of Scala Portazza, northwest of the apparent early urban core and near to the Lisso River, sherds of mostly Corinthian, but also “Euboio-Cycladic” kraters, dinoi and cups are mixed into large (perhaps votive) deposits of pottery associated with what may have been an ash altar.<sup>538</sup> One of the few habitation contexts definitively linked to late eighth and early seventh-century settlement is the series of rock-cut rooms found on the south slope of San Mauro hill, near to which large quantities of contemporary pottery lacking more precise provenance have also been unearthed. The majority of this pottery is Greek-style and locally made. As at Naxos, Late Geometric and Procorinthian cups produced at Corinth also appear in large numbers. Also as at Naxos, Euboian products more generally constitute a small proportion of Greek imported pottery in

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<sup>532</sup> (Pelagatti, 1972) 219.

<sup>533</sup> (Blackman & Lentini, 2003) 428-34.

<sup>534</sup> Pelagatti notes that, while imported finewares are rare finds at Pastas House, imported amphorai sherds actually occur in quite large numbers. (Pelagatti, 1984-85) 820.

<sup>535</sup> (Lentini, 1995) 184.

<sup>536</sup> Local imitations of the Geloan figurine type have been found in other contexts at Naxos, outside the sanctuary. (Gentili, 1956) fig. 10-14; (Pelagatti, 1964) 154; (Pelagatti, 1972) 217-8, figs. 36 & 37.

<sup>537</sup> Grasso notes the overall decrease, using Naxos as a point of comparison (Grasso, 2009) 5.

<sup>538</sup> (Sudano, 2009) 3; (Frasca, 2009) 79.

the late eighth and early seventh centuries.<sup>539</sup> In this case, however, local Sikel types, specifically three and four-handled incised bowls, were found scattered along with the “Greek” remains all along San Mauro hill.<sup>540</sup>

As at Naxos, an overall reduced number of imports in the second half of the seventh century and beyond features simultaneously an increase in variety, with East Greek and Cyladic material appearing earlier, and Attic black-figure later, but in larger numbers.<sup>541</sup> A sixth-century votive deposit unearthed on the western slopes of Metapiccola hill contains primarily Attic pottery, but Ionic and Ionic type pots and figurines are also present. Outside the immediate San Mauro–Metapiccola area, the late seventh and early sixth-century Alaimo sanctuary features a roughly fifty/fifty split of local and imported pottery; while Corinthian predominates amongst the latter, a large number of East Greek pyxides and a smaller number of Ionic cups appear, along with numerous Rhodian red-slip aryballoi and fusiform jars, smaller numbers of Attic amphorai, skyphoi, and kraters and Etruscan kantharoi round out the record.<sup>542</sup> On the other hand, Attic and Ionic cups comprise the majority of imports in the sixth-century phases of the Heraion of Scala Portazza.<sup>543</sup> Sixth-century burials outside the south gate of the city wall present yet another import scenario, with various graves containing combinations of mostly Corinthian, East Greek and Attic pottery, but with no obvious preference among these apparent.<sup>544</sup>

### 3.2.3 *Katane*

Virtually all we know archaeologically of early Katane is its limited ceramic record, which consists mostly of material from the modern city’s central Montevergine hill and Castellino Ursino. Excavations inside a Benedictine monastery on the former resulted in the discovery of a wide range of early imported pottery, including: Thapsos cups, Protocorinthian kotylai, East Greek (Rhodian) band cups, assorted Euboian vessels including kraters, and Attic SOS transport amphorai.<sup>545</sup> Some obvious parallels to the early pottery from Naxos and Leontinoi exist, including the presence of Corinthian and Euboian finewares and Attic amphorai. However, the additional presence of Rhodian band cups is worthy of note. Nearby excavations on the hill revealed scarce traces of an eighth and early

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<sup>539</sup> (Frasca, 2009) 77–9.

<sup>540</sup> (Rizza, 1978) 33–4; (Rizza, 1994) 120; (Frasca, 2009) 43.

<sup>541</sup> (Frasca, 2009) 77–9.

<sup>542</sup> (Grasso, 2009) 5–6, 8. Grasso offers her own interpretation for this breakdown, *i.e.* they are deposits made during the frequent visits of Corinthian and East Greek traders, and also posits that the Thucydidean-era toponym “Phokaia” applied to a quarter of Leontinoi might be taken as evidence for the large-scale, archaic-era presence of Phokaians within the settlement (Grasso, 2009) 5–6.

<sup>543</sup> (Sudano, 2009) 7.

<sup>544</sup> (Frasca, 2009) 83.

<sup>545</sup> (Rizza, 1996) 15.

seventh-century inhabitation, namely a single sherd of a Protocorinthian kotyle.<sup>546</sup> Excavations at the Castello Ursino produced more eighth-century material, mostly in the form of Thapsos cups.<sup>547</sup>

The battered—and incompletely published—remains of what seems to be a group of houses, excavated again on Montevergine hill, provide a small glimpse into the importation of pottery in habitation contexts at later seventh and sixth-century Katane. Along with local pottery and other items, here were found: incised bowls likely produced at Massalia, a sherd of an Ionic cup datable to the late seventh century, a Late Corinthian globular aryballos, and part of a late sixth-century Attic black-figure cup.<sup>548</sup> Elsewhere, a large votive deposit contained mostly locally produced figurines and pottery, but some imports as well. Corinthian, along with Attic, predominates among these, but Lakonian and East Greek (Rhodian and Chiot) are also known.<sup>549</sup>

In the later period, there is a stronger overlap in the kinds of imported pottery recovered at the sites of ancient Katane, Naxos, and Leontinoi. Katane does lack the presence of Etruscan bucchero, but this may be more a product of the overall thin record available for it than an indication of true absence. Nevertheless, the restricted ceramic record of Katane does hint at meaningful difference when compared to those of Naxos and Leontinoi. The limited and sporadic nature of excavation makes it impossible to know whether or not imports overall dropped over time at Katane as they did at the other two places, but difference is attested by the early appearance of Rhodian (East Greek) finewares alongside the Corinthian and Euboian types known at Naxos and Leontinoi, and the later importation of Massilian bowls in large numbers.

### 3.2.4 *Zankle*

The size and importance of modern Messina also inhibits our knowledge of ancient Zankle, but this site has benefited from more rescue excavation than has been conducted in Catania. As elsewhere in the Greek west, Corinthian products predominate amongst the earliest imports, but local pottery constitutes a definitive majority of the total sherds recovered.<sup>550</sup> From the early habitation areas, centered around Isolato 224, come a number of Corinthian sherds, especially Thapsos cups and fragments of various Protocorinthian pots.<sup>551</sup> Contemporary wells have also yielded fragments of Corinthian imports, especially again Thapsos cups;<sup>552</sup> meanwhile, a

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<sup>546</sup> (Amari, 2005) 62.

<sup>547</sup> (Rizza, 1996) 17; (Patane, 1993–4) 912.

<sup>548</sup> (Amari, 2005) 64–5; 71–3.

<sup>549</sup> (Rizza, 1960) 252–8; (Rizza, 1996) 14.

<sup>550</sup> (Bacci Spigo, 1986) 269.

<sup>551</sup> (Scibona, 1987) 436.

<sup>552</sup> (Gras, 2002) 19.

votive deposit containing many Protocorinthian aryballoi was recovered at an early shrine sited at the tip of the San Ranieri peninsula.<sup>553</sup> In addition to these Corinthian wares, and spread amongst the excavated areas of habitation, is imported fineware and other pottery of a multitude of types. As at Naxos, Leontinoi, and Katane, limited quantities of Attic SOS transport amphorai and imported Euboian fineware are present from the outset, but alongside the latter appear more broadly Euboio-Cycladic types.<sup>554</sup> As at Katane, East Greek imports are also in evidence, but in larger quantities and more variety.<sup>555</sup> Apart from Greek imports, not only does Etruscan fineware appear in the record for earliest Zankle, but also Phoenician red-slip, and a handful of Egyptian ushabti vases as well.<sup>556</sup>

The varied import record of the later seventh and sixth centuries at Zankle presents as a continuation, rather than an alteration, of a basic pattern, at least in terms of the variety of points of production apparent. As elsewhere in Greek Sicily, Attic black-glazed and black-figure pots gradually replace Corinthian as the most commonly occurring types amongst imported finewares.<sup>557</sup> Phoenician red-slip continues to appear in the record as well, along with local types inspired thereby. East Greek types also continue to appear, while a few examples of Lakonian black-figure datable to the mid-sixth century are a new addition.<sup>558</sup> So, while we do see the shift from mostly Corinthian to mostly Attic, along with the addition of Lakonian black-figure, that is typical of sixth-century pottery distribution in the west more generally, the underlying pattern of wider variety that characterizes the earlier import record continues to persist.

### 3.2.5 *A comparative look at the ceramic records*

As this brief summary has shown, points of overlap and divergence appear in the import records of Naxos, Leontinoi, Katane, and Zankle. From them, we can see that these places, each in its own way, were deeply and without interruption connected to a multitude of points of production, sometimes near, and sometimes far outside obvious geographical and cultural borders. All share in common the dominant presence of first Corinthian, and later Attic, imports, but there are also enough apparent differences in the kinds and quantities of ceramics that were imported into each as to require some further thought. The general tendency for Corinthian fineware and Etruscan bucchero to travel together has been noted in the

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<sup>553</sup> (Orsi, 1929).

<sup>554</sup> (Bacci Spigo, 1986) 251, 253.

<sup>555</sup> Mostly various kinds of hydriai, types which were also being locally produced. (Bacci, 2000) 245.

<sup>556</sup> (Bacci, 2000) 243-4; (Bernabò Brea, 1997).

<sup>557</sup> (Bacci, 2000) 245.

<sup>558</sup> These local “imitations” of Phoenician red-slip actually begin to appear in the early seventh century (Bacci, 2000) 244.

analysis of archaic shipwrecks,<sup>559</sup> and so the tandem appearance of the two at early Zankle and later Naxos and Leontinoi can at least in part be viewed as individual manifestations of a larger pattern. The continued appearance of Etruscan finewares after the switch to Attic in the ceramic record, however, is just one indication that a more nuanced explanation should be sought. Similarly, the constant and uniquely localized element of variety—Phoenician red-slip plates at Zankle, Geloan figurines at Naxos, Massiliot bowls at Katane, large amounts of Sikel types at early Leontinoi—points to the existence of particular networks of distribution that need to be understood as more than just constituent parts of a more general Mediterranean-wide, Hellenic, or even specifically Euboian system. Assuming then that these exist, what were they like? How and why did they come to be, or to be sustained or to grow over time?

That the basic mode of distribution was more or less a constant seems likely: slow but steady streams of objects flowing in for the consumption of the inhabitants of the settlements where they eventually ended up. But who are the actors in this economic system, both the agents of mobility and those consuming the things that have been moved? Is it helpful to envision a “Euboian trading network,” a large, exclusive, centrally-organized, trans-polis cooperative wherein a place like Zankle or Naxos plays the prescribed role of strategic weigh-station?<sup>560</sup> Or should we imagine a uniquely mobile few acting as bridges to otherwise isolated communities of inward-looking autarkists, entrepreneurs out of place and time operating amidst economic primitives, the able and willing minority moving for profit items whose presence or absence always remains essentially ancillary to the economic *habitus* of the majority? Or does this constant mobility—of things, people, and information—have a more fundamental and dynamic relationship with local and regional economic practice, does the state of being connected impact more than just the peripheries of economic behavior?

### 3.3 *Connectivity: its intensity and location in the economies of Naxos, Leontinoi, Katane and Zankle*

In assessing what imported pottery records might tell us about contemporary economic practice, I leave aside altogether any framework built on notions of colonial, imperial, or other exploitative core and periphery relationships;<sup>561</sup> I prefer instead to employ assumptions grounded in the time and place of the ancient Mediterranean world. The archaeological records of imported ceramics at Naxos, Leontinoi, Katane, and Zankle indicate that, throughout the archaic period, each of

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<sup>559</sup> (Roulliard, 1991) 332, as cited at (Osborne, 2009) 84.

<sup>560</sup> See the discussion at (Tandy, 1997) 76, especially note 88.

<sup>561</sup> See historiographical discussion in chapter one above, and also (Owen, 1995); (De Angelis, 1998); (Purcell, 2005a).

these places maintained *constant and truly economic* connections to places outside their immediate situation. In a word, the story collectively told by all these sherds is one of connectivity.<sup>562</sup> This one-word explanation is, however, too shallow; we need to further define this connectivity, its intensity, its origins, its effects.

I term these connections *constant* because the archaeological records feature no indications of periodic or other interruptions; *truly economic* because the volume and variety of contexts evidenced necessitate an explanation that lies above and beyond the limits of reciprocity and cultural or ritual gift-exchange.<sup>563</sup> Similarly, the nature of this record seems to defy any explanation that would locate the transactions that brought imported pottery to these places outside of, or parallel to, the basic economic structure of each settlement. Tandy's thesis, for example, that the archaic foundation of the settlements of South Italy and Sicily witnessed the development of a market-oriented system of trade that operated parallel to and independent of the normal cultural constraints that largely prevented the free and widespread movement of goods outside of their immediate point of production, fails to adequately account for the sheer amount of imported pottery that excavation has produced.<sup>564</sup> Moreover, the depth and breadth of uses to which this pottery (and, in the case of transport amphorai and aryballoi, the goods which they contained) was apparently put negates the idea that the transactions that moved them were for the benefit of, or were only accessible to or relevant for, an elite few motivated by the novel pursuit of profit at the margins of an otherwise locally and culturally restricted economic system.

The material evidence—its quantity, its quality—can be better fitted into the larger historical context of the ancient Mediterranean, as laid out especially in Horden and Purcell's *The Corrupting Sea*.<sup>565</sup> Connectivity, the idea that the sea and its littoral were witness to countless movements and hosts of an almost endless stream of concomitant cultural, economic, militaristic and other transactions is a central thesis of that work. In many ways, this general view of the ancient Mediterranean world can be taken as descriptive of the specific situation of Greek overseas settlement in the archaic period. The intensity of exchange as evidenced by the imported pottery record at the places under study here is one example, but there are others. For it is clear that more than just pots and other material things were constantly in motion. The mobility of people, information, ideas, knowledge, all

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<sup>562</sup> The concept of connectivity, as discussed in the final section of chapter one, is crucial to my interpretation of these archaic economies. My view of the relationship between connectivity in the Mediterranean and ancient economies owes much to Purcell's view of the mobility of people and goods in ancient economic practices, as expressed especially in (Purcell, 2005b) and (Purcell, 1990).

<sup>563</sup> In this assumption I follow Foxhall, who argues in a similar context that the "...crude notion of 'reciprocity'..." is incapable of explaining what the archaeological record indicates about the activities of Phoenicians on Cyprus or Greeks in Egypt in the archaic period (Foxhall, 1998) 300.

<sup>564</sup> (Tandy, 1997), especially 112-7.

<sup>565</sup> And also (Purcell, 1990) and (Purcell, 2005b).



were part and parcel of the phenomenon of these settlements, and to a large degree can be said to define them. Osborne has commented on the ways in which cultural forms may have moved with objects, specifically Greek cultural forms with idiosyncratic Greek objects, e.g. the symposium with Greek kraters and drinking vessels.<sup>566</sup> I am less interested in exploring the potentially assimilative or culturally transformative aspects of these exchanges. The mobility of which I am speaking did convey such corrupting forces, but what I am attempting to track are the impacts on specifically economic behavior that intense connectivity created.

### 3.3.1 *Evidentiary pictures of connectivity: graves and houses at Naxos*

That is not to suggest that these economies were somehow based upon principles of egalitarianism. At Naxos, for example, the archaic graves reflect an apparent degree of social stratification. Some are simple cremations deposited in pits, others inhumations in trenches, and a fraction of this latter group have been found to contain grave goods, especially imported Corinthian aryballoi.<sup>567</sup> This discriminate usage, or re-usage, does give the impression that consumption of certain kinds of Corinthian pottery and perfume, and other imported “luxury” products may have been at least partially, or at certain times, confined to a restricted class of the local population.<sup>568</sup> The evidence from the houses, however, provides a different picture. As we have seen, the inhabitants of the so-called Pastas House, in use during the second half of the seventh and the sixth centuries, seem to have enjoyed the consumption of a wide variety of foreign foodstuffs, to judge from the large quantity of fragments of imported amphorai recovered during its excavation. These Corinthian, Attic, East Greek, and Cycladic transport vessels were not moved for aesthetic purposes, and we can imagine that each was filled with some sort of commodity—wine, oil, grain, etc.—that was ultimately consumed here at Naxos, far from its point of production.<sup>569</sup> Conversely, the presence of imported finewares is restricted; large quantities of eating, drinking, and pouring vessels have been found, but the vast majority are locally produced.<sup>570</sup>

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<sup>566</sup> (Osborne, 2009). Morel has also noted the complex relationship between economic interaction and cultural interplay (Morel, 1984) 132-3. Hodos takes on the more specific question of cultural assimilation and the importation of wine and drinking vessels in eastern Sicily (Hodos, 2000).

<sup>567</sup> (Pelagatti, 1980-81) 698-701.

<sup>568</sup> Foxhall has pointed out, however, that consumption of even “luxury” items was rarely restricted to the well-off few, suggesting instead that wealth or status affected frequency of consumption rather than ability of consumption (Foxhall, 1998) 305.

<sup>569</sup> (Pelagatti, 1984-85) 820.

<sup>570</sup> Drinking vessels are mostly Corinthianizing and Euboianizing types; eating vessels included lekanoi that seem to have served as bowls; pouring vessels include jugs that may also have been used for storage (Pelagatti, 1984-85) 836-7.

