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THE ECONOMIC RATIONALITY OF CONSUMPTION
IN THE MYCENAEAN POLITICAL ECONOMY AND
ITS ROLE IN THE REPRODUCTION OF SOCIAL
PERSONAE: MODELING PRESTIGE NETWORKS

By
Devin Alexander Stephens
B.A., University of Louisville, 2019

A Thesis
Submitted to the Faculty of the
College of Arts and Sciences of the University of
Louisville
In Partial Fulfillment of the Requirements
for the Degree of

Master of Arts in Anthropology

Department of Anthropology
University of Louisville
Louisville, Kentucky

December 2021

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A Thesis Approved on

July 30, 2021

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ABSTRACT

THE ECONOMIC RATIONALITY OF CONSUMPTION IN THE MYCENAEAN POLITICAL ECONOMY AND ITS ROLE IN THE REPRODUCTION OF SOCIAL PERSONAE: MODELING PRESTIGE NETWORKS

Devin Alexander Stephens

July 30, 2021

This thesis is a theoretical examination of the economic rationality of consumption as it existed within the Mycenaean political economy. Using a modified paradigm of social network analysis, a semiotic approach is used in the study of identity expression and economic stratification present at three Late Helladic cemeteries. In doing so, the claim that exchange strategies which existed outside of palatial redistribution were present in the Late Helladic was substantiated as a similar logic of mortuary stratification which existed during the palatial era was also found to have existed after the shift to the post-palatial era and the collapse of the prevailing redistributive mode of consumption.

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INTRODUCTION

In this project I analyze Mycenaean grave assemblages and feasting deposits dating from the Late Helladic (LH) time period on the Greek mainland in order to discern the economic rationality of Late Bronze Age (LBA) Aegean exchange systems and their respective role in the formation of Mycenaean social identities. Mycenaean society was highly stratified with several distinct social segments competing for political and economic control. The controlled flow of certain culturally significant commodity chains allowed members of certain social segments to consolidate power through calculated social strategies, such as feasting practices and those exchange strategies which led to the accumulation of culturally significant goods in certain LH mainland burials. As a result, differential social identities were established and reproduced within a structure of imbalance through differing positions of power in strategies of exchange (gift-giving, consumption, feasting, etc.). The reproduction of these social identities through exchange were mediated and expressed through a medium acting as a third party in the exchange: the objects exchanged between agents which appear now as artifacts in the archaeological record of the LBA. This thesis will address how the controlled flow of culturally significant commodity chains in the Mycenaean social economy by elites and the palatial centers differentiated social segments and thereby reproduced the differential power structures present in the Mycenaean political economy. Data for this project was

collected through published site reports and journal articles pertaining to LH Mycenaean feasting deposits and burial assemblages. These data allow for the careful examination of two important aspects of Mycenaean exchange and the formation of social identity in the LBA Aegean: the palatial and elite contributions to feasts in which objects, both perishable and durable, of differential value were distributed to feasters according to their differential positions in a social hierarchy, and the distinction of commodities found in burials of individuals of differing class and rank. Using a theoretical and methodological synthesis of Actor Network Theory (ANT) and Social Network Analysis (SNA) as proposed by Knappett (2011), one can map a bipartite network structure of both agents and artifacts in order to locate foci of power and thereby infer the role of objects in the formation of Mycenaean social identity and its subsequent effect on power dynamics found in the Mycenaean political economy. Preliminary results suggest that agents in a higher social and economic position in Mycenaean society maintained their position through the careful control and exchange of culturally significant objects. This analysis contributes toward an understanding of the Mycenaean political economy and its internal relations as well as to the critique of broader typological models of other prehistoric political economies. The analysis also contributes to broader methodological considerations of applying SNA to the study of prehistoric political economies and their conditions of reproduction.

BACKGROUND: THE MYCENAEAN WORLD

The Mycenaean Political Landscape

In order to understand the “economic rationality” of Mycenaean society, it is necessary to discuss the palatial state and its bureaucratic institutions which existed on the LH mainland. Following Aegeanist Michael Cosmopoulos’ (2006: 205) definition of the state, what is meant here is the political landscape of Mycenaean Greece. This is the collection of community and settlement networks, made up of physical structures and political boundaries, which reflected the actions of authority to control the flows of commodities and people. Recent studies into Mycenaean political organization have emphasized the regional diversity and specific trajectories between various localities on the mainland, yet a generalized structure can be discerned from the record which Cosmopoulos (2019) formulates in his analysis of the hierarchical organization of the Pylos site and its sub localities. Cosmopoulos (2019) organizes the Pylian state into a four tier structure which existed at the height of the palatial era. The first of these tiers was the palatial capital of Pylos, headed by a ruler called a *wanax*, which controlled all bureaucratic and administrative functions for the region (Cosmopoulos 2019). The sites which fall into the second tier directly below the palatial capital were the district capitals within the state which reproduced the administrative functions of the palace at the

regional levels for sub localities within the control of the palace (Cosmopoulos 2019). The third tier within the state hierarchy included smaller settlements which were of special interest to the palatial capital as a result of their specialized economic activities in the overall production process (Cosmopoulos 2019). The fourth and final tier is composed of smaller villages and settlements which were of lesser economic importance and as a result attracted a lesser interest from the palace (Cosmopoulos 2019). While Cosmopoulos' (2019) study is confined to the organization of the Pylian palatial state, it can be reasonably applied as a generalized model or formula by which to study the broader role of Mycenaean palaces in the LH economy. Yet before one can discuss this role, it is necessary to elaborate on the economic sector which directly surrounded the palace.