At first glance, this consumption of imported produce may seem to fit with the apparent pattern seen in the graves. For, the Pastas House is clearly an outstanding residence, its large size, complex plan, and fancy construction marking it out as such when compared to both earlier and contemporary houses at Naxos that are smaller and simpler in plan, and less carefully constructed.<sup>571</sup> However, these disparities in form are met by a relative overlap in the pottery records. While the finds of amphorai fragments from the Pastas House are outstanding in their quantity and variety, they are not fundamentally different than what we get at the less elaborate Houses 1-5. These all were in more or less continuous use from the end of the eighth century onward, and imported amphorai fragments datable to the entirety of the archaic period have been found associated with them, albeit with neither the frequency nor variety seen with the Pastas House.<sup>572</sup> What we have then, is a degree of difference, rather than a complete incomparability, in the ways in which the apparently different *strata* of local society engaged in the consumption of imported foodstuffs. All inhabitants of Naxos, all of its economic actors, seem to have had access to some kinds of foreign produce, only some more than others.

### ***3.3.2 Evidentiary pictures of connectivity: sanctuaries at Leontinoi and Naxos***

The view from the seventh and sixth-century sanctuaries at Leontinoi and Naxos offers another perspective on how certain types of local and imported products were consumed. At the Santa Venera sanctuary in Naxos, the vast majority of pottery recovered, including that found within votive deposits, is of local manufacture, although a smaller number of imports does appear. Particularly common are Ionic-style cups that sport a shape that would have distinctly marked them off as local products.<sup>573</sup> Also commonly found in excavation of this sanctuary have been ceramic figurines. These, in contrast to the pottery, are predominantly imported, many from Gela, but others more generally from the area of mainland Greece.<sup>574</sup> What made these patterns of pottery and figurine usage the norm, why or how it became accepted practice to use local pottery and imported figurines together in a ritualized context, is difficult to assess without knowing the particular cultural circumstances that created and sustained these practices. What seems clear from a larger economic perspective, however, is that neither any local inability to produce,

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<sup>571</sup> This house measures 13.5 by 7 m, while other archaic residences excavated at Naxos are significantly smaller, e.g., the so-called House 5 is 5.8 by 3.6 m (Pelagatti, 1984-85) 815; (Lentini, 2004) 29. The use of Lesbian masonry, while common at Naxos, is nevertheless unusual in a domestic context (Lentini, 2000) 1009.

<sup>572</sup> (Lentini, 2004) 30.

<sup>573</sup> (Lentini, 1995) 184.

<sup>574</sup> (Lentini, 1995) 188.

nor a lack of access to foreign products drove these decisions, or defined these patterns.<sup>575</sup>

The sanctuaries at Leontinoi also point to the employment of particular, rather than random, usages of local and imported objects in sacred contexts. On Metapiccola hill the remains of an *in antis* temple have been recovered. A large cache of objects, interpreted as a votive deposit and associated with this temple, consists primarily of imported Attic pottery.<sup>576</sup> A kilometer or so outside of the immediate urban area, at the Heraion of Scala Portazza, an abundance of shattered drinking vessels and numerous amphora fragments are the physical remains of cult activity that apparently included activities of ritualized drinking. In the sixth century, local cups and Attic imports seem to have been used indiscriminately in these rites, as was wine from a multitude of sources.<sup>577</sup> The pottery record from the nearby seventh and early sixth-century sanctuary at Alaimo, however, is more divided. Large numbers of Corinthian aryballoi, alabastra and lekythoi, along with various types of East Greek pyxides, have been recovered at this site.<sup>578</sup> Local pottery, on the other hand, consists almost entirely of votive miniatures or cups and pitchers that feature simple decorative patterns.<sup>579</sup> It is not that open-shaped vessels are absent from the import record of Leontinoi more generally, nor is it the case that local production of closed-shaped pots or those featuring figural decoration was lacking.<sup>580</sup> As at the Santa Venera sanctuary at Naxos, patterns of pottery usage at the sanctuary of Alaimo appear to have been determined by factors other than strict availability.

Who had access to these sanctuaries, who were the people using these pots and making these deposits? These questions are more difficult to assess; the evidence itself is mute, and inference quickly becomes almost a matter of belief. The import/local divide at Alaimo, for example, can be explained in a number of ways. Grasso takes the heavy presence of Corinthian and East Greek pottery as evidence for the temporary presence of Corinthians and East Greeks; she interprets these items as dedications made by hopeful or grateful traders.<sup>581</sup> However, this explains the apparent pottery usage patterns only if such traders constituted the entire class of people using the sanctuary. For, the imported pots are not mixed in with local ones of similar shape or design, nor are the locally made pots redundant in usage to any class of imports that are present. We do not have locals using their pottery and foreigners theirs for the same purposes; the material record at Alaimo betrays a

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<sup>575</sup> As discussed above, local imitations of these figurine types did exist more broadly at Naxos, and the importation of comparable types of drinking vessels was ongoing.

<sup>576</sup> (Rizza, 1963) 342-7.

<sup>577</sup> (Sudano, 2009) 7.

<sup>578</sup> (Grasso, 2009) 8-9.

<sup>579</sup> (Grasso, 2009) 4.

<sup>580</sup> (Rizza, 1978) 36-7; (Biondi, 2000) 104-9; (Frasca, 2009) 84 ff.

<sup>581</sup> (Grasso, 2009) 5.

specialization of pottery usage according to point of production, not a differentiation of dedications based upon the residency of the dedicator. The inference of a specifically foreign human presence in this evidence is a spurious necessity, one predicated by an assumption that people and goods in the archaic Greek world moved according to modern concepts of how commerce, and specifically long-distance trade, works.

### 3.3.3 *Connectivity beyond objects: the mobility of information*

The archaeological record not only confirms the reality of this connectivity, but also reveals its multifaceted nature. From near and far, people, customs, tastes and technical knowledge penetrated these places, shaping the ways in which the inhabitants of these settlements lived, worshipped and buried, how they produced, distributed, and consumed the things that they did. Settlers at early Leontinoi utilized local knowledge and habit, adapting physically their way of living to fit local topographical circumstance. The earliest attested habitation remains are literally built into the steep slopes of the settlement's two prominent hills, cuts into the living rock creating voids to be filled with the most basic of human activities. A three-room structure on the south side of San Mauro hill features a wide array of archaic pottery, along with pithoi and pits presumably used for household storage; a similar structure has been uncovered to the east on Metapicola hill.<sup>582</sup> These structures represent two kinds of borrowings: the very siting of the newly founded settlement on these hills and the employment of construction techniques suited especially to them. Pre-Greek remains indicate that local Sikels, almost mythologically referenced in the later literary tradition describing the foundation of Leontinoi,<sup>583</sup> lived in the same places and in much the same ways.<sup>584</sup> These earliest settlers may or may not have lived side-by-side with these Sikels; at the very least they took up their habits and knowledge of how to exist in the new environment in which they found themselves. The presence of Sikel pottery mixed in with eighth and early seventh-century deposits of imported and local Greek pottery found on San Mauro hill, and of Greek and Sikel pots in the contemporary graves in the nearby Ruccia and S. Aloe *necropoleis*, provide further evidence that a certain level of contact and cooperation, of connectivity, quickly arose between the new arrivals and those already living in the area.<sup>585</sup>

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<sup>582</sup> (Rizza, 1978) 33-4; (Rizza, 1994) 120.

<sup>583</sup> Thucydides, 6.4.1.

<sup>584</sup> (Frasca, 2009) 42, 71; (Leighton, 1999) 108.

<sup>585</sup> The distinctively Sikel pots are three and four-handled bowls, a type also known from contemporary Finocchito (Frasca, 2009) 43. The "identity"—Greek or Sikel—of the people buried in the graves at Ruccia and S. Aloe is debated. However, whether these were Greeks, Sikels, or both is immaterial for the point at hand. What the mixed contents of these graves confirm is that whoever buried these people had access to and interest in objects of both kinds; the use (or reuse) of these mixed

Discoveries at Naxos provide examples of similar kinds of exchange of information, knowledge and taste. The mid-seventh century Pastas House, so-called by its excavators due to its conformity in plan to a house-type typical throughout the contemporary Greek world, shows in a very general way that the settlement's wealthier inhabitants were in the loop when it came to outside styles and trends in domestic architecture, even if the precise source of transmission of this architectural/cultural form cannot be pinpointed.<sup>586</sup> Late seventh and sixth-century architectural terracottas, mostly belonging to otherwise unknown buildings and found in the Scalia-Malprovvido sanctuary, were made more or less on the spot, yet evoke styles and inspirations that are otherwise unknown in contemporary Sicily, and that come from places such as Thermon, Corcyra, Locri, Metauros, and Poseidonia.<sup>587</sup> Figurines found in the Santa Venera sanctuary and imported from Gela apparently spurred the creation of local imitations, remains of which have been found in various contexts at Naxos.<sup>588</sup> Meanwhile, the frequent employment of Lesbian masonry in structures throughout the city, ranging from houses to temples to temenos walls to city walls, has led to modern postulations of the presence of migrant or itinerant eastern Aegean masons.<sup>589</sup> None of these cases necessarily require the presence of actual outside craftsmen, or even the temporary or limited presence of specific kinds of foreigners. They do indicate, however, points of some sort of connection between Naxos and the places where these objects and styles originated. Knowledge and ideas were transmitted somehow, these places were sufficiently connected such that these overlaps in technique and taste are now visible to us in the archaeological record.

I do not want to place too much emphasis on any one single verifiable instance of connection. The examples from Leontinoi and Naxos discussed above have been selected almost anecdotally. The presence of large numbers of Geloan-style figurines at Naxos need not indicate an especially important economic or cultural link between the two places. Discovery of Sikel pottery at early Leontinoi, while certainly indicative of underlying economic transactions, only adds further possible points of economic interaction to the list made possible by examination of contemporary Greek imports. Similarly, the manufacture of imitation Phoenician red-slip ware at Zankle need not necessarily closely tie it to Phoenicians, or Phoenician settlements in the western Mediterranean—although such a possibility

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types together necessitates that we assume some underlying pattern of transactions, perhaps economic, perhaps reciprocal in nature. For a view of these graves as Sikel, see, *e.g.*, (Frasca, 2009) 44; for a view of these as mixed cemeteries, see (Leighton, 1999) 241 ff.

<sup>586</sup> See (Corden, 1995) on the larger context and meaning of the Pastas House in archaic Greek Sicily.

<sup>587</sup> (Lentini, 2000) 119–22; (Lentini, 1997) 123 ff.

<sup>588</sup> (Pelagatti, 1964) 154.

<sup>589</sup> (Gras, 1998) 105 ff; (Lentini, 2000) 118.

also cannot be ruled out.<sup>590</sup> The occurrence of *in antis* temples of similar style at seventh and sixth-century Leontinoi and Naxos cannot be mere coincidence,<sup>591</sup> and is likely the product of the two settlements being affected by many of the same external currents of information that informed taste, technology, and practice in both architectural and religious matters.

Rather, it is the totality of the overall impression to which each example contributes to which I draw attention. Each of these settlements was experiencing a similar, yet individually unique, sort of connectedness to the outside world, both near and far. Moreover, the observable patterns of connectedness in the material record for these places do not occur in an evidentiary vacuum, but are rather situated within a larger Mediterranean context of hyperconnectivity. The case of Pithekoussai provides an outstanding example of this, given its early foundation, extensive excavation, and clear-cut and profound connections to a multitude of different places and people, in Italy, Greece, and the Near East.<sup>592</sup> All the settlements of the Greek west, however, display to some degree this same tendency toward connectivity, the archaeological records of even the presumably more agriculturally inclined revealing traces of ties to the outside world too deep to brush aside.<sup>593</sup>

To a certain degree then, we are dealing with a shared phenomenon, one that united these places regionally and the Mediterranean more generally, but also one that resulted in the development of structurally similar economic systems within them. For, as much as the foundation and development of such hyperconnected places affected the patterns and intensity of movement through and around them, so this habit of mobility came to affect normative behaviors within the places themselves. The growth of this unity over time has been witnessed in the archaeological record, reflected both in the things coming into and being produced at each place. For example, the seeming synching up of import patterns in the sixth century discussed above coincides with the development of a Western Greek “koine” that came to dominate the style and decoration of local pottery at Naxos, Leontinoi, Katane, Zankle, and beyond.<sup>594</sup> But, what did it mean for these places to be so connected, what ramifications did this constant mobility of things, people and information have on economic behaviors?

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<sup>590</sup> Bacci considers the presence of local imitation red-slip ware to be evidence for the presence of Phoenicians at early Zankle, although Coldstream compares them more closely to types manufactured at Pithekoussai (Bacci, 2000), 244; (Coldstream, 2004) 44. Either way, the diffusion of style or technology, like red-slip ware, need not require the actual migration of large groups, or even individuals.

<sup>591</sup> Naxos: (Pelagatti, 1980–81) 703. Leontinoi: (Rizza, 1957) 68; (Rizza, 1994) 118

<sup>592</sup> For this last point, see (Ridgway, 1993), especially 109–18.

<sup>593</sup> Compare Greco’s remark in regard to early Greek settlement in South Italy: “While apparently the principal motivation for colonial initiatives was the search for new territories to exploit, archaeological evidence has made it equally clear that trade and exchange cannot be ignored.” (Greco, 2006) 172.

<sup>594</sup> (Bacci, 2000) 244.

### 3.4 *Connectivity and economic functionality*

This idea of connectivity as a kind of pervasive mobility can point to the mechanisms in play and provide an interpretative framework for how the settlements of Naxos, Leontinoi, Katane, and Zankle came into being and how they came to flourish. It cannot by itself, however, go as far as to offer truly historical explanation. The particulars of any given circumstance are inevitably lost in the application of any totalizing theory. To understand these places, or even the phenomenon of overseas archaic Greek settlement as a whole, we need to at least partially discard the long view of a project like *The Corrupting Sea*. The ecological realities of the Mediterranean and repeated kinds of cultural and economic interactions these promoted constitute the general milieu out of which a real place such as Naxos arose; acknowledging and incorporating the tendencies associated with these larger patterns helpfully situates the evidence we have for any specific place, and its economy. But we cannot expect to neatly fit Naxos or any other place into these larger patterns, nor should we reduce it or any other place to a purely paradigmatic status. The risk in doing so is to lose the sense of what real places are, to lose them as a cost of their transformation into constituent parts of a greater meaning.

When discussing Greek overseas settlement between c.750–500 B.C., Horden and Purcell give a holistic presentation fitted within a larger contemporary pattern of increased Mediterranean-wide connectivity, describing in aggregate the numerous settlements almost as a process by which “the whole sea had become virtually a single hinterland...”<sup>595</sup> There is undeniable truth in this statement, an observation of a real collective impact on the history of the Mediterranean that attended the revived intensity of mobility that began to appear, at least partially, in early archaic Greece. Moreover, thinking about individual places within this larger context does help inform interpretation of them. In the case of archaic Greek overseas settlements, it provides an alternative to and moves us away from explicit or implicit anachronistic analogies based upon modern colonial experience. Similarly, it is useful to understand that the “miracle” of archaic Greece was perhaps not so miraculous, the intensity of movement and redistribution that marked this period not so unusual when considered more broadly, both geographically and chronologically, across a Mediterranean landscape.<sup>596</sup> Acceptance of the phenomenon of the widespread boom

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<sup>595</sup> (Horden & Purcell, 2000) 134.

<sup>596</sup> The contemporary mobility of Phoenicians across the Mediterranean has long acted as a check against the tendency to see the Greek experience as something new or unique, although the end result is often the transferring of credit from the one to the other, or the reduction of the Greek example as a point of comparison for understand the Phoenician, rather than the kind of attribution to long term recurrent historical processes that Horden and Purcell prefer. (Ridgway, 1993) 27–30; (Horden & Purcell, 2000) 399; (Sommer, 2009).

of overseas Greek settlements in the archaic period as a manifestation of a deeper cultural and ecological logic goes a long way toward demystifying the problem; we do not have to conjure up some *ad hoc* impetus for the foundation of these settlements, a calamitous land-hunger, a novel search for a source of non-precious metals, or the creation of a carefully orchestrated, hierarchically organized long-distance trading network.

However, this perspective leaves much left unexplained, or even more to the point, unexplored. Essentially, the problem is one of explanatory recursivity. An omnipresent continuity of ecologically-driven mobility explains the macro pattern of overseas settlement that various groups of Greeks undertook—opportunistic, here and there and here again, diffuse, spread far and wide without the logic of a true political or economic imperialism. However, each individual settlement, or regional grouping of settlements, can only be understood as a part of this whole, as they are the very evidence on which the big assumption that explains them rests. Thus, within this system of analysis, more focused description of any given place must remain in a certain sense static; each place, every instance, is simultaneously cause and effect, both a part of the collective reason why things were the way they were and an individual actualization of deep patterns of behavior informed by cultural and ecological constants powerful enough to persist over the course of millennia.

It is perhaps unfair to offer such critiques; Horden and Purcell themselves clearly define their project as a history of, rather than in, the Mediterranean.<sup>597</sup> In so doing they seem, at least to me, to be implicitly acknowledging that the great breadth of analytical utility that they so persuasively introduce has of necessity a limited depth of value for any finely proscribed problem, space or time within the vast ancient Mediterranean landscape. If the project is the development of an historical meta-narrative, it is not only acceptable to reduce the economies of specific places to manifestations of a broader type, it is in fact absolutely necessary.<sup>598</sup> That their analysis may not fully explain, for example, the particulars of economic activity in the archaic Greek west does not take away from the basic validity of what they do say. Greek “colonization” was part of a larger pattern of increased Mediterranean-wide connectivity, it *did* involve processes and behaviors that make sense in a peculiarly Mediterranean way.

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<sup>597</sup> They, however, formulate this differently, actively eschewing the organization of evidence and analysis into topics like political, social, economic and religious history rather than histories restricted by place or period. (Horden and Purcell, 2000) 2.