Tier I	The palatial capital, or palace proper, headed by the <i>wanax</i> .
Tier II	District capitals within the state which replicated the administrative function of the palace at the regional level.
Tier III	Smaller settlements that were of special interest to the palace because of specialized economic activities.
Tier IV	Smaller villages and settlements of lesser economic importance and smaller size in which the palace did not seem to have a strong interest.

Table 1. Following Cosmopoulos' (2019) description of the ranked hierarchy within the Pylian state applied as a generalized model of Mycenaean states.

The Mycenaean Economy and the Palatial Sector: A Brief Overview

Two types of evidence exist which can aid in the reconstruction of the palatial economy: archival evidence comprised of Linear B tablets from palace archives, and archaeological evidence from the palatial sites themselves (Halstead 1992). According to

the archival evidence, the Mycenaean palace acted as an administrative head for regional redistribution and combined the pooling of resources with the mobilization of labor (Halstead 1992). Meaning that the palaces collected commodities and services from particular localities within its control and redistributed these among other localities (Halstead 1992). This redistribution (Fig. 1) by the palace also mobilized resources for consumption by the elites in these particular localities and their subordinate populations (Halstead 1992).

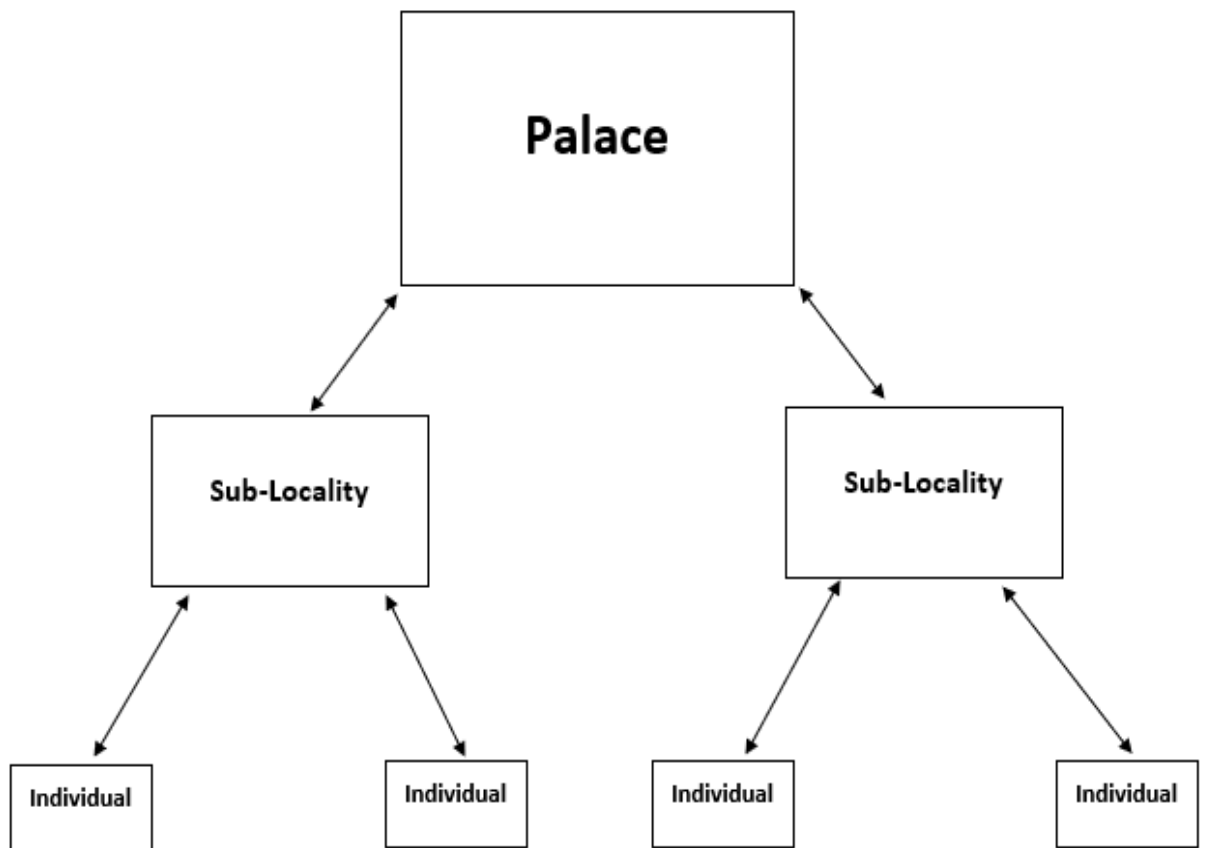


Fig 1. The flow of goods and raw materials throughout the Mycenaean state through palatial redistribution