<sup>598</sup> Purcell has subsequently written regarding *The Corrupting Sea* that “...we attempted to develop a framework...that shed light on the big questions of unity, distinctiveness and continuity in the region. That conceptual framework included a fragmented topography, the mutable microecology, two-way interaction between humanity and environment, connectivity (especially, of course, by sea) and a contrast between history ‘in’ and ‘of’ the region.” (Purcell, 2005a) 356.



### 3.4.1 *Cabotage, marginal production, diversification, storage, and redistribution*

More to the point, if taken heuristically, Horden and Purcell's long view perspective can be helpful when answering more short-term historical questions. For example, Horden and Purcell put forward the notion that *cabotage* constituted the primary means by which goods and people moved in the pre-modern Mediterranean,<sup>599</sup> and this certainly seems to fit the evidence for the places under study. Although no shipwrecks have been uncovered in the immediate vicinity of Naxos, Leontinoi, Katane, or Zankle, the recovered cargo of an early fifth-century wreck found near Gela offers a glimpse into how shipping in the archaic Greek west worked. The goods being transported on this ship were diverse, both in their type and in their apparent points of production. Attic and Lakonian pottery were found alongside "Ionic" types produced in Sicily or South Italy.<sup>600</sup> Chiot types, most likely containing wine, account for a majority of the amphorai fragments recovered, but western types that likely contained a variety of foodstuffs are also present in large numbers, along with smaller numbers of Corinthian, Samian, Lesbian, Milesian and Attic types.<sup>601</sup> The recovery of 6-7 tons worth of ballast stones implies that a large percentage of the ship's original cargo had been redistributed at places other than Gela,<sup>602</sup> an indication of an itinerary that included multiple stops. All of these factors lead the excavator to conclude "...that our merchant ship followed a route consisting in brief voyages along the coasts of Sicily and Magna Grecia with stops at various *emporía*. The ship seems to have served to gather and distribute the products of various workshops, which were loaded on board and then sold at the following ports-of-call."<sup>603</sup> Looking beyond the more direct evidence of shipwrecks, the kinds and quantities of imported pottery at the sites under study also at least imply that this pattern of redistribution was the norm, a small but constant stream of items of diverse origin pouring into each place.

Perhaps more importantly, the implications of *cabotage*, that even far away items moved in a regional way, also fundamentally affects the logic of their movement at all. Evidence for the importation of ceramics does not tell us only about local demand for foreign pots; it also tells a more general story of consumption habits, and of the patterns of transactions that both formed these habits and made them possible. That these places in Sicily were apparently so engaged in a system of hyperconnectivity, and that this hyperconnectivity itself apparently relied on a dense network of small nodes of connection in order to exist, are points worthy of

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<sup>599</sup> (Horden & Purcell, 2000) 150.

<sup>600</sup> (Panvini, 2001) 26-31.

<sup>601</sup> (Panvini, 2001) 32.

<sup>602</sup> (Panvini, 2001) 27.

<sup>603</sup> (Panvini, 2001) 31.

emphasis. Horden and Purcell conceive of this kind of redistribution as a response to risk,<sup>604</sup> a key strategy, along with diversification and storage of produce,<sup>605</sup> for dealing with the ever-present inconsistency of local production characteristic of the micro-ecologies of the Mediterranean, and the concomitant need to produce in marginal landscapes.<sup>606</sup>

At Naxos, Leontinoi, Katane, and Zankle, however, marginality of land was largely not at issue. The Leontine plain, famed in antiquity as an almost idyllic productive landscape, constituted the bulk of the *chora* of both Leontinoi and Katane.<sup>607</sup> While its predominately hilly terrain renders it less ideally suited for grain cultivation, the land surrounding ancient Naxos is hardly devoid of agricultural merit, and is particularly well suited for viticulture. The residents of Zankle, the immediate area of which is restricted by the presence of the sea and hills that quickly turn into mountains, seem to have quickly secured access for themselves to the fertile coastal flatlands in and around the area of Mylai.<sup>608</sup> Clearly, securing access to agriculturally productive territory was important to the economic success of all four settlements. I do not deny the more basic point of Horden and Purcell, that production in all microecologies in the ancient Mediterranean also occurred at the margins of the local landscapes, that not only the most obviously productive portions of the available land were put into use. In fact, that observation only makes stronger the point I do wish to make. For, in addition to utilizing the most agriculturally promising parts of the landscape, Greek settlers in Sicily should also be thought of as seeking production from the margins as well, with the net result that local production would have been even greater than a modern survey considering the arability of the land might predict.

Thus, these micro-ecologies, especially those of Leontinoi and Katane, were environmentally suited for the kind of local autarky that the Mediterranean landscape typically rendered a mere fantasy, an oft-stated dream of people forced into the uncomfortable position of taking on the risks associated with redistribution in order to mitigate the risks inherent in production. Cultural responses to this imposition of added risk were quite often negative, as Horden and Purcell observe.<sup>609</sup> The

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<sup>604</sup> “Engagement in the wider world of redistribution has no more glamour than the other vital means of diminishing risk.” They define the other primary means of reducing risk as “the habit of storing surpluses.” (Horden & Purcell, 2000) 151.

<sup>605</sup> Discussion of these three strategies as responses to risk constitutes the sixth chapter of the book, “Imperatives of Survival: Diversify, Store and Redistribute.” (Horden & Purcell, 2000) 174–230.

<sup>606</sup> (Horden & Purcell, 2000) 178–82.

<sup>607</sup> Diodorus Siculus praises the general quality of this land at 4.24.1, and more specifically its capacity for wheat cultivation at 14.58.1.

<sup>608</sup> (De Angelis, 2000) 131; (Bacci, 2000) 242.

<sup>609</sup> “Engagement in the wider world of redistribution possesses no more glamour than the other necessary routes to diminishing risk. It need not be popular or ‘smart’; it is often stigmatized as uncertain, dangerous, demeaning or immoral—as too closely involved with the corruption induced by

literature of archaic Greece provides no exception to this general rule. Hesiod sings of an imaginary world ruled by divine justice, wherein hard work along with diversification and storage of produce—the other two key risk-avoidance strategies identified by Horden and Purcell—are enough to ensure economic security, even in an admittedly poor land like Askra.<sup>610</sup> His primary advice to his brother is to seek wealth through his own production and storage of his own goods.<sup>611</sup> The structural economic imperative to take to the sea is removed; among the just, only those seeking *kerdos*, profit beyond need,<sup>612</sup> or profit because of need,<sup>613</sup> are advised to think of ships and the movement of goods outside of the local area, the third risk reduction strategy that Horden and Purcell term “engagement in the wider world of redistribution.”<sup>614</sup>

Given such information about archaic views toward this wider world of redistribution, we might expect that, provided with the opportunity to live out these principles in a place like the Leontine Plain, the settlers of Leontinoi and Katane would have done so. Yet, all indications are that nothing of this sort happened. These places did not become inwardly focused, self-contained economic units. Our examination of the archaeological record has shown that economic contact with the wider world was as constant as it was intense. Whether the ideal expressed by Hesiod was not actually desired by these people, or was simply unattainable, the apparent connectedness of these places from their foundation through their flourishing in the seventh and sixth centuries makes it clear that actualization of the ideal was neither attained, nor even sought.

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the sea. It is not a matter of embracing far-flung contact with open arms. The necessity of redistribution does not erode the charm of autarky.” (Horden and Purcell, 2000) 197.

<sup>610</sup> Λιμὸς γάρ τοι πάμπαν ἀεργῶ σύμφορος ἀνδρὶ. “For famine is the constant companion of the unworking man.” Hesiod, *Works and Days*, 302. οὐδὲ τό γ’ εἰν οἴκῳ κατακείμενον ἀνέρα κήδει. “What lies stored away in the household is not the source of troubles.” Hesiod, *Works and Days*, 364.

<sup>611</sup> σοὶ δ’ εἰ πλοῦτου θυμὸς ἐέλδεται ἐν φρεσὶ σῆσιν, ὧδ’ ἔρδειν, καὶ ἔργον ἐπ’ ἔργῳ ἐργάζεσθαι. “If desire for wealth takes holds in your heart, then do the following: work at work upon work.” Hesiod, *Works and Days*, 381. Hesiod goes on, in the next hundred or so lines, to instruct his brother in the virtues of production and storage.

<sup>612</sup> τύνη δ’, ὧ Πέρση, ἔργων μεμνημένος εἶναι ὠραίων πάντων, περὶ ναυτιλίας δὲ μάλιστα. νῆ’ ὀλίγην αἰνεῖν, μεγάλην δ’ ἐνὶ φορτία θέσθαι· μείζων μὲν φόρτος, μείζον δ’ ἐπὶ κέρδει κέρδος ἔσσεται, εἴ κ’ ἀνεμοὶ γε κακὰς ἀπέχωσιν ἀήτας. “But you, Perses, be mindful of all works in season, but especially concerning sailing. Praise a small ship, but put your goods into a big one. For the cargo will be greater, and so will the profit—profit on top of profit—if the winds keep back their malicious blasts.” Hesiod, *Works and Days*, 641–5.

<sup>613</sup> καὶ τότε νῆα θοὴν ἀλαδ’ ἐλκέμεν, ἐν δέ τε φόρτον ἄρμενον ἐντύνασθαι, ἵν’ οἴκαδε κέρδος ἄρῃαι, ὧς περ ἐμός τε πατὴρ καὶ σός, μέγα νήπιε Πέρση, πλωίζεσκ’ ἐν νηυσί, βίου κεκρημένος ἐσθλοῦ. “And then drag your swift boat down to the sea, and arrange the goods within it so that you might bring home profit, just as my father and yours, you great fool Perses, was used to sailing in ships, because he lacked a good means of life.” Hesiod, *Works and Days*, 631–4.

<sup>614</sup> (Horden & Purcell, 2000) 197.

### 3.4.2 *The impact of connectivity on patterns of production, redistribution and consumption*

What then was sought? How did the people who settled Naxos, Leontinoi, Katane, and Zankle ultimately choose to structure their economies? To ascertain their intent is an impossibility; we simply lack the necessary sources of information, contemporary narratives, detailed demographics, land usage, and other data. We can, however, make assessments based upon what the available information tells us actually happened. We know that consumption of non-local goods—pottery, foodstuffs, *etc.*—occurred with regularity. We also know that some series of regular transactions were required in order for these goods to be made locally available. It is also safe to assume that local production, agricultural and otherwise, was a universal constant.

Aside from pottery and other kinds of ceramics, our evidence for production at archaic Naxos, Leontinoi, Katane, and Zankle is sorely lacking. We can safely assume that some kind of agricultural activity was a constant, and further that metalworking and other kinds of craftsmanship were ongoing as well. We lack, however, any direct information concerning the nature of these activities. This is in part due to the accident of excavation. No hard evidence for iron smelting or vine cultivation has been chanced upon, as for example extensive digging on Ischia has revealed for ancient Pithekoussai.<sup>615</sup> Similarly, no outstanding secondary indications of large-scale overproduction (*i.e.* production clearly surplus to local need) of agricultural produce has surfaced, as for example De Angelis has observed in his reassessment of large underground grain silos found built into a handful of houses at Megara Hyblaia.<sup>616</sup> Nor do we have ancient *testimonia* that spell out the relationship between agricultural produce, its distribution, and the creation of wealth, as is given by Diodorus Siculus for fifth-century Akragas.<sup>617</sup> Most of all, a lack of archaeological survey has left speculation in place of information when it comes to how and how extensively the eventual hinterlands of these cities were utilized. Early modern patterns of land usage make a problematic proxy; at the best, they present an idea of what was possible, the gap in the kinds of agricultural technology employed not being significant enough to render the two periods entirely incomparable. However, the agricultural practices of twentieth-century Sicily cannot be simply retrojected back onto the second quarter of the first millennium B.C., the at least superficially

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<sup>615</sup> (Ridgway, 1992).

<sup>616</sup> De Angelis suggests that this surplus grain may have been intended for export back to Megara in Central Greece; this direct link between production in the west and consumption in mainland Greece, however, ignores the many points of external contact implied by the material record of early Megara Hyblaia (De Angelis, 2003).

<sup>617</sup> Diodorus Siculus, 13.81.4–5.

top-down political and societal structure of the former standing in contrast to the fractured cultural and economic unity that marks the latter.

Nevertheless, such generalizing topographical observations, vague literary references and at times enigmatic archaeological evidence do provide hints at what productive practices were like in these places during the early archaic period. The real difficulty, however, lies in imagining a way to use our rather limited information to integrate the three fundamental components of economic activity—production, redistribution, and consumption—into a functioning whole. That the constant and profound patterns of redistribution and consumption observable in the archaeological record must have affected production strategies seems to me an inescapable conclusion. Mobility, knowledge of and comfort with the real and imagined immediate risks and benefits associated with the movement at high stakes of people and goods on the sea, was built into the experience of archaic Greek settlement in Sicily. In a sense, the early stages of overseas Greek settlement represent a moment in which, even within the larger context of a connected Mediterranean, the perception of the risks associated with mobility were uniquely diminished by personal experience. These settlements could only have been organized by people with knowledge of these faraway places, a self-selected few marked out by their ability and willingness to conceive and execute such undertakings; these settlements were established by people who had a certain knowledge of and comfort with the ways and means of conducting transactions that required a high degree of mobility. The actual experience would have served only to reinforce and expand this spirit.

We are not dealing with groups of stubbornly introverted agriculturalists on the model of Hesiod's self-portrait in the *Works and Days*, people who view only what is at hand as safe, and fear reliance upon things that must come from afar. If anything, the situation was quite the reverse: these people found themselves in new lands, their claims to them contentious and perhaps even actively contested, their ability to produce, especially at their margins, restricted, or at least uncertain. This combination of circumstances incentivized, in an anecdotal or experiential rather than theoretical or ideological way, the fostering of economies structurally reliant upon connectivity, the creation and maintenance of networks of access to outside goods. Settling these highly productive lands did not move these Greeks closer to the ideal of autarky; the early and subsequent import records demonstrate this point clearly enough. The taking up of the risks and moral ambiguities associated with the movement of people, information, and things was part and parcel of the decision to settle permanently overseas; the impetus to continue doing so was an obvious remedy to the uncertainties of the early *apoikic* experience. The success of these behavioral patterns—as evidenced by the apparent growth and stability these settlements enjoyed throughout the seventh and sixth centuries—ensured their systematic continuance.

Social network theory provides another way of thinking about these patterns. The individual settlements of the early Greek west, because of the continuous, yet small-scale way in which they interacted with the outside world, present well as components, or links, required for the creation of networks; the exchange of goods and information visible in the material record associated with each individual settlement provides evidence for the development and continued existence of network-dependent structures; although individual transactions are usually invisible to us, and the exact means or routes of transportation not readily apparent, we can assume that more or less consistent paths for the efficient movement of people, things, and information must have developed over time.<sup>618</sup> The overlap in the kinds of goods and information we see moved throughout this network, *e.g.* the ubiquitous dominance of first Corinthian, and later Attic, finewares in western Greek import records, or the development of a cohesive regional pottery style in north/east Greek Sicily, implies a certain structural density. Not all nodes in the network, *i.e.* the individual settlements, were connected, but overlap in contacts and relationships existed to a degree sufficient for the development of material records that, with some room left for variation, are remarkably consistent in their similarity throughout the archaic period.

### 3.4.3 *Accounting for growth in the archaic economies of Naxos, Leontinoi, Katane, and Zankle*

The value in thinking of settlements such as Naxos, Leontinoi, Katane, and Zankle as parts of a dense network comes in the emphasis consequently placed on the relationships with the outside world that the inhabitants of each place somehow achieved and maintained over an extended period of time. In evaluating the evidence for the economic trajectory of these settlements over the course of the seventh and sixth centuries, it becomes clear to any observer that the economies of archaic Greek Sicily experienced incredible growth, and fostered the creation of an ever-increasing communal (and in some cases individual) wealth and prosperity.<sup>619</sup> At Naxos and Leontinoi, the more extensively excavated of the sites under study in this dissertation, the evidence for this growth and prosperity over the course of the seventh and sixth centuries is abundant: the proliferation of large temples like the ones on Metapiccola hill and in the Scalia-Maloprovvido sanctuary, the employment of advanced building techniques like Lesbian masonry in various structures both public and private, the construction of large and substantial city walls around the urban centers, the expansion of the urban centers, and the appearance of larger and

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<sup>618</sup> The definition of a network as a system consisting of these kinds of links, structures, and paths is presented by Malkin, Constantakopoulou, and Pangopoulou in their discussion of social networks in the ancient Mediterranean (Malkin, Constantakopoulou & Panagopoulou, 2009) 4.

<sup>619</sup> (Finley, 1979) 35–6; (Dominguez, 2006) 319–20.

more substantial houses. How can we explain the patterns observable in the material culture that demonstrates this growth—the uniformity of imports, the increase in western Greek amphorai at Zankle, the uniformity of styles of pottery, building, and even growth itself? How can we explain the transactions underlying these patterns?

The connectivity embedded in the social and economic structures of each place must be accounted for in any explanation of this observable outcome. As Sommer notes in his discussion of Phoenician networks in the Iron Age Mediterranean, “economically, a network is a middle-range phenomenon, half-way between market and organizational hierarchy.”<sup>620</sup> Imagining archaic Greek settlements in the west as parts of a network system allows us to account for the role of large-scale exchange and redistribution without relying upon market-based explanations, and invites us to re-examine how the basic components of economic activity—production, redistribution, and consumption—were integrated within the syntax of local economic structures.