Two possibilities exist for the subsistence of the palace and its resident population: either it was indirectly financed through surplus goods obtained through an agricultural levy

imposed on its subordinate settlements or it was directly financed by production which occurred on large elite estates (Halstead 1992). In either case, the subsistence of the palatial sector was largely dependent upon additional production in the form of agricultural innovations or the intensification of capital and labor (Halstead 1992) The Linear B archives record four primary transaction categories: taxation, agricultural production, the maintenance of palace staff, and craft production (Halstead 1992). The palace placed taxes on non-staple commodities and may have levied taxes on some labor services as well, and the proportions of different commodity contributions were fixed (Halstead 1992). However, the taxation process was largely decentralized, and the collection of taxes was organized on a regional basis by the district capitals (Halstead 1992). In reference to agricultural production, the palace owned its own pool of livestock which existed outside of received taxation payments and which was widely distributed within each palatial territory (Halstead 1992). Paul Halstead (1992: 60) remarks that the Knossos archives record approximately 80,000-100,000 sheep, and of which an estimated 60,000 of this pool was used exclusively for wool production. Going further, one third of those sheep portioned to the production of wool existed in a state of shared ownership with the non-palatial sector yet wool production was ultimately overseen by the palace. Palatial agricultural production as it pertains to crops is not as prominent in the archival evidence, yet grain crops such as wheat and barley are both explicitly mentioned as being produced in differing amounts (Halstead 1992). While barley is recorded in comparatively small amounts, wheat on the other hand is recorded in substantially large quantities and suggest that the palace was directly involved in its production (Halstead 1992: 61). Palatial ownership of orchards is also recorded in the Linear B tablets and the

production of vines, figs, and olives implies substantial involvement in these industries of agriculture (Halstead 1992). Palatial agriculture also seems to have been highly concentrated in the areas closest to the palaces and distinct capitals as opposed to the wide distribution spread of palatial livestock within the region (Halstead 1992).

Regarding the third type of principal exchange in the palatial economy, the maintenance of palace staff, the archival evidence makes a distinction between two forms of support: fully dependent servants and craftspeople who were directly supported by food rations, and semi-dependent officials and craftspeople who were indirectly supported through allocated land ownership (Halstead 1992). As it pertains to craft production, the fourth and final type of principal exchange recorded in the archival evidence, craftspeople worked under the *ta-ra-si-ja* system, whereby they received supplies of raw materials from the palace and met palatially regulated production targets (Halstead 1992). The *ta-ra-si-ja* system required a pool of highly specialized skilled craftspeople and produced a variety of specific goods which included bronze, chariots, textiles, furniture, perfumed oils, and various gold objects (Halstead 1992). The archaeological evidence has for the most part confirmed and expanded upon what can be gathered about the Mycenaean palatial economy from the Linear B archives. The remains of the palaces themselves are indicative of the mobilization of a substantial labor force, and evidence for palatial craft production is abundantly clear at the sites of major palatial centers (Halstead 1992).

Archaeological evidence also documents three major transaction types which are not mentioned in the archival records, that being: the disbursement of the palatial craft goods, non-palatial production, and long-distance trade (Halstead 1992). Specialized prestige commodities produced by the palatial sectors at Mycenae and Thebes have been widely

disbursed throughout tombs all throughout the southern Greek mainland, suggesting a flow of goods from the palace workshops to a wide range of regional localities (Halstead 1992). Fine-ware stirrup jars used to store perfumed oil, an industry dominated largely by the mainland palaces, have also been found throughout the Eastern Mediterranean (Halstead 1992). All of these disbursements of palatial goods into non-palatial regions suggest a wide reach of the circulation of commodities produced within palace dominated industries and a wide economic influence on the part of the palatial capitals. Concerning non-palatial production in particular, though, there is an abundant amount of commodities present at palatial sites whose production seems to have been outsourced (Halstead 1992). For example, large scale palaces such as the one at Pylos consumed substantial amounts of plainware ceramic cooking vessels as well as storage containers for perfumed oils and wine which have appear to have been received from multiple sources outside of its purview (Halstead 1992). These non-palatially produced ceramic goods were necessary for the upkeep of daily activities which occurred at the palace and were interpreted for the storage of goods which were produced almost exclusively by the palatial sector. Although archival evidence mentions a very limited diversity of grain agriculture within the palatial sector, charred remains of pulses and cereals reveal the palace utilized a much wider range of grain crops and suggests that much of its agriculture was imported (Halstead 1992). Therefore, as far as the import of staple crops and ceramic vessels is concerned, the palace required the export of labor and the import of goods to sustain its own industries of production and to provide basic maintenance of daily palatial life. Lastly, the archaeological evidence points to a third important transaction type which is almost absent from the archival evidence: long-distance trade.

Excavations of prominent palatial sites confirm the concentrated presence of exotic raw material types used by resident craftspeople in the workshops, and suggest the palace played a primary role in transactions with long-distance trading partners (Halstead 1992). Stockpiles of Near Eastern prestige commodities at the palace centers of Thebes and Mycenae also suggest a component of diplomatic consumption which corresponds with the consumption of exotic raw materials (Halstead 1992).