Although comprehensive data is lacking, some of the buildings and objects recovered via excavation can provide an impressionistic picture of how the inhabitants of Naxos, Leontinoi, and Zankle made productive the landscapes around them. In a very basic way, we can observe that, by the middle of the sixth century, the inhabitants of Naxos and Leontinoi commanded access to specialized resources well outside their immediate urban areas. Stone suitable for large buildings is one such example. Temples and other structures erected in the sixth century in the Scalia-Maloproviddo sanctuary at Naxos were likely quarried in the area of Taormina.<sup>621</sup> The city wall constructed at Leontinoi around the middle of the sixth century is composed of stone quarried mostly in the coastal region east of the actual settlement.<sup>622</sup>

As alluded to above, the seventh-century tombs associated with Mylai indicate that the inhabitants of Zankle were able to gain a control over an extended *chora* soon after the initial establishment of the settlement at the end of the eighth century. However, even speculation toward a more precise understanding of how this land was utilized, whether, for example, production was highly diversified or more specialized, cannot be justified given the current lack of information. We can assume that establishing the ability to produce agriculturally was an economic priority for the early settlers at Zankle, and we know from import records at Zankle itself that redistribution was another key component of the local economy, but the relationship between production, redistribution, and consumption remains largely obscured.

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<sup>620</sup> (Sommer, 2009) 96. Sommer here is referencing a definition given in (Powell, 1990) 300-5.

<sup>621</sup> (Lentini, 1993-94) 1019.

<sup>622</sup> These quarries were primarily located near the mouth of the San Leonarod-Terias River, though some have been identified further to north as well; (Frasca, 2009) 69; (Felici & Buscemi-Felice, 2004) 42 ff.; (Pulivirenti, 2004) 142 ff.

The situation at Naxos, however, is more open to speculation. The topography of the land itself, along with certain archaeological and iconographic clues, points to the possible development over the course of the archaic period of a local specialization in viticulture. De Angelis has noted that the presumptive territory of the settlement consists largely of hillside landscapes, and more generally that “the soils and climate of Naxos’s territory are especially suited for viticulture.”<sup>623</sup> Meanwhile, Lentini has advanced the idea, on analogy with examples from contemporary Attica, that certain local hydriai may have been used as storage/transport containers for locally produced wine.<sup>624</sup> If she is correct about how these pots were used, Lentini’s observation provides valuable indirect evidence for the focus of agricultural production at Naxos; from the late eighth century onward, these hydriai appear in large numbers in the settlement contexts of the ancient city. By itself, the large-scale appearance of these pots does not constitute evidence for the overproduction of wine the way that the large early archaic granaries found at Megara Hyblaia do the overproduction of grain at that settlement, but it does at least raise the possibility that viticulture acquired and maintained a privileged place in Naxos’ productive landscape. The iconography selected by the minting authority of the city’s late archaic silver coinage provides another piece of anecdotal evidence for the importance of wine production to the local economy. Both the obverse and reverse types of the archaic emissions reference wine, the former featuring the head of Dionysus, the latter a bunch of grapes still on the vine. This numismatic device seems especially important, as the allusions to wine on the silver coins would have acted as an advertisement for, or at least an affirmation of, the association of Naxos with this kind of produce within the zones in which the coinage circulated.

These strands of evidence seem to be pointing to the development of a local/regional specialization of produce, one situated within what we separately know was a larger context of intense regional distribution. I am not suggesting that grapes were grown at archaic Naxos to the exclusion of other kinds of crops, or as a cash crop, or that a productive monoculture came into being. What I am suggesting is that the connectivity built into the *apoikic* experience fostered an atmosphere in which redistribution on a wider scale was naturally perceived as a reliable, low-risk economic strategy. The possible willingness of the Naxians to focus local production on wine is in part a natural response to the suitability of much of the local terrain for viticulture, but it is also an outcome of the knock-on effects of having a high degree of mobility built into the cultural and economic structure of the settlement, quite literally from the start. In this circumstance, redistribution becomes preferable to diversification as a risk reduction strategy; as the perception of the costs and dangers

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<sup>623</sup> He also notes the indirect evidence for extensive viticulture provided by the iconography of its archaic coinage, as I discuss immediately below (De Angelis, 2000) 130.

<sup>624</sup> These hydriai are also called jugs with cut-away necks. (Lentini, 1992) 30.



of mobility (uncertainty or unreliability of outside contacts, transportation costs, piracy, shipwrecks, *etc.*) shrinks, the need to diversify produce lessens, and the tendency towards specialization, using lands in what seems the most absolutely productive manner, free from the constraint of maintaining an inefficient productive diversity, grows.

### 3.5 *Regional Economies*

The archaeological record is particularly good at showing interactions between distant places. Differences in pottery styles can be used to create typologies, and objects manufactured in geographically or culturally distant places can easily be spotted. Measuring the scale and frequency of regional economic interactions among the various settlement of Greek Sicily, however, presents a problem of evidence. For much of the archaic period, the surviving material culture of places like Naxos, Leontinoi, Katane, and Zankle is simply too similar to allow for the easy identification of imports.<sup>625</sup> Consequently, identifying points of regional connection and assessing their relative economic importance becomes a nearly impossible task, on the basis of ceramic evidence alone.

The introduction of silver coinage at late sixth-century Zankle and Naxos provides a possible evidentiary departure from this state of affairs. This new kind of material evidence can help answer questions about local and regional economic transactions if we ask of them a seemingly simple question: how were these coins used as economic instruments? I evaluate these coinages first by presenting a brief recapitulation of the extant corpora, already introduced above in chapter two, but now paying special attention to issues of standards and denominations. Next I consider what their character tells us about likely patterns of circulation, and what this implies about how these coins were used. Finally, I discuss what the archaic coinage of Naxos and Zankle might be able to tell us about the underlying structure of the economies of Naxos and Zankle, and the possible regional relationship between the two.

#### 3.5.1 *The archaic coinages of Naxos and Zankle*

The archaic and classical coinage of Naxos is the subject of Cahn's 1944 die-study.<sup>626</sup> At present this remains the only comprehensive such study. His corpus consists of 121 archaic era coins, which Cahn divides into two chronologically

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<sup>625</sup> (Barone, *et al.*, 2005); (Barone, *et al.*, 2010).

<sup>626</sup> In this and the following paragraph, I reproduce for the reader's convenience the descriptions of the coinages of Naxos and Zankle produced above in chapter two.

distinct groups, on the basis of stylistic criteria.<sup>627</sup> All the coins feature the same basic design: on the obverse, the left-facing head of Dionysus appears in profile wearing a beard on his face and a garland of ivy around his head; the reverse depicts a bunch of grapes framed on either side by ivy leaves, with the legend NAXION underneath. Holloway has pointed out that these Naxian coins are among, if not in fact the very first, to include the full ethnic in the legend.<sup>628</sup> With one exception, this legend is written retrograde in the earlier of the two subgroups; the later series uniformly features sinistrotrograde text.<sup>629</sup>

Gielow's 1931 die-study stands as the only comprehensive study of the archaic coinage of Zankle.<sup>630</sup> Her corpus consists of a total of 89 coins, including 74 drachmae, 14 obols, and 1 smaller fraction that Rutter labels a one-sixth obol piece.<sup>631</sup> She divides the drachmae by formal analysis into four distinct chronological groups.<sup>632</sup> Group One is minted in a true incuse style, in the manner of the coinages of South Italy; the obverse type is a dolphin, with the legend DANKLE underneath, the reverse a negative imprint of the same, less legend. The obverse type of the dolphin is constant throughout all four groups. Coins of Group Two are distinguished by their abbreviated legend (DANK) and a switch to an incuse square with central seashell reverse type; this becomes the reserve type for all the remaining groups. The distinguishing characteristics of Gielow's Group Three are the addition of four rectangular projections above the dolphin on the obverse, and the expansion, in some cases, of the ethnic legend to DANKL. Finally, coins that once again feature the full ethnic DANKLE constitute Group Four. Gielow places the fractional coins into a fifth group; these tend to compare most favorably to types of Groups Two and Three.<sup>633</sup>

The absolute date for the beginning of these coinages is difficult to assess. Mainly on the basis of cross-media stylistic comparison with Athenian black-figure pottery, Cahn assigned a c.550 start-date.<sup>634</sup> This methodology is fraught at best, and was never a strong basis for determining the start-date of the coinage. At any rate,

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<sup>627</sup> A combination of stylistic criteria and die-sequencing allow for internal orderings within each group. (Cahn, 1944) 17-21.

<sup>628</sup> (Holloway, 2000) 182 n. 2.

<sup>629</sup> Cahn's Reverse 1 provides the lone exception to the retrograde rule in Group One.

<sup>630</sup> (Gielow, 1931). Caltabiano's study of the coins of Messina begins with the first coinages of the classical period (Caltabiano, 1993).

<sup>631</sup> (Rutter, 1997) 108-9.

<sup>632</sup> (Gielow, 1931) 11.

<sup>633</sup> (Gielow, 1931) 29-31.

<sup>634</sup> (Cahn, 1944) 30-2, Plate IX. Gielow ties the beginning of coinage to the fall of Sybaris, c.515, thinking that some of the refugee Sybarites might have ended up at Zankle, and that they might have brought with them the incuse minting technology/style (Gielow, 1931) 8-9. It seems to me, however, that the transferal of the incuse method to Zankle need not require something as dramatic as the destruction of Sybaris.

such a high chronology certainly is unsupported at present, given the recent down-dating of early silver coinages in general.<sup>635</sup> Rutter's suggestion of a c.525 start date seems reasonable, and also fits with the apparently compact nature of the Naxian mintings;<sup>636</sup> a date even a bit later in the final quarter of the sixth century also seems viable. Luckily for us, if not the Naxians themselves, the historically attested seizure of the city by the tyrant Hippokrates in 493 provides a much more precise and secure end-date for its archaic coinage. Similarly, the takeover of Zankle by Samian exiles in 494 marks the end of the archaic dolphin-type coinage of Zankle. Simple arithmetic thus tells us that all of the archaic coins of Naxos and Zankle were produced within a roughly thirty-year time frame, from c.525 to 494/493 B.C.

The coins of both of Cahn's, and all of Gielow's, series were minted on the Euboic-Attic standard.<sup>637</sup> From start to finish, the coinages featured two denominations: drachma and obol; the one-sixth obol is an apparently late addition to the archaic Zanklean emissions. The Euboic-Attic weight standard was also in use at contemporary Himera, which also began minting drachmae and obols in the last quarter of the sixth century, probably slightly in advance of the first issues of Zankle. Himera also minted a second fractional coinage in the archaic period.<sup>638</sup>

Given that our samples consist of only around one hundred specimens each, it is important that we take a moment to consider what kind of coverage we are dealing with when we use Cahn's and Gielow's corpora. Using Good's nonparametric coverage estimator,<sup>639</sup> we see that the coverage with our Naxian sample is actually fairly good. We likely have preserved at least one example of around 80% of the original total of obverse dies for both the drachmae and obols of Group I, and at least one example of around 70% of the original total of obverse dies for both the drachmae and obols of Group II. Using these probabilities, we can estimate the likely original number of obverse dies used in each series: 8 or 9 obverse dies corresponding to the drachma series of Group I; 19 or 20 corresponding to the obol series of Group I; 16 corresponding to the drachma series of Group II; and 4 or 5 corresponding to the obol series of Group II.<sup>640</sup> Again, our sample size of specimens is less than ideal here, and an updated count (Cahn's die-study does date from 1944) could substantially alter the picture. Nevertheless, working with the numbers that we do have, and assuming roughly equal production from each obverse

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<sup>635</sup> (Price & Waggoner, 1975) 120-3; (Howgego, 1995) 4-6.

<sup>636</sup> (Rutter, 1997) 112-3.

<sup>637</sup> Ridgway has argued for the employment of this same standard at eighth-century Pithekoussai, on the basis of a bronze weight (8.79 g, a near equivalent of a Euboic-Attic stater) recovered in the course of excavation. (Ridgway, 1992) 95.

<sup>638</sup> On the archaic coinage of Himera, see (Kraay, 1984).

<sup>639</sup> On the application and efficiency of Good's nonparametric coverage estimator for ancient coinages, see: (Esty, 1986) and (Esty, 2003).

<sup>640</sup> Figure 16.

die, we can see that the archaic mint at Naxos initially produced more small change than drachmae, but that this ratio more than flip-flopped in the second series.

The apparent coverage offered by Gielow's corpus for the archaic coinage of Zankle is not nearly as good. I examine the four groups altogether, as the numbers look essentially the same across the board, with the exception of Group One, for which only four obverses and six total specimens were known to Gielow. Employing again Good's nonparametric coverage estimator, we see that we likely have coverage rates of only 32% for the drachmae, and 17% for the obols.<sup>641</sup> Unless Gielow's corpus is for some reason skewed, this means that the overall number of obverse dies in use at archaic Zankle was much higher than at contemporary Naxos: around 130 obverses should be estimated for the production of drachmae, and about 65 for the obols. As a result, it is also likely that the overall number of coins produced at Zankle is also much higher.

Estimating the total number of coins minted in the archaic period at Naxos and Zankle using our likely original number of obverse dies involves further extrapolation of the data. This is especially difficult to do when dealing with archaic mints, since the obverse or anvil dies tended not to last as long as they did in later periods. The "conservative" estimate recommended by Kim for the number of coins produced by each obverse die at Kolophon in the last quarter of the sixth century is 1000 to 5000 per obverse die.<sup>642</sup> Using this figure, we get the following estimate for the archaic coinage of Naxos: 8,000 to 45,000 drachmae and 19,000 to 100,000 obols from the dies of Group I; and 16,000 to 80,000 drachmae and 4,000 to 25,000 obols from the dies of Group II. Thus we have between 24,000 and 125,000 total drachmae and 23,000 to 125,000 total obols produced at Naxos between c.520 and 493 BC.<sup>643</sup> Using the same figure for the ratio between obverse dies and coins produced, we get the following estimate for the archaic (up to 494 B.C.) coinage of Zankle: 130,000 to 650,000 drachmae from the dies of Groups One-Four, and 65,000 to 325,000 obols from the dies of Group Five.<sup>644</sup>

Overall, the drachmae of Naxos are underweight both in comparison to their theoretical weight value and to the actual weight value of comparable coins from Himera and Zankle.<sup>645</sup> The first is to be expected; most coinages come in slightly underweight, likely to offset the costs associated with minting—otherwise the minting authority would have had to operate at a loss. A drachma on the Euboic-Chalcidian standard is equivalent to 5.8 g, an obol 0.96 g. Cahn's frequency tables show a normal weight value of between 5.40 and 5.50 g for his Group I drachmae,

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<sup>641</sup> Figure 17.

<sup>642</sup> (Kim, 2002) 47.

<sup>643</sup> Figure 18.

<sup>644</sup> Figure 17.

<sup>645</sup> Our sample for the coins of Naxos appears to be much more complete; as such, I will focus my finer points of analysis on it, although without dismissing the coinage of Zankle entirely.

and a range of 5.50 to 5.70 g for his Group II drachmae. We might have expected a further slippage from the theoretical weight over time, but instead we see that the Naxian drachmae moved up in weight, rather than down.

A comparison to the coinages of nearby mints operating on the same standard shows that the normal value of Group I was about 5 and 3% less than those of the contemporary drachmae from Himera and Zankle, respectively, while the Group II normal value is 2% less than the Himeran and about equal to the Zanklean.<sup>646</sup> For the obols of both Groups I and II, the normal value is between .70–.80 grams.<sup>647</sup> While this would be substantially underweight for a 5.8 grams drachma standard (where an obol should be .96 grams), it is less so for an actual drachma standard that hovers around 5.30 to 5.50 grams, which is roughly where the Naxian standard seems to fall. The majority of Himeran obols weigh between .80 and .95 grams, a 15–20% bigger range than the Naxian normal value. The obols of Zankle have a normal value between .75–.80 grams.<sup>648</sup>

We have seen that the Naxian drachmae and obols both exhibit a wide range of acceptable weights, especially on the lower end. Between Groups I and II, a total of nine drachmae (out of the forty-seven for which Cahn reports weights) come in at 5 grams or less. Out of the thirty-nine obols of Group I (Group II is really too small to say much about) for which Cahn gives weights, only 19 fall within the normal value range of .70–.80 grams, with outliers mostly clustering in the .60's and .80's, but two being below .50 grams, and three weighing a full gram or more. These margins of error, though perhaps not large in an absolute sense, gain greater significance from the small value of the coins themselves; a deviation as small as tenth of a gram generates a coin at least 12.5% removed from its target weight. Given that Greek mints were capable of accuracy to a tenth of a gram,<sup>649</sup> the fact that fewer than half of the obols minted at Naxos fall within the apparent target weight range of .70 to .80 grams implies either that this particular mint was not capable of maintaining such accuracy, or—more probably—that it actively chose not to take care to do so.

If either the drachmae or obols were meant to be struck “al pezzo,” the minting process seems to have suffered from an uncorrected, and rather substantial, occurrence of significant errors—substantial because of the frequent and frequently large degree of error, and uncorrected because no improvement in weight accuracy is observable from Group I to Group II. If we assume that this rate and degree of variance was observable to the makers and users of these coins, then we might also assume that the failure of the minting authority to correct the situation indicates both official and user acceptance of this *status quo*.

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<sup>646</sup> Figures 19 & 20; (Cahn, 1944) 74-7.

<sup>647</sup> Figure 21.

<sup>648</sup> Figure 21.

<sup>649</sup> Kagan on small change in the archaic period: “Greek mints may not have been accurate to a hundredth of a gram, but certainly to a tenth.” (Kagan, 2006) 54.

It is likely that, from the start, the archaic coinage of Naxos was minted “al marco,” *i.e.*, according to some sort of batch process.<sup>650</sup> The value of each individual coin was determined not by the expectation that its actual weight would be roughly equal to a recognized target weight, but by common agreement upon its “worth” as a means of payment, exchange, or store of value, regardless of its actual weight. In either case, if we assume that, when used for any of these purposes, these coins were counted rather than weighed, they must have initially had—or at the very least quickly have come to hold—a fiduciary value.