An important aspect of the palatial economy which must be explored is the *ta-ra-si-ja* system of workshops that existed at the palace, and their relationship to the non-palatial sector. The *ta-ra-si-ja* were workshops comprised of resident craftspeople producing specialized commodities within the confines of the palace. These craftspeople received rations to sustain themselves and in turn were given local and exotic raw materials from the administrative institution of the palace to use in the production of specialist craft goods which were then distributed throughout the non-palatial sector on the mainland, traded with diplomatic and economic partners around the Mediterranean (e.g. Cyprus, Egypt, and the Near East), and utilized in the maintenance of daily palatial life (Halstead 1992). In order to understand the distribution of these specialized craft goods throughout the mainland, one must place it within the context of the redistributive framework which existed on the LH mainland. Craft goods produced by the *ta-ra-si-ja* were not redistributed to all members of the population, but were allocated to an exclusive segment of Mycenaean society outside the palatial sector, possibly in an attempt to gain favor with an emerging elite class (Schon 2011). At Pylos, the redistributive system procured the necessary raw materials needed by the *ta-ra-si-ja* for the production of prestige craft goods (e.g. chariots, perfumed oils, and textiles) which in

turn were redistributed to this exclusive elite class (Schon 2011). Robert Schon (2011), in his analysis of varying industries of prestige goods at the Palace of Nestor at Pylos, suggests that while although similar management policies for the *ta-ra-si-ja* indicate an overarching policy of resource mobilization, inconsistencies between the operations of the varying industries are reflective of a non-standardized redistributive system. Materials for the prestige industries were procured, given to the *ta-ra-si-ja* for production, and then prestige commodities were redistributed into the upper echelons of the palatial and non-palatial sectors. This indicates that a redistributive mechanism led to the production and consumption of prestige goods in a broad sense, yet evidence of a redistributive system which was not fully standardized allows for the possibility of considering ways in which production and consumption occurred outside of or alongside palatial redistribution. Reevaluating the redistributive system, several scholars (Halstead 1992; Schon 2011; Pullen 2013; Lupack 2011; Parkinson et al. 2013) have argued that several economic exchanges are likely to have occurred outside the scope of palatial redistribution and caution against regarding the Mycenaean redistributive system as the sole mover in the circulation of goods. Instead, they argue that redistribution on the mainland was not a passive system of economic regulation which occurred in the background of Mycenaean society, but was one economic strategy among many on the part of palatial and elite segments to consolidate political and economic power through the controlled circulation of commodity chains (Halstead 1992).

THEORETICAL BACKGROUND

Three Schools of Thought in Economic Anthropology

According to economic anthropologist Maurice Godelier (1977: 17), anthropologists deal with three conflicting definitions of economics. There are those who call themselves “formalists,” whose thesis is that the ultimate aim of scientific research in economics is to study human behavior as a continuous relationship between ends and scarce means which hold alternate uses (Godelier 1977: 17). Formalist theory primarily studies the variety in human behavior which is involved in utilizing determined and scarce means in the achievement of specific ends in a way that maximizes efficiency (Godelier 1977: 18). The chief problem which arises in formalist research in anthropology is that its scientific analysis starts off with presuppositions and a value system whose origins cannot be explained and thus the history of human economic systems ultimately appear to be contingent facts grouped together in a way which does not allow for the study of socio-economic processes which occur over an extended period of time and in which the social variability in economic systems is minimized (Godelier 1977). The formalist definition reduces scientific investigation into human economies to a singular focus: the maximization of “profit” with the least amount of input, or the most efficient way in which humans may utilize scarce resources to achieve desired ends. This prevents a comprehensive analysis of human economies by obfuscating certain attributes

of social and economic systems which are undesirable or unknown to those agents who participate in them (Godelier 1977: 19). Those attributes which are objective yet unintentional and which reside in a social and economic system are ignored in formalist research and lie outside of its theoretical purview. In a formalist definition of economics, human economies are disembodied and treated as separate from the social relations of the group which makes up and utilizes the economy and therefore is unable to provide detailed and fruitful research within economic science, especially as it applies to the anthropological study of economies.

The second definition of economics that anthropologists must consider is the “substantive” definition which rejects any attempt of a formal definition, and considers the economy of a particular society as embedded within social forms and structures of commodity production, distribution, and consumption or circulation (Godelier 1977: 17). To those of the substantivist school of economic theory, these specific socio-economic structures characterize a society within a particular phase of its existence (Godelier 1977:18). The substantivist school of thought rejects the formalist approach in that it refuses to apply a singular definition to *all* economies. Its adherents criticize formalist theorists for projecting a mercantile economic view onto the social systems of pre-capitalist and non-capitalist societies (Godelier 1977: 21). Instead, substantivists provide a critique of any formal definition of human economic systems and provide in its place a general theory of typological models which may exist within a particular society (Godelier 1977: 21). Within substantivist typological models there exist three categories which do not exist in a linear evolution and which may coexist in varying proportions, that being: economies regulated by reciprocity, redistribution, or a market (Godelier