### 3.5.2 *Circulation patterns and economic usage*

What does any of this tell us about how the coins of Naxos and Zankle circulated? For the obols, Cahn’s corpus provides little in the way of positive evidence. We must rely instead on what we know of the circulation patterns of comparable fractional coinages in the archaic period. Tselekas’ die-study has shown that the small change of Acanthus had a limited range of circulation outside of the city, appearing only in the immediate area of the Chalcidice and eastern Macedonia.<sup>651</sup> The severely underweight character of the Naxian obols makes a similar circulation pattern likely, one formed by a locally restricted fiduciary value. For the vast majority of Naxian obols, this fiduciary value would have far exceeded the bullion value. In order to get maximum usage value out of them, the obols had to be used in contexts in which they were counted, not weighed. Whether intentional or not, this incentivized the local usage of Naxian obols, and created a practical impediment to the circulation of these coins outside of the immediate area of the minting authority.

For the circulation of the drachmae, hoard evidence, although limited, is of some use. A handful of hoards contain archaic Naxian and Zanklean drachmae. *IGCH* 2061 was buried c.500 near Taormina and consists of two Naxian and six Zanklean drachmae. *IGCH* 2062 was buried c.493 in Messina, and consists of 30 Naxian and 156 Zanklean drachmae. *IGCH* 2064 was buried c.490–80, found at Naxos, and consists of 26 total drachmae, including specimens from Naxos, Zankle and Rhegion. Other hoards contain coins of Zankle alone. *IGCH* 2060, buried c.500 at Leontinoi, consists of two Zanklean drachmae. These drachmae also appear

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<sup>650</sup> Recent publications have shown that the archaic coinage of Naxos is hardly unique in this respect. Kagan, for example, has argued both that the archaic hemiobols of Abdera were minted by means of such a batch process and that, when used, were counted rather than weighed. (Kagan, 2006) 54. (Kagan, 2006) 54.

<sup>651</sup> (Tselekas, 1996).

in some eastern hoards, including two drachmae found at Asyut.<sup>652</sup> However, the only known findspots for the fractional coins is Zankle itself.<sup>653</sup>

That Himera, Zankle and Naxos all minted on the Euboic-Chalcidian standard is, by itself, an indication of the importance of regional exchange along the north coast of Sicily. The hoard evidence, though not necessarily conclusive, supports the notion that these coins primarily circulated within the limited region of northern and eastern Sicily. The Near Eastern hoards containing Zanklean drachmae likely have little value for the reconstruction of the circulation patterns of these coinages. For, even if we assume from the limited presence of Phoenician and Egyptian objects in the archaeological record of archaic Zankle that the sea traffic there included the presence of eastern traders,<sup>654</sup> it is difficult to imagine that these coins ended up in hoards found in the Levant, Egypt, or Jordan as the result of anything more than one-off transactions. Even if we imagine that the movement of these coins from west to east was a byproduct of economic transactions conducted, for example, in Zankle, the numbers are so limited and the geographical distance so great that it is much safer to assume that these silver coins moved as commodities rather than monetary instruments.<sup>655</sup> Conversely, the distribution of coins in the hoards found in Sicily itself is evidence of a level of economic interaction that goes beyond basic cooperation in coinage weight standards. That the hoards uncovered in and around Zankle, Naxos and Leontinoi contain **only** drachmae from Naxos and Zankle (plus Rhegion, whose relationship with Zankle at times almost encourages a bundling of the two)<sup>656</sup> perhaps indicates a particularly intense level of economic connectivity between the two cities, one which allowed for the fiduciary, rather than commodity, value of the coins to prevail more widely.

This may also help to explain the increase in the normal weight value of the Naxian drachmae from Group I to II. The minting authority must have been aware of this increase in expenditure, and thus this must have been a deliberate act on its part. This increase created an essential parity among the drachmae of Naxos and Zankle. Could this be evidence of the minting authority acting to promote the easier flow of drachmae between these two cities? This apparent action taken to further decrease transactional costs and promote the flow of coins in the greater region can be taken as positive evidence of the frequency and importance of inter-city economic transactions between Naxos and Zankle in particular, but also within the region of northern Sicily in general. In essence, these coins and what we can deduce about the

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<sup>652</sup> (Price & Waggoner, 1975) 26.

<sup>653</sup> (Boehrer, 1984-85) 111.

<sup>654</sup> (Bacci, 2000) 244; (Bernabó Brea, 1997).

<sup>655</sup> The frequent mutilations of coins found, *e.g.*, in the Asyut hoard and Ras Shamra, attest to the lack of fiduciary value they carried once they arrived in the Near East (Price & Waggoner, 1975) 117; (Howgego, 1995) 96.

<sup>656</sup> (Rutter, 1997) 110.

patterns of their circulation are able to act as proxy evidence for literally tens of thousands of economic transactions of whose existence we would otherwise be largely unaware.

Returning again to earlier figures: I noted the shift in production from Group I to II, as obols initially predominate among known obverses and specimens, but drachmae do so even more within the later Group II. Regarding this, Cahn remarked that "...the small change was required from the local economic viewpoint, the drachmae for monetary transactions with outsiders."<sup>657</sup> He concluded from the flipping of predominance from obols to drachmae in the second group that economic ties with outsiders had become more important and that there was less money needed for "local circulation."<sup>658</sup> I would offer a different explanation. We should remember that we are dealing with a total minting period of only about thirty years. Given their already-described tendency to circulate only locally, other than accidental loss and hoarding, there was no mechanism by which obols "escaped" the immediate area of Naxos. The proportional decrease in their minting may just be a function of the fact that a supply adequate for the needs of local transactions was already at hand, and need not be taken as evidence of a structural economic shift away from small-scale, local transactions.

The introduction of coinage is often thought of as the introduction of a moneyed economy, or a step toward a moneyed economy.<sup>659</sup> Either way, the focus is on how coinage changed Greek economies. I think, however, that the character and patterns of circulation of early coinages can also tell us the story of how a new tool was grafted onto preexisting economic structures. The archaic silver coins of Naxos and Zankle are a material record of practices that are otherwise historically invisible, relics of transactions for which we have very little or no evidence. More specifically, the archaic coinage of Naxos points to the importance and prevalence of local and regional transactions in the cities' economies. The cheapest, safest, and consequently first, movements of goods were probably often locally focused. The low value and likely restricted circulation of the fractional coins attest to the frequency and importance of the small-scale, local transactions that their minting and usage helped to facilitate. The apparent efforts taken in the minting of drachmae to create a sort of multi-polis monetary zone, on the other hand, demonstrate that economic transactions on a regional scale were equally important. In this way, the archaic drachmae of Zankle and Naxos uniquely provide positive proof of how ubiquitous and constant regional redistribution was built into the structure of Sicilian Greek economies in the late archaic period.

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<sup>657</sup> (Cahn, 1944) 78.

<sup>658</sup> (Cahn, 1944) 78-9.

<sup>659</sup> See, for example: (Cahn, 1944) 78; (Seaford, 2001); (Schaps, 2003).



### 3.5.3 *Re-thinking the archaeological record: economic constancy and economic growth*

Economic mobility is not, however, a late archaic phenomenon, nor is it a shift in behavior brought about by the introduction of coinage to the region. We have seen indications that the import and export of things, ideas, and people also permeate the archaeological record for the earlier archaic period. Looking back at the evidence for the eighth, seventh and earlier sixth centuries, it is possible to imagine similar locally and regionally based transactions accounting for much of this economic mobility. Signs that a heavy traffic specifically between the *apoikiai* of the Greek west do exist: the rise in transport amphorai of western Greek manufacture over the course of the seventh and sixth centuries at Zankle, the synchronized spread of the Lesbian masonry technique and appearance of *in antis* temples at Naxos and Leontinoi, the development of a western Greek *koine* pottery style. Examples like the marked importation of Geloan figurines at Naxos or the disproportionate occurrence of Massiliot bowls at sixth-century Katane are the exception rather than the rule, and even these places can be thought of as belonging to different regional systems. The uniformity of style, specifically the development of the western Greek *koine* pottery style,<sup>660</sup> obscures our archaeological view of direct links between the places that are in fact most closely linked, making it difficult to see more precisely how networks of redistribution operated. If, however, we retroject the kind of regional economic system implied by the coinages of Zankle and Naxos further back in the archaic period, we have a way of understanding a connectivity that we can imagine but not see. By looking at the denominations minted, standard of weights employed, and reconstructing likely circulation patterns, we can see that these coinages helped perpetuate an already existing pattern of small-scale local and regional economic transactions. Moreover, if we accept that systems of *cabotage* were the engines driving archaic mobility, we can envision for Greek Sicily a regionally organized style of distribution not only of goods produced within the larger region, but also of those whose original points of production and distribution were as far away as Etruria, Corinth, Attica, and points east. The overall increase in material wealth, as documented at sites like Naxos and Leontinoi through the construction of city walls and more elaborate houses and sacred buildings, is not a function of shifting economic behaviors, but a flourishing arose because of the stability afforded by an unchanging, underlying economic structure that relied upon connectivity to diversify and reduce risk, but ultimately produced surpluses that fostered growth.

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<sup>660</sup> As noted above, this obfuscation is furthered by the failure of petrographic analysis to differentiate the local potteries of eastern Sicily. See again (Barone, *et al.*, 2010).

## Conclusion and Notes on Further Research

In this dissertation I have provided a reconstruction of the economies of archaic Naxos, Leontinoi, Katane, and Zankle. Focusing on close examination of the archaeological evidence, I have argued that a state of connectivity was a constant reality for each of these places. Despite our lack of information regarding agricultural production, the proportionally large presence of locally made pottery in the early ceramic records of these settlements serves to demonstrate that each was, in some way, a center of production. Nevertheless, it is clear that these places were widely and deeply connected to the outside world. Direct evidence of this comes in the form of shipwrecks,<sup>661</sup> but these are few in number and alone do not paint a thorough picture. The end result of the movement of goods, *i.e.* their consumption in various contexts as revealed through excavation at the sites of ancient Naxos, Leontinoi, Katane, and Zankle, provides a broader base of indirect evidence for how and where goods were redistributed. The fineware pottery, amphorai, building styles and technology, and other goods and ideas that were consistently imported to these sites over the course of the archaic period, are relics of economic networks and individual transactions for which we no longer have direct evidence.

From these empirical observations, I have further argued that this connectivity directly impacted the structure and functioning of the economies of all four settlements. Building on previous work that has identified the tendency for the geographical and environmental nature of the ancient Mediterranean to produce cultural and economic systems dependent upon the widespread mobility of people and the things and ideas that they carry with them,<sup>662</sup> I have argued that the foundation of a large number of new Greek settlements in Sicily and South Italy in the late eighth and early seventh centuries created a circumstance in which the practice of connectivity was especially prevalent. Within the specific time and place of archaic Greek Sicily, a particular and apparent economic value lay in the enhanced economic stability offered by participation in a network of intense connectivity.

Connectivity as a risk reduction strategy is a somewhat counterintuitive proposition. Mobility of any sort, whether it involved people and/or goods, was an inherently costly undertaking in the ancient Mediterranean, one capable of producing both high risk and high rewards.<sup>663</sup> Archaic Greek literature, *e.g.* Hesiod's *Works and Days*, recognized this reality, and tended to marginalize the importance

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<sup>661</sup> *E.g.*, the late archaic shipwreck off the coast of Gela, discussed above in chapter three.

<sup>662</sup> Especially influential here has been *The Corrupting Sea* (Horden & Purcell, 2000).

<sup>663</sup> Herodotus 4.152 provides anecdotal evidence of how profitable sea trade could be in the archaic period, and of how intertwined risk and reward were in this environment. He tells of a certain Kolaios of Samos, who, having set out for Egypt, was blown off course, ended up on the Atlantic coast of Spain, and subsequently returned from there having accidentally turned a larger than expected profit.

of widespread or long distance economic redistribution, at times even reducing it to a morally ambiguous status.<sup>664</sup> Hesiod's advice to his brother is to focus his economic energies toward an essentially autarkic end. Within the world of his poem, risk can be eliminated through hard work, diversification of produce, and storage.

Despite such discursive narratives, the archaeological evidence indicates that the reality of archaic Greek mobility, especially in the west, was quite different. Judging from the ceramic import records, the risks associated with widespread redistribution seem to have been taken on from the very beginning at places like Naxos, Leontinoi, Katane, and Zankle. I have argued that the level of mobility required to undertake the foundation of these places had a lasting impact on the economic history of these settlements. The people who established them were familiar with the ways and means of connectivity: information about how and where to establish a new settlement would have been somehow obtained ahead of time; large numbers of people and goods would have been moved over a long distance; and there would have been an early, at least partial, reliance upon produce grown elsewhere (and not merely brought with them in storage). The high levels of connectivity apparent in the material record, then, is at least as much a result of acquired cultural habit, or a product of experiential knowledge, as it is a function of geographical or topographical particulars. The location of Zankle on the Strait of Messina might make imported pottery there somewhat more numerous or varied in its place of production, but the basic pattern is no different than that of an inland settlement like Leontinoi, where imports occur in similar numbers and with similar variety.<sup>665</sup>

This explanation of economic structures breaks with traditional models that have placed archaic Greek settlements in the west in one of two basic categories: *emporion* or *apoikia*. I have argued that the dividing of Greek overseas settlements into commercial enterprises (*emporion*) and self-sustaining agricultural communities (*apoikiai*) is overly simplistic. The evidence for production at a place like Zankle,<sup>666</sup> on the one hand, shows that settlements well placed geographically for trade or redistribution also had economic interests in production. On the other hand, the consistent record of imports at a place well situated topographically for agricultural production, like Leontinoi, demonstrates that the ability to aim for an autarkic economic model did not translate to the desire to do so. Leontinoi's economic

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<sup>664</sup> See the discussions of the *Works and Days* above, in chapters one and three.

<sup>665</sup> While early Zankle did see more variety in its imports, e.g. Phoenician red-slip, it was the same Corinthian, Euboian, and East Greek wares that predominated at both sites in the early archaic period. From the middle of the seventh century, Leontinoi also saw an increase in variety, as evidenced by the appearance of Lakonian black-figure and Etruscan bucchero. See discussions of imported pottery at Zankle and Leontinoi in chapter two and three above.

<sup>666</sup> This evidence comes in the direct form of locally produced pottery, but also in the implied form of the apparent drive to control the agricultural plain in the area of Mylai from early on.

connectivity might be explained as a function of its having been a part of a larger Euboian trading network, one that would have included not only Naxos, Leontinoi, Katane, and Zankle, but places like Kumai and al-Mina as well. I would argue, however, that there is nothing especially Euboian about the material record for Leontinoi, or any of the other settlements this dissertation has examined. In order to demonstrate this more fully, I plan to include in my future research examinations of the archaeological records of other Greek Sicilian cities, such as Syracuse, Megara Hyblaia, and Akragas. By demonstrating that economic connectivity was not unique to Euboian settlements, I hope to debunk the idea that an ethnically exclusive or state-driven network of redistribution was responsible for the character of the economies examined in this dissertation.

I have also argued for the importance of regional economies within this overall scheme of connectivity. Evidence for the development of specifically regional economic relationships in the early period is lacking because of the nature of the ceramic record. Confluence of style and the indeterminacy of scientific attempts to source individual pots make tracing the movement of pottery between the individual settlements almost impossible. Using the early coinages of Zankle and Naxos, however, I have shown that the introduction of coinage as a new economic tool reveals the existence of regional economic cooperation. The close synchronization of weight standards apparently pursued by the minting authority at Naxos demonstrates that, in the production of silver drachmae, the easing of transactions between regions was a primary concern. I plan to pursue this avenue of research by updating the corpus of the early coinages of Zankle and Naxos, both of which have received comprehensive analysis only in the form of die-studies now over seventy years old. I have also suggested that the implications I have drawn from these coinages should be retrojected onto our understanding of the earlier archaic period. I do not see a shift in behavior with the introduction of coinage, so much as the grafting of a new tool onto old patterns of economic activity. That is to say, I believe that the kind of regional economy I deduce for the late archaic also existed earlier. I plan to pursue this point by examining closely the pottery and other material records for eighth, seventh, and sixth century Sikel sites in the areas surrounding Naxos, Leontinoi, Katane, and Zankle. Comparing the archaeological evidence from these sites should tell us more about the regional movement of goods, since we should not be confronted with the interpretative problem of not being able to distinguish locally produced from regionally imported pottery. For example, the “early interest” of Katane in the “far interior” might be reflected in the appearance of a large number of bronze tripods at eighth and seventh-century Mendolito.<sup>667</sup> However, is this evidence for the development of a regional system of economic

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<sup>667</sup> (Albanese, 1988-89) 125-41; (Albanese, 1989) 643-77; (Albanese Procelli, 1993) 109-207, all three as cited at (Dominguez, 2006) 335.

redistribution? Or can the movement of such goods, most likely through local Greek agency, into Sikel sites be explained solely as a product of reciprocal exchange? A closer examination of the record for places like Mendolito is necessary to determine whether or not the Greek goods that ended up in them should all be regarded as “prestige” items.<sup>668</sup>

Finally, I hope also to pursue lines of research that can tell us more about the relationship between the economic activities of production, redistribution, and consumption in the settlements of archaic Greek Sicily. I have suggested that the high degree of connectivity that these places exhibit should have affected the nature of production at each place. More specifically, I have offered the possibility that connectivity allowed for a higher degree of specialization. Regular and reliable movement of goods of all sorts should have lessened the perceived need for diversification of local produce, freeing those making decisions about how to use agricultural and other resources from the constraint of local diversification. However, because we know so little about production in archaic Greek Sicily, it is impossible to test this hypothesis. Archaeological survey could alleviate this problem, and I am hopeful that this kind of work will be undertaken in the near future. However, having refuted explanations along the lines of the *emporion/apoikia* dichotomy, I have shown in this dissertation that future research should be focused on understanding the nature and complexity of the early Sicilian economies and their relationship not just to one another, but to the wider Mediterranean world.

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<sup>668</sup> (Dominguez, 2006) 335-6.

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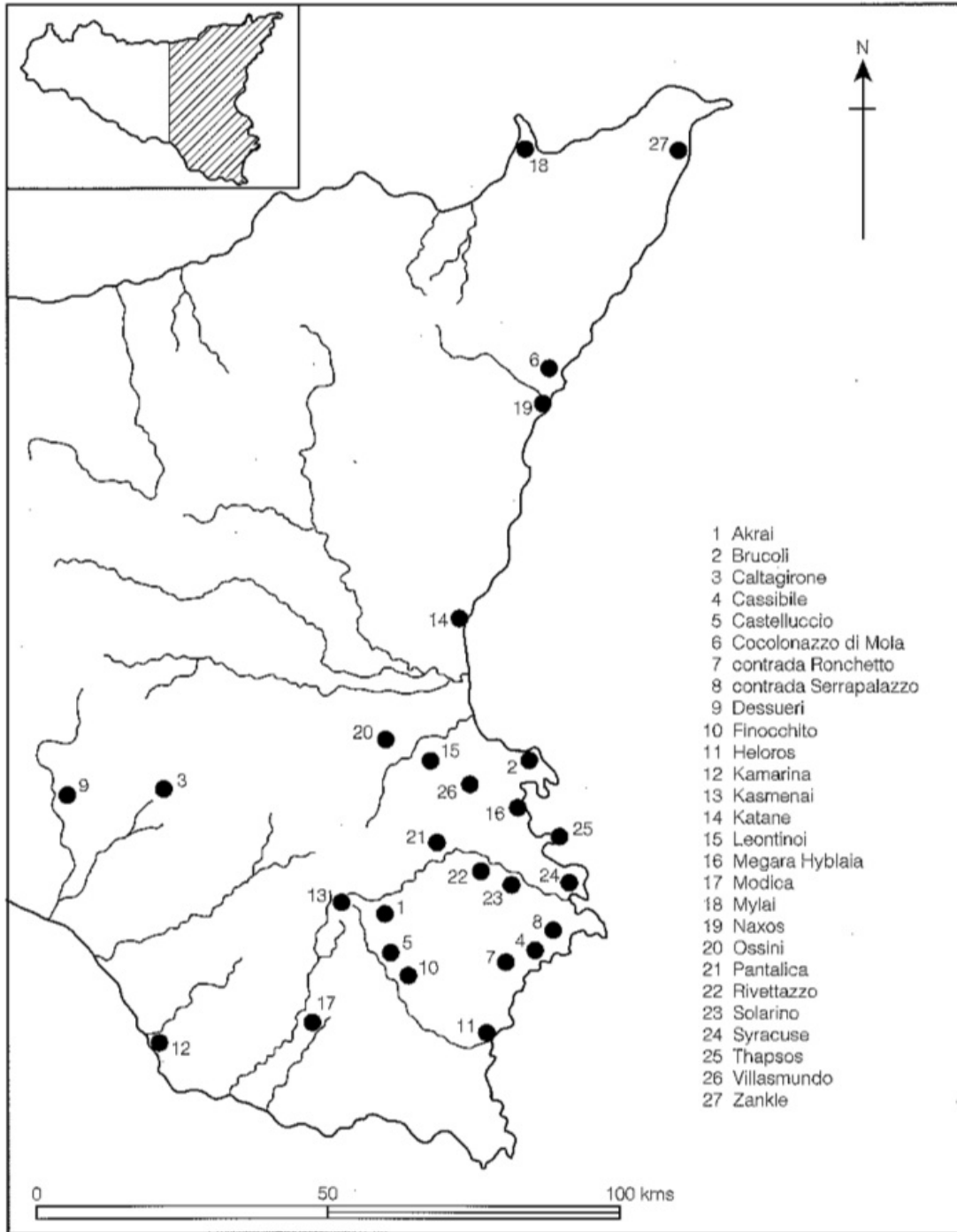


**Figure 1**



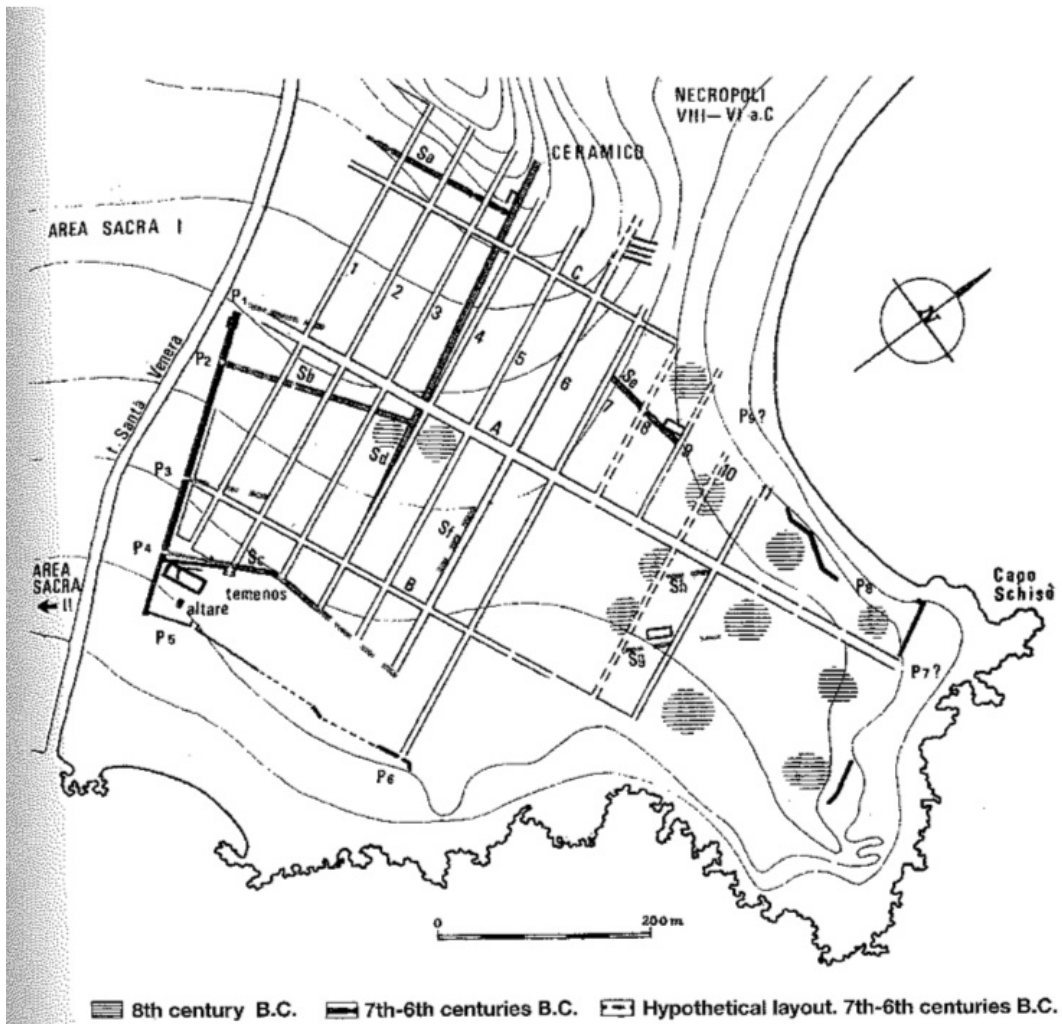
Map showing the early major Greek sites in archaic South Italy and Sicily.  
Adapted from (Tandy, 1997) 60.

Figure 2



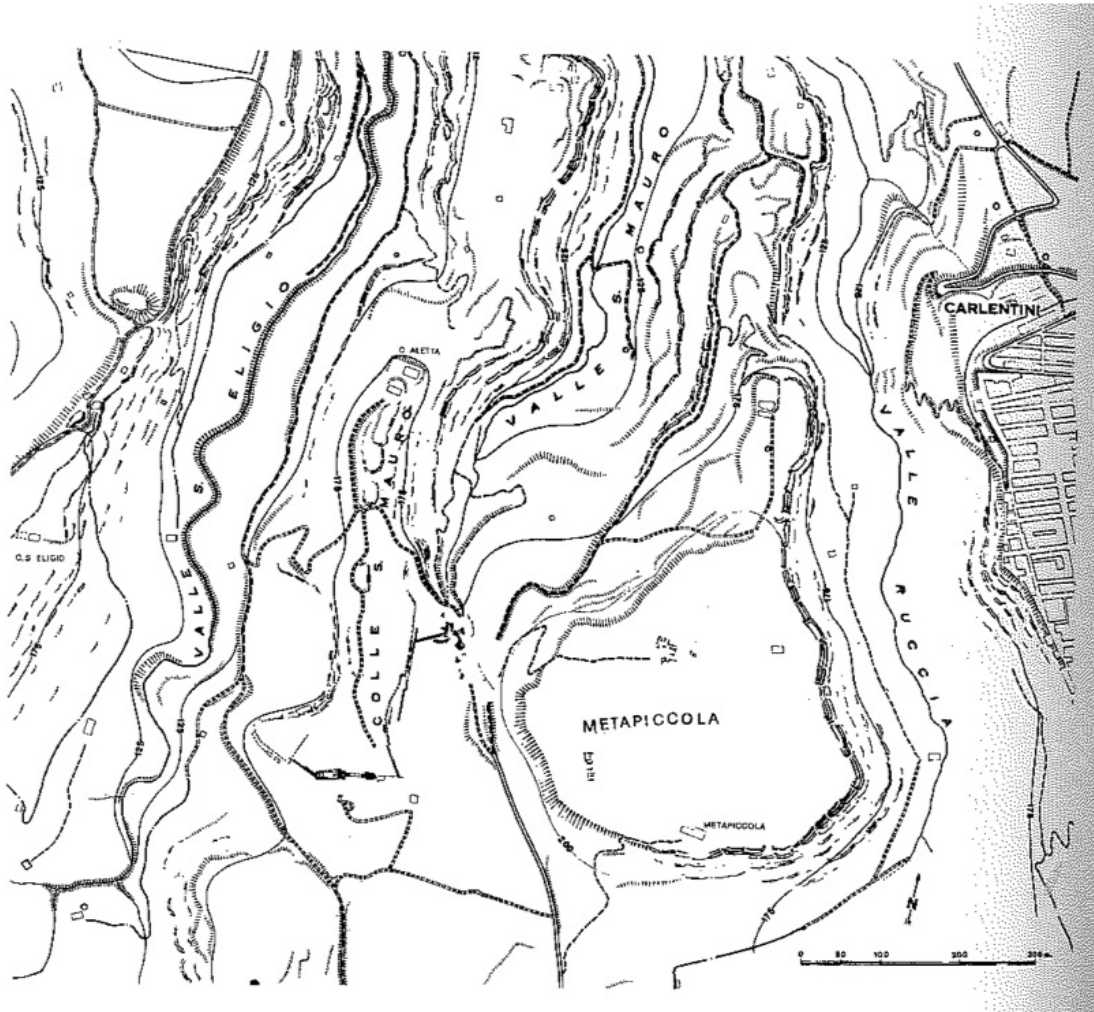
Map showing Greek and Sikel settlements of the archaic period in eastern Sicily.  
(De Angelis, 2003) 2.

Figure 3



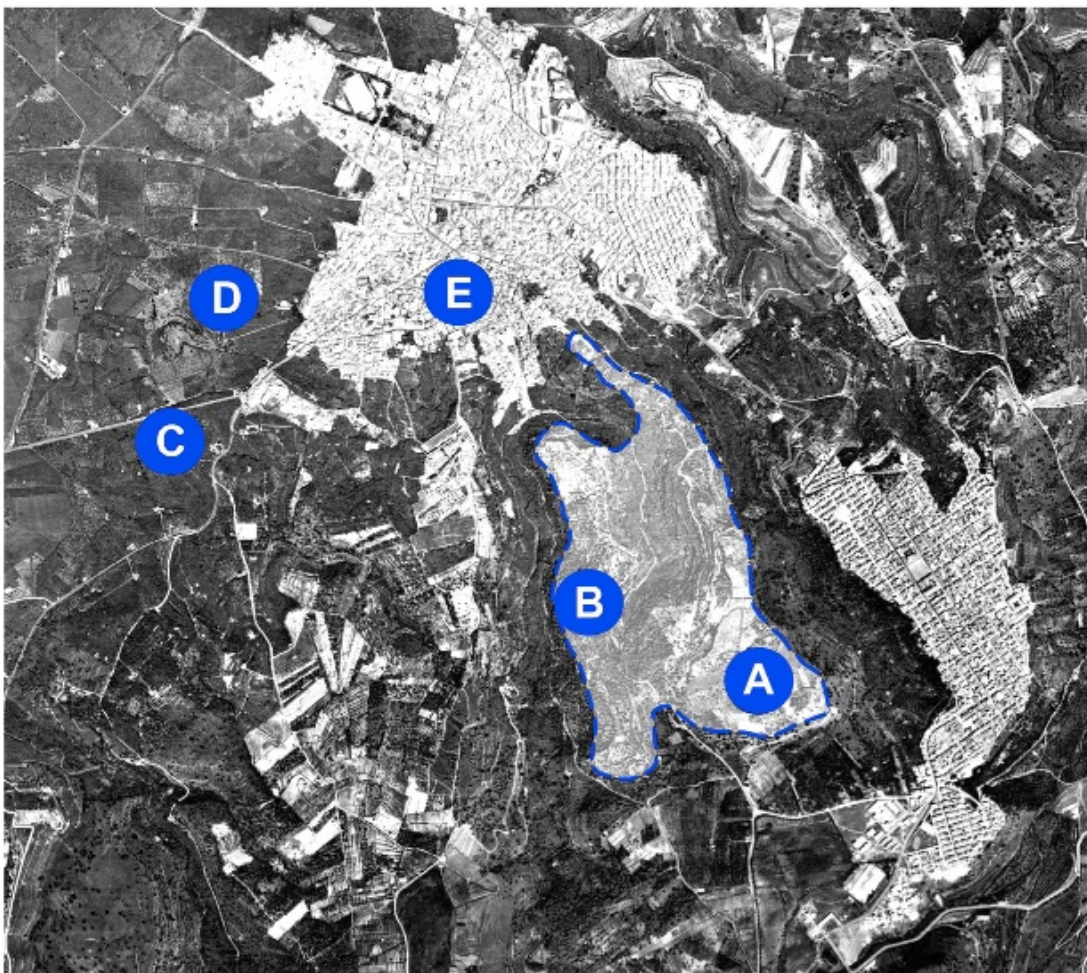
Plan showing the urban layout of Naxos in the archaic period. (Dominguez, 2006) 257.

Figure 4



Topographical plan showing the area of ancient Leontinoi, including San Mauro and Metipiccola hills, and San Mauro valley between them. (Dominguez, 2006) 260.

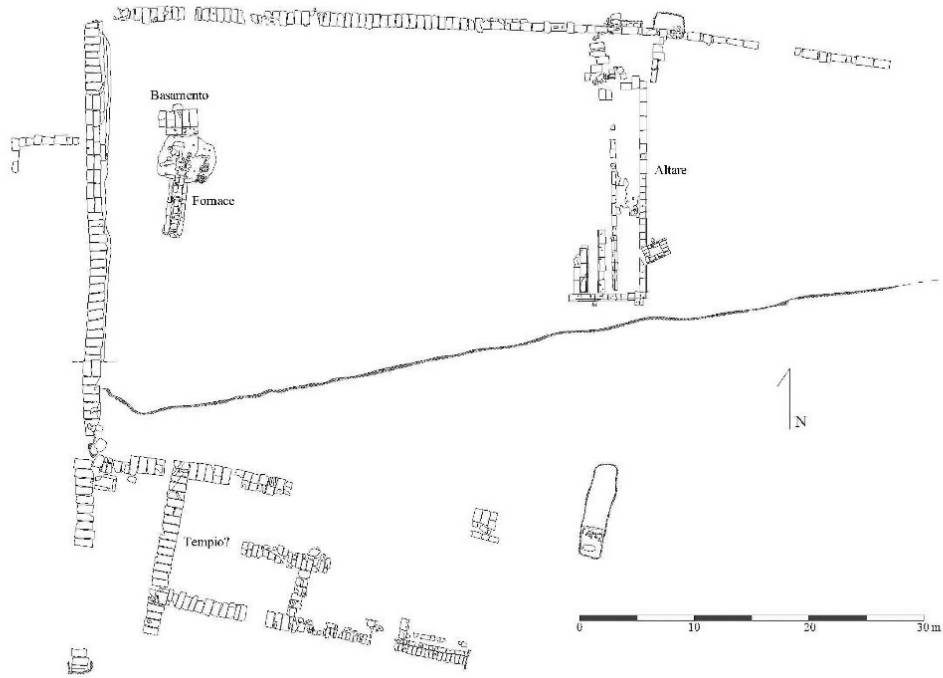
Figure 5



*Fig. 1. Foto aerea (IGM 1966, n. 939) dei siti di Lentini e Carlentini. A. Tempio della Metapiccola, B. Tempio sul colle S. Mauro, C. Santuario di Alaimo, D. Santuario di Scala Portazza, E. Quartiere Portuale.*

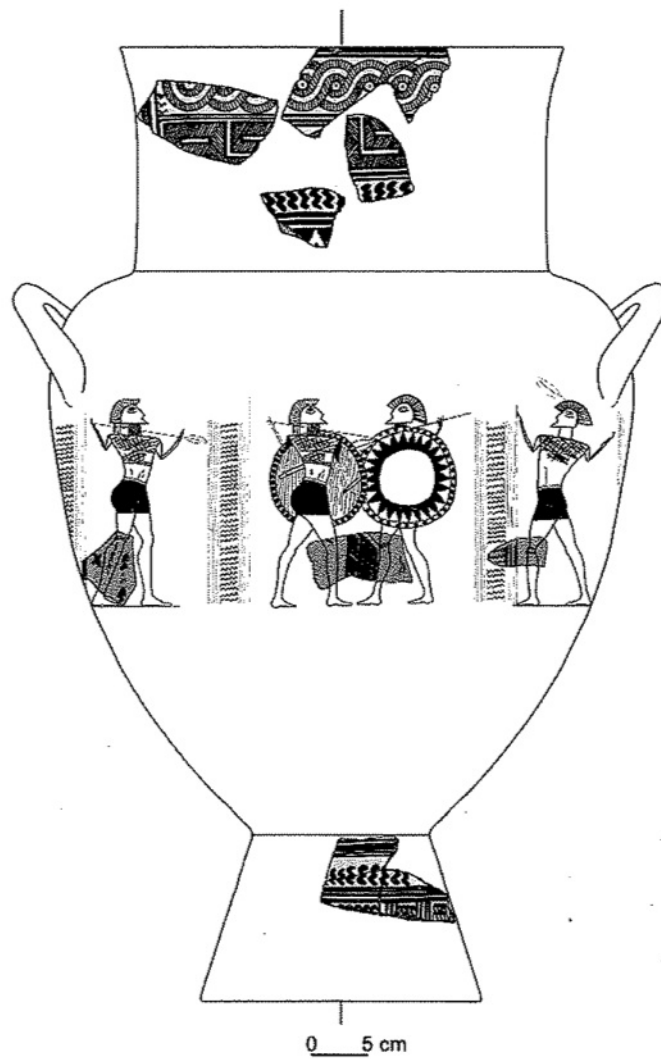
Enhanced aerial photography showing the area of ancient Leontinoi, including San Mauro and Metapiccola hills, the San Mauro valley between them, the sanctuaries of Alaimo and Scala Portazza, and the so-called Port Quarter. (Grasso, 2009) 1.