1977: 21). According to substantivists, those economies which are primarily regulated on a principle of reciprocity are dependent on kinship or similar relations normally inherent in classless societies (Godelier 1977: 21). Those economies which are characterized as redistributive function by means of a centralized authority which receives goods from localized units of production and pools these collected resources before distributing them back out to the broader populace in varying portions determined by rank, class, or some other form of hierarchized social standing (Godelier 1977: 21). Lastly, the substantivists define those economies which are regulated by a market as functioning by means of an institution disembedded from political and social relations whereby individuals participate in the production, distribution, and circulation of goods in a manner which is separated from all other forms of social institutions (Godelier 1977: 21). Within the substantivist school of thought, there arises many theoretical problems which are antithetical to fruitful and comprehensive research in the scientific study of human economies. The typological models utilized in substantivist research limits the school to the recording and classifying of those aspects of differing economic systems which are readily visible with categories that are unfortunately rigid and superficial (Godelier 1977: 22). For example, two economies characterized as reciprocal can contain a wealth of differences between them, including differing kinship structures, subsistence strategies, and varying modes of production which render such classifications of “reciprocity” as reductionist. The same applies to the typological models of redistribution and market economies. Organizational structures and units of production between redistributive economies may be entirely different from each other and their economic rationalities may be discontinuous and incompatible with one another. There also arises another problem

within the substantivist school of thought regarding its typological model of market economies, as it treats the circulation and production of commodities as a separate process disembedded from other forms of social relations. This view of markets and their relations, whereby markets are considered to be entities in and of themselves and as existing as the purest form of individual involvement in an economy divorced from external social factors (such as categories like the state), is a historically contrived idea by classical economists with no empirical justification in the ethnographic and archaeological records (Godelier 1977). Any economic institution is primarily a social one, where social agents with conditioned presuppositions taken from their material and social surroundings participate in the sectors of production, distribution, and consumption in a way which satisfies the material needs of different social situations. Marketplace interaction, although possibly occurring between two individuals, is ultimately structured by social institutions and cultural mores which precede this interaction. Or, as sociologist Pierre Bourdieu (2020: 112) describes it, “an interaction between two people may be the actualization of structural relations irreducible to interaction, with interaction being both its expression and dissimulation.” The substantivist school’s chief shortcoming, though, is its rigidity and obfuscation of the specific attributes of a society’s economic rationality which extend further than a typological classification. For fruitful research in the scientific study of human economies, a flexible and comprehensive theoretical base is necessary. This brings us to the third school of economic thought which exists in anthropology, that being the Marxist school followed by scholars such as Marshall Sahlins (2017), Godelier (1977; 2012), and Timothy Earle (2017). Anthropologists of the Marxist school of economics are generally in agreement with the substantivists in the

rejection of any formal definition of an economy, but ultimately consider the substantivist school to be basically correct yet insufficient or incomplete in its analysis (Godelier 1977: 18). Marxist anthropologists instead suggest an examination of the social and material structures which determine a group's specific relations using the concepts of the "mode of production" and "economic and social formation" originally put forth by Karl Marx (2020; 2017) in the analysis of political economies (Godelier 1977: 18). A society's mode of production is the combination of its productive forces and its relations within the process of production that determine the form of production and of the circulation of goods within a historically determined social setting (Godelier 1977: 18). Within each mode of production there is assumed to be a superstructure of political, cultural, and ideological relations which are inextricable from the material process of production and which is both compatible and causal to the production process (Godelier 1977: 18). This is what is meant to correspond to a society's economic and social formation (Godelier 1977: 18). It is important to note here that within one society several modes of production may coexist at any given moment and which may be present in varying proportions (Godelier 1977; Marx 2017). Ultimately, although the formalist and substantivist schools of economic thought are founded on principles which are rational, they fall short of being an adequate approach at the levels of theory and the interpretation of data in anthropological research. A formal definition is limiting in its scope to say the least and fails to take into account or provide an explanation for the plethora of social and cultural variety which exists in the ethnographic and archaeological records. Instead, it projects modern Western conceptions of social and economic thought onto non-Western and pre-modern societies. While the approach of the substantivists is an improvement in

comparison to that of the formalists, it is itself unfortunately limited by its use of typological models which do not take into account the specific and diverse relations which may exist between two societies within a single typological category. In light of these shortcomings which are inherent in the formalist and substantivist schools of thought, a Marxist approach will be utilized on account of its sufficient flexibility which is required to accurately analyze the variety of economic systems that appear through the archaeological record.

Towards a Scientific Investigation of Godelier's 'Economic Rationality'

Godelier (2012: 14-15) provides three conditions needed for a scientific investigation of "economic rationality", which is both the rationality of an economic system and the rationality of the behavior of economic agents within this system (Godelier 2012): 1) that which is economic must be defined in real and not formal terms, or by its existing structures and not formal typological models, 2) that the specific structure of a particular economic system be known or assumed so that the behavior of an agent in this system may be recognizable, and 3) that a structured hierarchy of agents' needs be recognizable within this system. Godelier (2012) defines an economic system as both a particular field and a particular aspect of all non-economic activities since such a system fulfills the material needs of all social activities and social structures. This definition of an economic system implies that any investigation of economic rationality must consider the specific structures of the economy (production, distribution, consumption, etc.) and the internal relations with other existing social structures whose material needs are fulfilled by the economic field. This being said, these relations should

not be explained on the basis of the forms of these structures but rather the forms of these structures themselves should be explained in terms of their relations (Godelier 2012). In order to identify the different sectors of the economic system and explain their internal relations within the general economic system as a whole, one must utilize a political economy framework and its parameters.