**Figure 6**



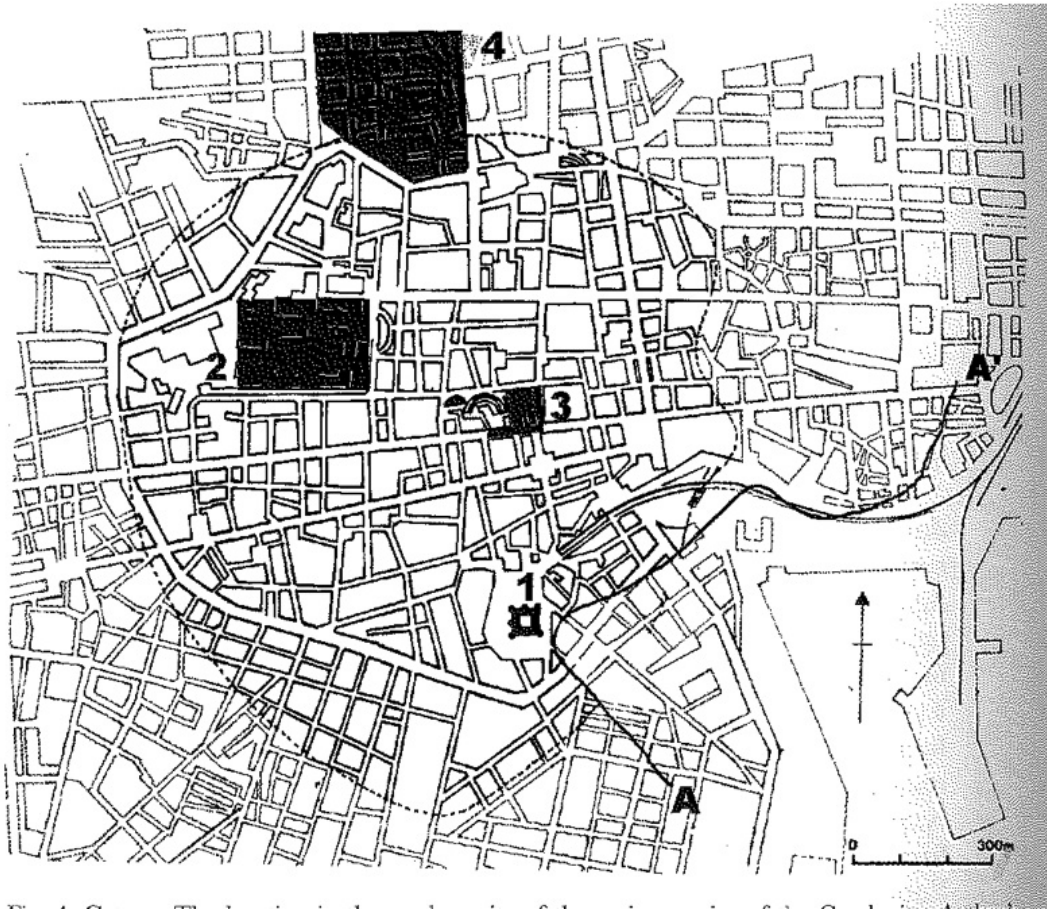
Plan of the Heraion of Scala Portazza (near Leontinoi). (Sudano, 2009) 2.

Figure 7



(Heavily restored) line drawing of an orientalizing krater, made at Leontinoi, and featuring figural decoration. (Frasca, 2009) 88.

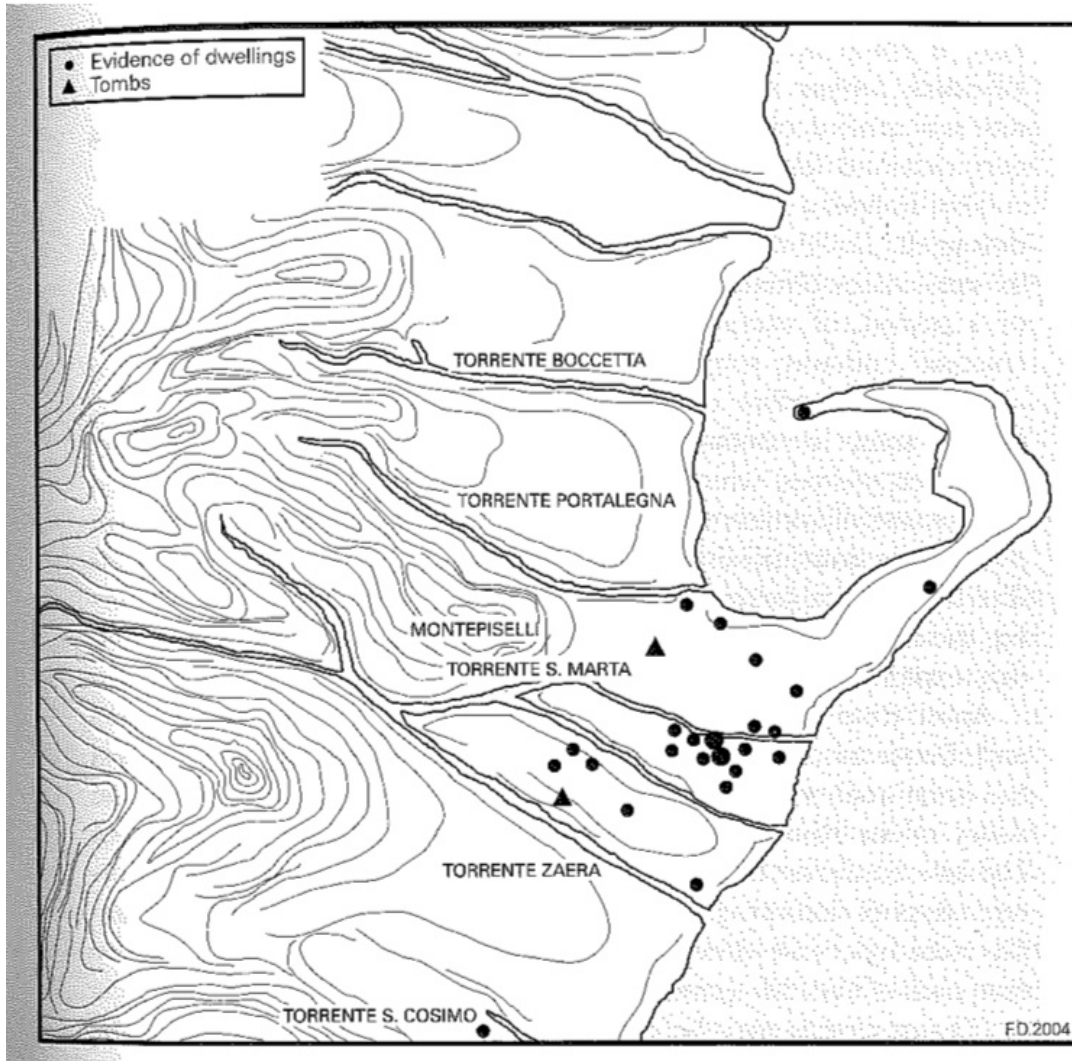
Figure 8



Plan showing excavated areas of modern Catania. A-A'. Ancient coastline; 1. Casetlo Ursino; 2. Former Benedictine monestary; 3. Votive deposit; 4. Hellenistic acropolis. (Dominguez, 2006) 264.

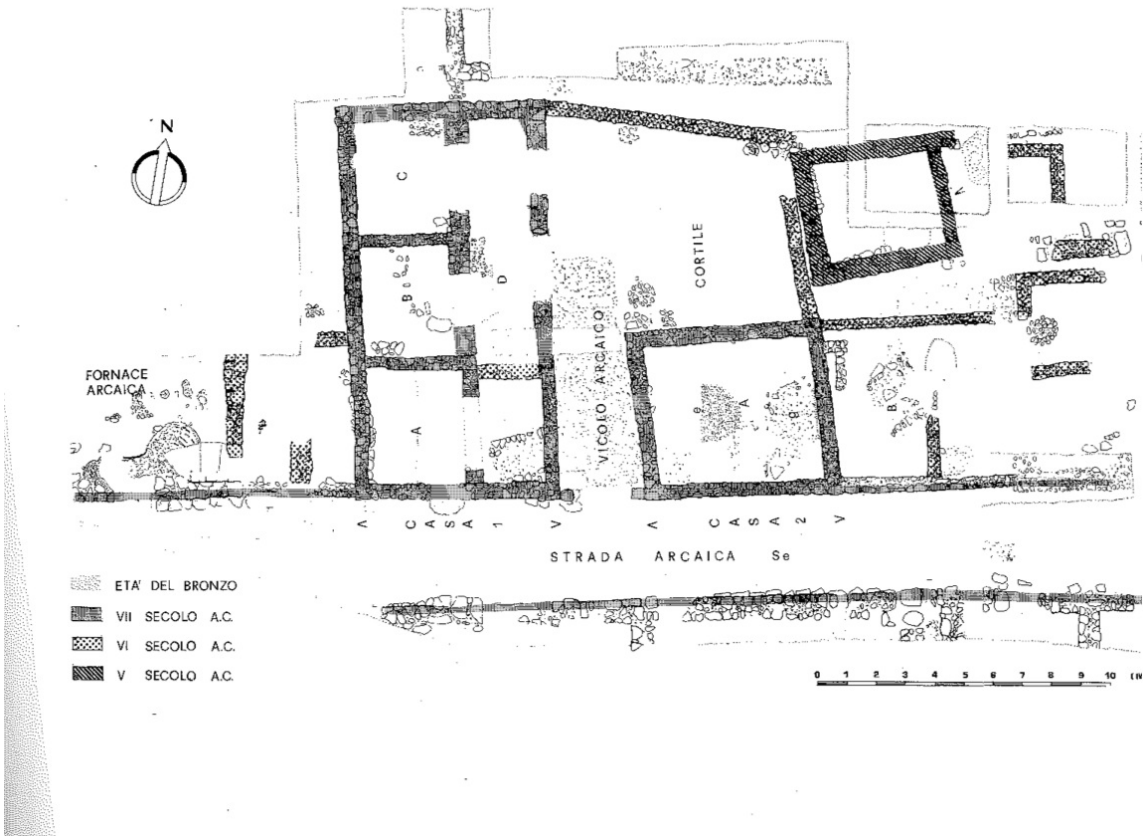


Figure 9



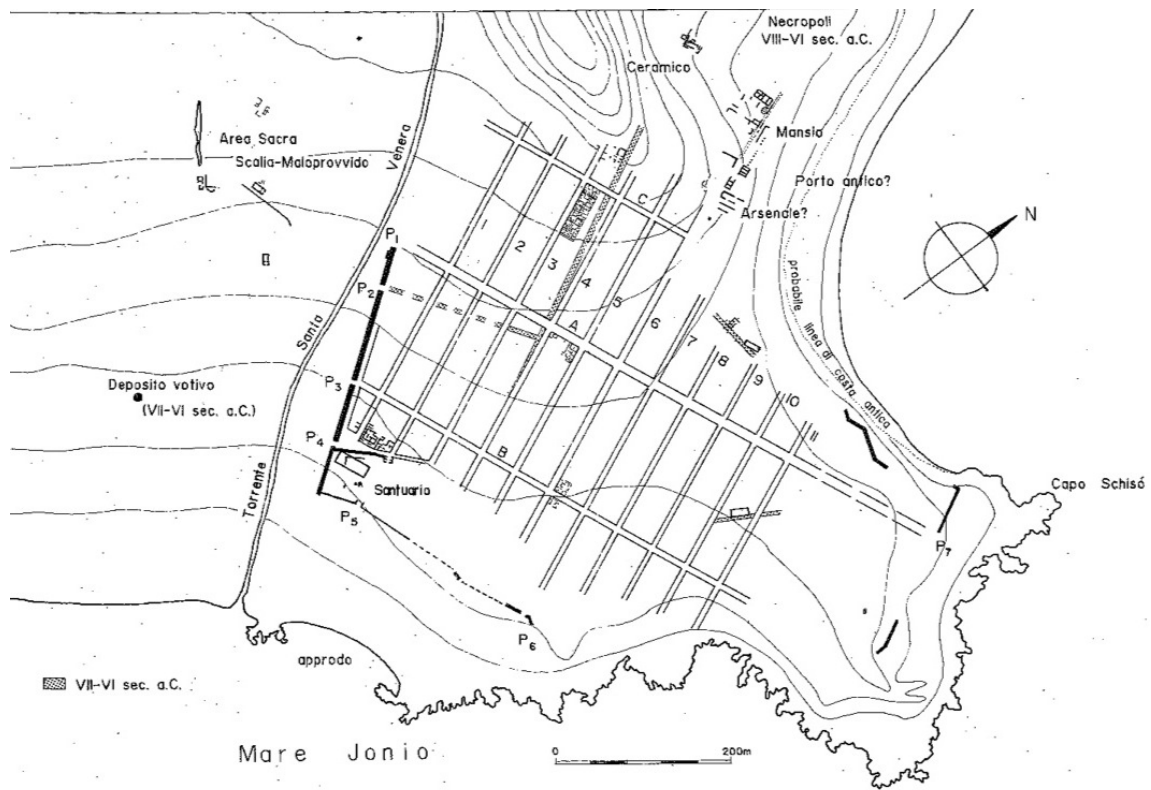
Topographic plan showing known archaeological areas corresponding to archaic Zankle. (Dominguez, 2006) 267.

**Figure 10**



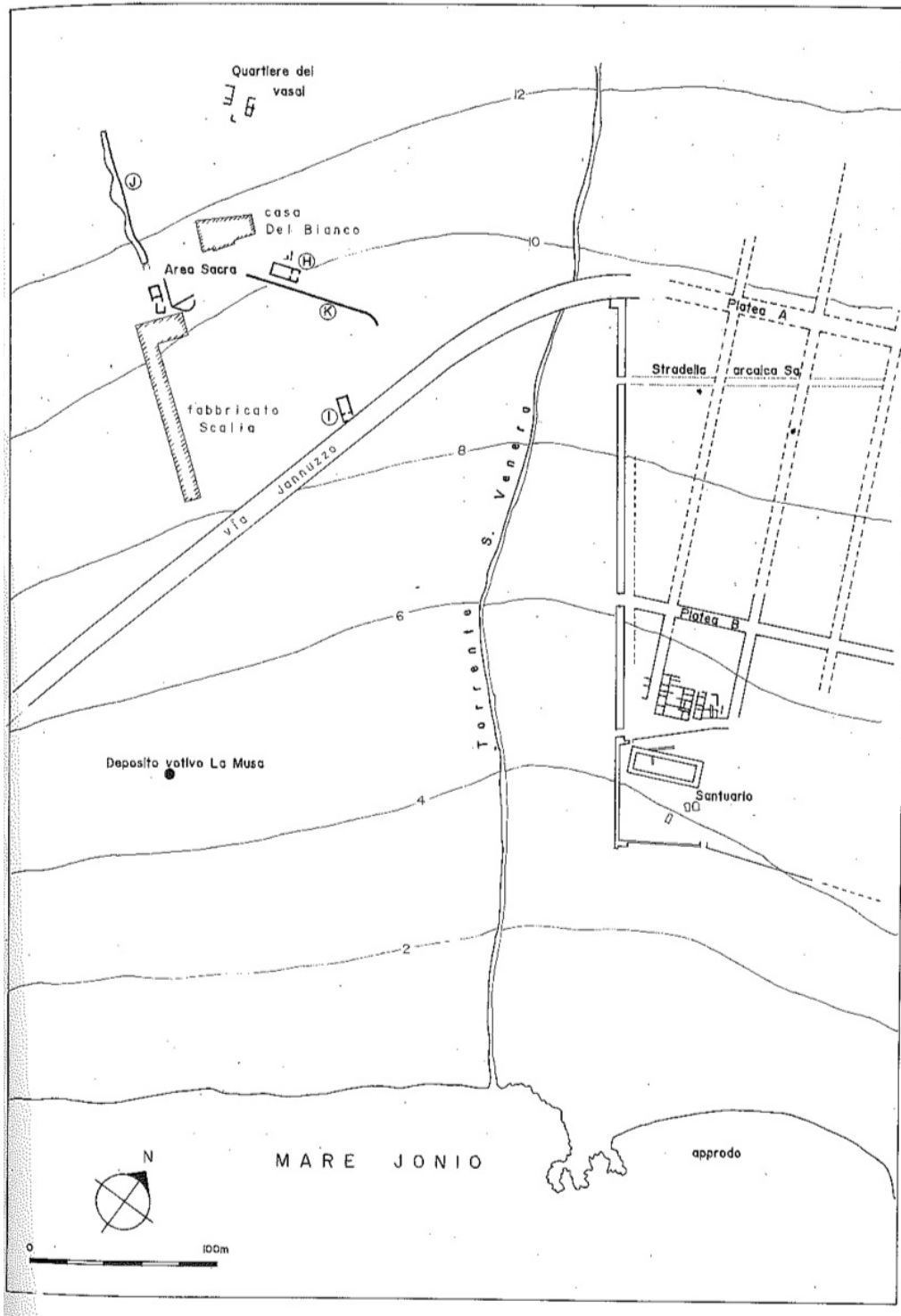
Plan of the so-called Pastas House (casa 1) and environs. Adapted from (Pelagatti, 1980-81) Plate CLXXIX.