Earle's Division of the Prehistoric General Economy

Economic archaeologist Timothy Earle (2019) develops such a political economy approach towards prehistoric societies in order to understand how control over certain economic structures and surpluses ultimately led to varying forms of state formation. Earle (2019) defines four sectors of what he terms the general economy, which do not exist separately, but which can be divided for analytical purposes based upon the material needs they fulfill: the subsistence economy, which fulfills basic biological and human needs (food, clothing, shelter, etc.) and whose dynamics fluctuate in response to population growth and stability, the social economy, which organizes human populations through the exchange of culturally significant objects which display social identities and maintain social structures, the political economy, which fuels power dynamics in a society through the controlled mobilization of resources and labor to support frameworks of power and domination by stratified social segments, and the ritual economy, which creates religious meaning and value in society which may justify social stratification through the institutionalization of rituals. Of interest to the present analysis are the social and political economies as they apply to the LH mainland.

Baudrillard and the Distinction of Value: Its Types and Logics

Social relations and the personas which accompany them as they are reflected through consumptive practices are expressed through the medium of what French Sociologist Jean Baudrillard (1981) terms “objects of consumption.” Baudrillard (1981) incorporates the methods of semiotic analysis and the structuralist school of thought into a political economy model in his definition of the value of commodities and what he terms the object of consumption. To Baudrillard, such an object is nothing in terms of its function but is rather a reified form or medium in which different types of social relations and significations are expressed. The object of consumption must be functionally decontextualized and specified rather by its differential connotations of status and prestige within the framework of a social group’s unique relations. The object of consumption does not gain its meaning through a symbolic relation to an individual subject nor through its functional or utilitarian relation to the world as a tool, but instead it finds meaning and value through a difference to other objects in a code or hierarchy of significations (Baudrillard 1981). Baudrillard (1981), building off of earlier political economic models, defines four types of value which may accompany an object: use-value (UV), economic exchange value (EcEV), symbolic exchange value (SbE), and sign exchange value (SgEV). For the present analysis taking place primarily in the context of the social economy and secondarily in the political economy, the latter two (SbE and SgEv) are of chief interest. It follows that a brief discussion of their existence and relation to one another in the general economy is then necessary.

Use-Value (UV)	The value of an object’s utilitarian function, or the object as tool.
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Economic Exchange Value (EcEV)	The designated value of an object's worth in a market setting, or as a representation of an object's equivalent use-value in economic exchange relationships.
Symbolic Exchange Value (SbE)	The value of an object acting as mediator between social groups, or the value of the relationship which is symbolized by the object.
Sign Exchange Value (SgEV)	The value of an object as it exists in relation to the value of other objects, or a differential value of distinction and status. The value of the sign form is relational, and contingent on what is signified as it exists in opposition to other significations (in this case varying degrees of access to capital).

Table 2. Baudrillard's (1981) distinction of the four value types.

In symbolic exchange, the object is inseparable from the concrete physical relation between the parties in which it is exchanged (Baudrillard 1981). The object as such is without UV and EcEV, yet instead has symbolic exchange value (Baudrillard 1981). It is both entirely arbitrary, in that as long as it is exchanged it can signify the social relation, and yet at the same time wholly singular in that it is this object which is exchanged and not another (Baudrillard 1981: 65). The object in symbolic exchange is a reified form of a relation between individuals or social groups and is by its nature transitive and exchangeable. Once the exchange has occurred, however, and the object is no longer transitive in its nature, it becomes a reified form of a certain facet of a social persona, or a signifier representing a facet of the overall identity of the consumer. Its value exists as a coded difference, or gains SgEV, and becomes what Baudrillard terms

the “object of consumption” (Baudrillard 1981:65). This is what Baudrillard (1981: 65) also calls at times the “sign form” of an object which has been consumed, composed of a signifier (Sr) and signified (Sd), and which is the equal of the commodity form, as represented by the relation $\frac{EcEV}{UV}$. Properly speaking, Baudrillard’s (1981:66) logical relation between the sign form and the commodity form in a political economy is represented as such, $\frac{EcEV}{UV} = \frac{Sr}{Sd}$, with a commodity’s EcEV being to the signifier what its UV is to the signified. For Baudrillard (1981:66), SbE, the object in the exchange being arbitrary and thus without intrinsic value outside of the relation it represents, stands opposed to the overall determination of value as expressed in the general political economy, and is represented in the relation of $\frac{EcEV}{UV} = \frac{Sr}{Sd} / SbE$. Supplementing Baudrillard’s (1981) theory of value in a general political economy with Earle’s (2019) division of the prehistoric general economy into four sectors, we can say that in a prehistoric general economy the overall relation between sign value and symbolic exchange taking place within the social economy (SE) can be represented as such, $SE = SbE \rightarrow SgEv(\frac{Sr}{Sd})$, with the transitive movement of symbolic exchange leading to the stationary nature of the object of consumption and the value of its signification. This relation is representative of prehistoric consumptive exchange as it takes place within the confines of the social economy.

Baudrillard (1981) distinguishes the logic of consumption, characterized as a differential logic of signs, from other logics of the object which correspond to its many possible forms of value. He identifies four separate logics: a functional logic corresponding to an object’s UV, or a logic of practical operation and utilitarian function,

an economic logic of EcEv, or a logic of the market and of equivalence, a logic of SbE, or a logic of ambivalence and the gift, and the logic of the sign, or a differential logic of status and consumption (Baudrillard 1981: 66). Though other logics indeed existed for an object or artifact, just as other possible forms of value may have existed, the final logic, the logic of the sign and of consumption will be the focus of this thesis. One must elaborate further on the aspect of the sign, namely what is signified by the object turned artifact, and the economic sectors which determine the manner of its movement and creation.

The Object of Consumption and Bourdieu's Concept of Capital

In the duality of the sign as it is understood in semiotics, there is both a signified and a signifier (Barthes 1977: 35). If this is the case, and the object of consumption holds the value of sign exchange, what then is signified by the object of consumption? The object of consumption signifies access to capital in its material and immaterial forms. Sociologist Pierre Bourdieu (2002) reintroduces the concept of capital into the study of the social world in order to develop what he terms a “general economy of practices.” Bourdieu (2002) argues that the structure and distribution of different forms of capital at a given moment are representative of the very structure of the social world, which in turn dictates its modes of functioning and determines the chances of success for certain practices. He identifies three forms in which capital may appear: as economic capital, or actual material capital in the form of an economic surplus or land ownership, as cultural capital, or an immaterial form signifying cultural competency and positioning in a structure of social oppositions, and social capital, or capital which is representative of

accumulated social connections (Bourdieu 2002: 243). Economic capital is directly convertible into the accumulation of more economic capital, while social and cultural capital are convertible into such only under certain conditions (Bourdieu 2002: 243). Under these three types exist a number of subtypes which exist in the social world, yet for the present analysis it is beneficial to discuss what Bourdieu (2002: 243) describes as the objectified state of cultural capital, which exists in the form of cultural goods. Cultural capital, in its objectified state, is transmissible due to its material form and thus can act as a commodity in practices of exchange as they existed in the Mycenaean social economy. Cultural goods can be appropriated materially and symbolically (Bourdieu 2002: 247), with the material good signifying a certain amount of prestige which characterizes the owner as holding a definite position in a network of social oppositions. In fact, ownership of cultural capital in its objectified state both reflects this positioning as being evident of possession of a certain amount of economic capital while justifying the positioning of the owner in a self-referential manner. The agent is justified in their positioning precisely because they are positioned in such a way. Therefore, the objectified state of cultural capital becomes a reification of the ideology which justifies the preconditions of its own accumulation (i.e. the preexisting relations which occur in the economic sectors of production and consumption).

Social capital, Bourdieu (2002: 249) argues, is the totality of access to actual or potential resources which are linked to relationships of mutual acquaintance and recognition through membership in a group. The amount of social capital possessed by an agent depends on the size of the network of connections which can be mobilized and on the amount of capital (in all its forms) possessed by each agent positioned within this

network (Bourdieu 2002: 249). The reproduction of social capital requires a series of continuous exchanges whereby social recognition is both produced and reproduced (Bourdieu 2002: 250). Feasting, as it existed in the LBA mainland, consists of precisely such a series of reciprocal exchanges in which the Mycenaean elite and palatial bureaucracies of the *wanax* alike affirmed their positioning in a network of oppositions to the general populace (Borgna 2004: 247). In doing so, these segments both demonstrated their accumulation of economic and social capital, which they were able to invest and mobilize, and gained through reciprocal exchange with feasters new accumulations of social capital which allowed for the possible accumulation of new economic capital. The Mycenaean feast functioned as such through the manner in which it distributed objectified cultural capital to participants as well, or through the differential allotment of feasting resources which were consumed (Wright 2004). This took the form of differential types of meat consumed and the uneven proportion of pottery types which are discernible almost unilaterally in the zooarchaeological and ceramic record of mainland feasting deposits (Wright 2004). From this perspective, one can infer that the Mycenaean feast fulfilled a threefold function: the mutual recognition of existing connections and power dynamics in mainland society, the distinction of social identities and their positioning through the differential distribution of culturally significant goods, and the reproduction and consolidation of social capital. For the second function, the aforementioned relation $SE = SbE \rightarrow SgEV\left(\frac{Sr}{Sd}\right)$ can be utilized in characterizing the movement of the goods distributed in the feast from being transitive and symbolizing the nature of the relation between the two parties (the feast-throwers and the feasters), to the distinction of the goods themselves as existing in opposition to one another and

signifying the social positioning of the agents which hold them. This characterizes the process of consumptive exchange in the social economy as it pertains to the feast, yet this enumerates only on the movement of the object of consumption and the transfiguration of its value. It is necessary to discuss this movement's relation to the field of production.