**Figure 11**



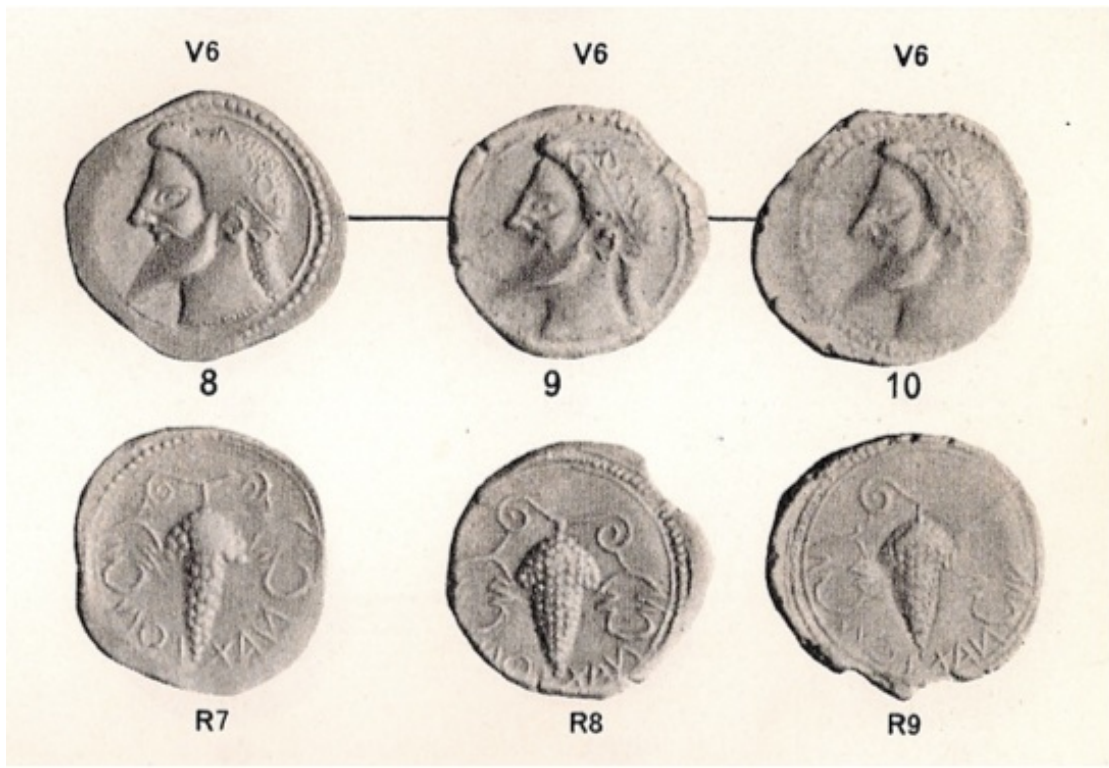
Map showing the areas of the Scaglia-Maloproviddo and Santa Venera (marked “Santuaria” in between “P4” and “P5” sanctuaries. (Lentini, 2000) 1009.

Figure 12



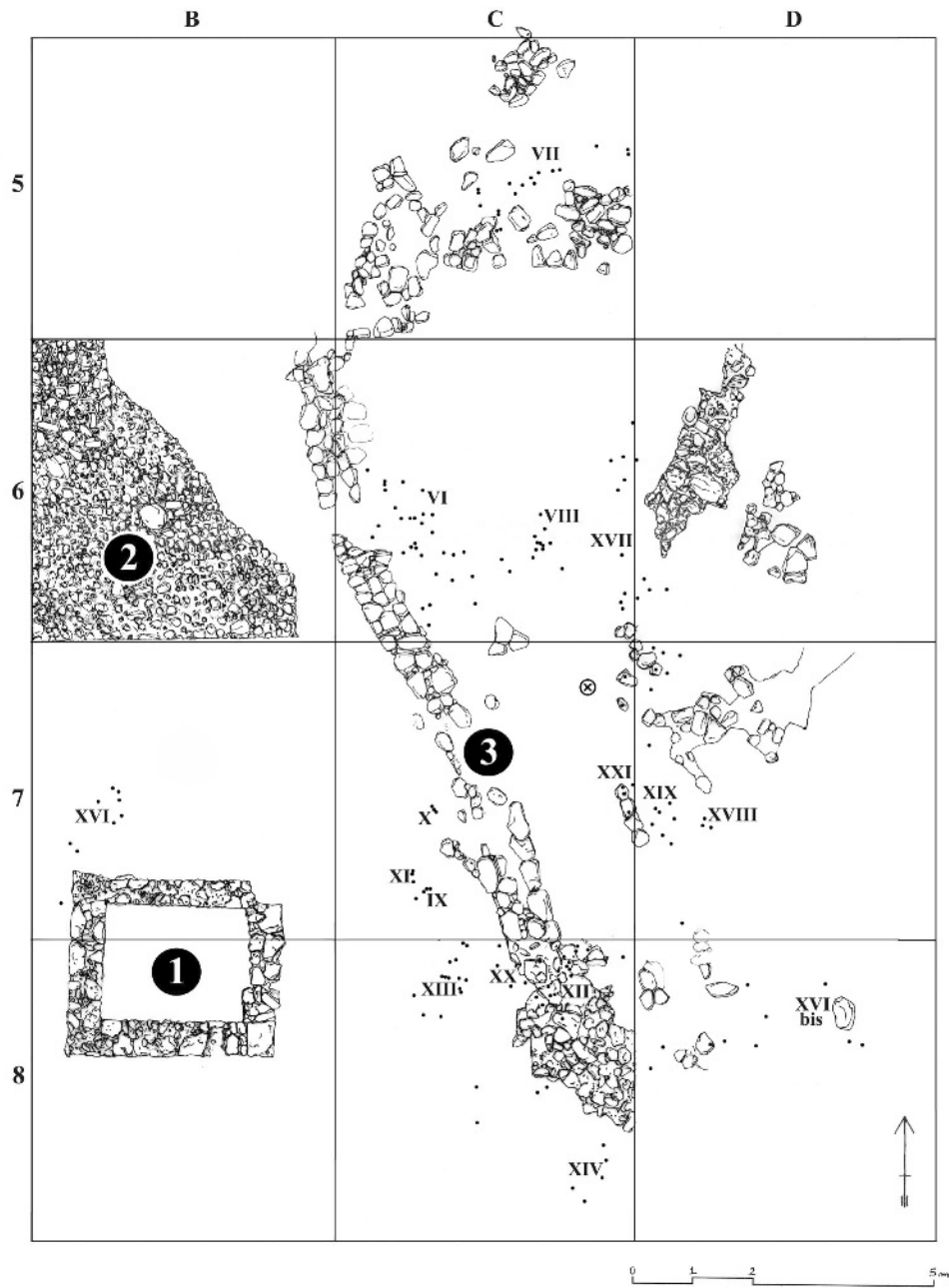
Plan showing the Scalia-Malprovido sanctuary, in relation the archaic city of Naxos. (Lentini, 1993-94) 1015.

Figure 13



Late archaic silver drachmae of Naxos. (Cahn, 1944) Plate 1.

**Figure 14**



Plan of the sanctuary at Alaimo (near Leontinoi). (Grasso, 2009) 2.

Figure 15



3



Group One



6



Group Two



18



Group Three



26



Group Four



71



Group Five

Archaic coins of Zankle, examples of each of Gielow's five types. Adapted from (Gielow, 1931) Plates 1, 2, 3 & 6.

## Figure 16

### **Group One**

#### Drachmae

Total number of coins: 22

Obverse dies (n): 7

Obverse Singletons (N1): 1 (4)

$$C = 1 - (N1/n)$$

$$C = 1 - (1/7)$$

Coverage = 86%

Likely original obverse dies: 8 or 9

#### Obols

Total number of coins: 52

Obverse dies (n): 16

Obverse Singletons (N1): 3 (18, 20, 32)

$$C = 1 - (N1/n)$$

$$C = 1 - (3/16)$$

Coverage = 81%

Likely original obverse dies: 19 or 20

### **Group Two**

#### Drachmae

Total number of coins: 34

Obverse dies (n): 12

Obverse singletons (N1): 3 (46, 48, 49)

$$C = 1 - (N1/n)$$

$$C = 1 - (3/12)$$

Coverage = 75%

Likely original obverse dies: 16

#### Obols

Total number of coins: 9

Obverse dies (n): 3

Obverse singletons (N1): 1 (53)

$$C = 1 - (N1/n)$$

$$C = 1 - (1/3)$$

Coverage = 67%

Likely original obverse dies: 4 or 5

Reconstruction of likely original number of obverse dies use in the minting of the archaic coinage of Naxos.



## Figure 17

### Drachmae

Total Number of Coins: 74

Obverse dies (n): 62

Obverse Singletons (N1): 42\*

\*[G1: (1, 2); G2: (5, 10-16); G3: (17-19, 22); G4: (24-30, 32-33, 38-47, 49-58, 61-69)]

$C = 1 - (N1/n)$

$C = 1 - (42/62)$

Coverage = 32%

Likely original obverse dies ~ 130

Estimated number of drachmae produced ~ 130,000-650,000

### Obols

Total Number of Coins: 14

Obverse dies (n): 11

Obverse Singletons (N1): 8 (70, 72-73, 75-79)

$C = 1 - (N1/n)$

$C = 1 - (8/11)$

Coverage = 17%

Likely original obverse dies ~ 65

Estimated number of obols produced ~ 65,000-325,00

Reconstruction of likely original number of obverse dies use in the minting of the archaic coinage of Zankle, along with an estimated number of total coins produced.

Figure 18

**Estimated total output**  
**(assuming 1,000-5,000 coins minted per die)**

Group One Drachmae:	8,000-45,000
Group Two Drachmae:	16,000-80,000
<hr/>	
Total Drachmae:	24,000-125,000

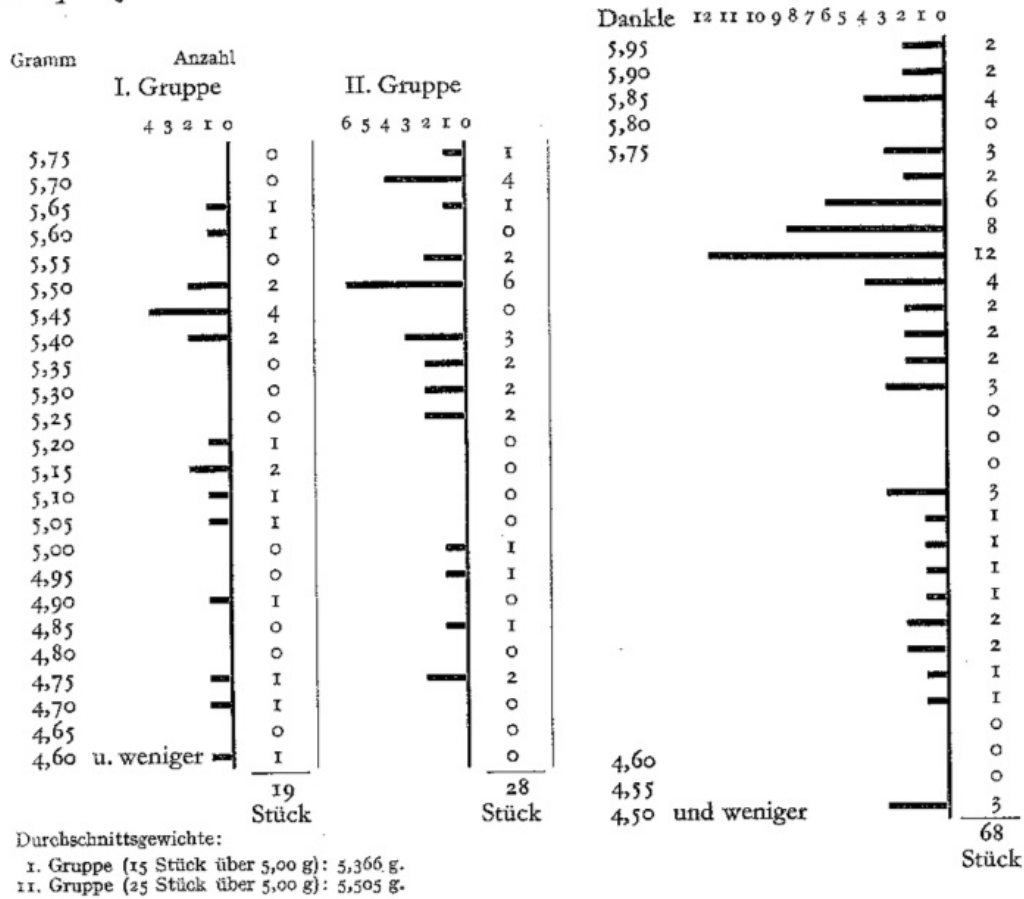
Group One Obols:	19,000-100,000
Group Two Obols:	4,000-25,000
<hr/>	
Total Obols:	23,000-125,000

The estimated total number of coins minted at archaic Naxos.

Figure 19

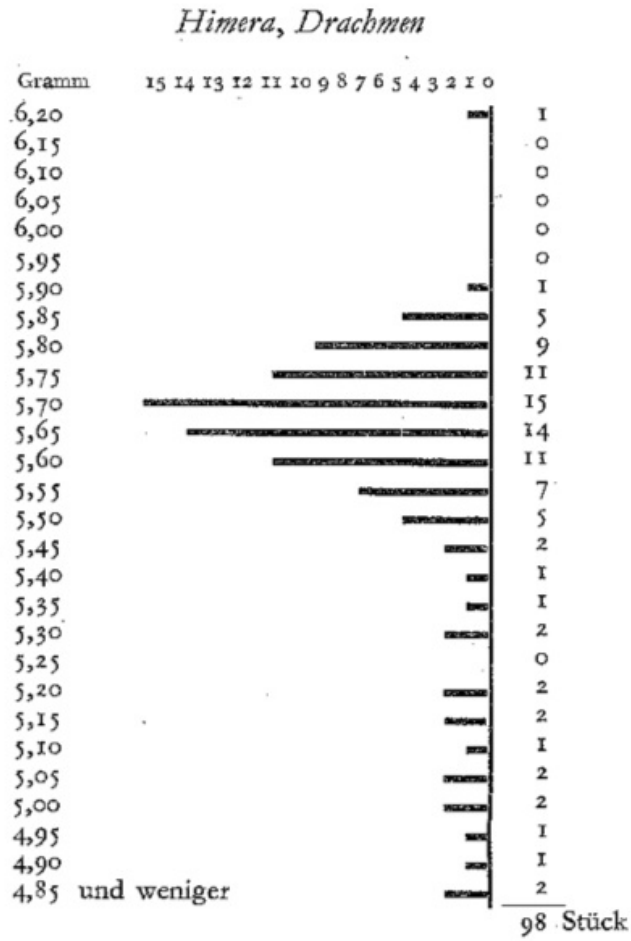
Frequenztabelle:

Drachmen



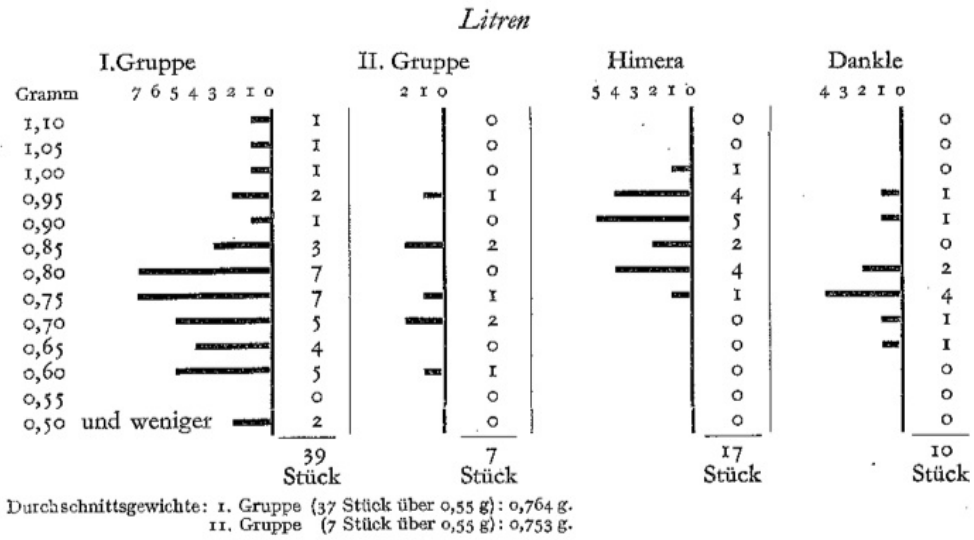
Frequency Tables for the archaic drachmae of Naxos (left, Groups I & II) and Zankle (right). (Cahn, 1944) 75.

Figure 20



Frequency Table for the archaic drachmae of Himera. (Cahn, 1944) 76.

Figure 21



Frequency Tables for the archaic obols of Naxos (left, Groups I & II), Himera (center), and Zankle (right). (Cahn, 1944) 77.