The Economic Mirror: Marx and Production as Consumption

Marx (2020) describes the general interrelation between the sectors of the economy which hold the greatest weight on the present analysis, that being the sectors of production and consumption. Marx (2020: 120) boldly claims that production is at the same time also consumption, and that consumption is at the same time production. Production creates the conditions needed for consumption, and through its finished product consumption finds its object of desire. Consumption without an object is an impossibility. Therefore, Marx (2020) claims, production produces the sector of consumption.. On the other hand, consumption creates the prerequisite conditions of production by creating the necessity of new production (Marx 2020: 120) Consumption provides for production its "ideal object" (Marx 2020: 121) which is desired by a base of consumers, or the prerequisite image of an object which production is then mobilized to produce. Consumption and production from this perspective function as each other's *raison d'être*, with the object of consumption playing the part of production's ultimate aim and the sector of production furnishing consumption with its object of desire. Going further, Marx (2020: 121) elaborates that not only does production furnish consumption with its object, but also with the manner in which it is consumed. The object produced in the sector of production is not a general object, but a definite object which is consumed in

a definite manner contingent on and defined by its manner of production (Marx 2020: 121). Production then produces not only the object of consumption, but also formulates the manner of consumption as well. To Marx (2020: 122), each sector appears as the means of the other and as being brought into being by each other by their relation of mutual interdependence, giving the appearance of being connected and yet remaining outside of each other. Existing in such a relation, the conditions of one sector invariably affect and are affected by the conditions of the other. Following this, it is reasonable to assume that differential practices of consumption could possibly reflect and produce differential conditions of production or allow for a consolidation of productive power within a hierarchy of opposed social segments. It is here that consumption as it takes place within the social economy may reflect dominant control over the productive forces which comprise the political economy and be representative of power dynamics as they exist in the particularity of a given society.

Bourdieu's Formulation of Physical and Social Space

To understand the dynamic relations between the material world and the social world, it is useful to make use of Bourdieu's (1996: 11) distinction between what he terms the "physical space" and "social space". Bourdieu (1996: 11) argues that human beings are at once biological organisms who remain physically situated within a material *locus*, and social agents whose very constitution as such is contingent on their unique relations in social space. Physical space is defined by the material externality of parts, or the location of an actually physically existing reality, while social space is defined as a structure of juxtaposed social positions which exist on the basis of mutual exclusion, or

difference (Bourdieu 1996: 12). Social space is an invisible set of relations which manifest themselves in a definite material arrangement of agents and objects in the reality of physical space (Bourdieu 1996: 12). The constitution of social space as a network of oppositions and the subsequent distribution of agents and objects which follows these oppositions in physical space are the result of what Bourdieu (1996: 17) terms *habitus*, or generative principles of distinct and distinctive practices. *Habitus* exists as a dynamic tension between structured-structures, or the generative principles which distinguish certain practices, and structuring-structures, or the different frameworks and principles with which different phenomena are experienced and perceived (Bourdieu 1996: 17). Following the basic structure of oppositions which exist within and constitute social space, Bourdieu (1996: 17) goes further to say that these oppositions are expressed as symbolic differences which appear as sort of coded language of distinctive signs in the material world, or physical space, through the mediums of objects and practices. Following this, one can conclude that hierarchies of identity (which themselves exist as a series of social oppositions) can manifest themselves into physical objects which reflect and reproduce the social positioning of individual agents within these hierarchies.

Baudrillard's Ideological Genesis of Needs

In order to discuss consumption as it exists within the particularity of any given political economy, it is necessary to also provide a sketch of a general theory of “needs”. Baudrillard (1981: 79) argues that any discussion of an individual’s needs must address the “ideological concept” of need itself. He discusses the classical economic triad of Subject-Object-Need in which the concept of need mediates the relation between the

consumer and the object of consumption (Baudrillard 1981: 79). Therefore, relations between the categories of Subject and Object are mediated through the concept of “Need” and while the exchange which satisfies this need occurs within the confines of physical space, the structuring of this very concept of need, which is an ideologically latent desire which signifies the social standing and persona of the consumer, is determined by the preceding relations which exist in social space. Therefore, we can move from the original triad, represented as Subject-Object-Need, to a reformulation of Subject-Object-“Need” (disguising ideologically latent desire). Thus, the traditional economic triad, which is representative of the formulating logic of the object of consumption, is revised to reveal the social structuring in which the concept of “need” for the object of consumption is constructed for the economic agent. The very act of consuming the object of consumption reaffirms the persona of the agent which preceded and structured the manner of consumption. Represented as the basic schema:

persona with associated "needs" →

manner of consumption dictated by persona → reaffirmed persona.

This of course relates to the mechanism of consumptive exchange as it takes place within the social economy, and we can say that the analysis of the economic rationality of the social economy is an analysis of the practical social operations by which a political economy symbolically reproduces itself.

$$SE = SbE \rightarrow SgEV \left(\frac{Sr}{Sd} \right)$$

In the latter variables of this equation lies an unseen assemblage of actors, their social positioning, and networks of value. All of which accompany the particular object of consumption as it exists within the total system of social space. Therefore, it can be said

that the particular exchange movements and significations of the object of consumption are the driving force of the reproduction of relations within the political economy.

The Mechanism of Contingent Repetition in Consumption and the Reproduction of
Socio-Economic Personae

Blaise Pascal's (1995) dictum "nature imitates herself" holds true for the relations of a particular society as well. Society invariably imitates itself, meaning the presuppositions and existing relations of a given society must be reproduced through a myriad of reaffirming acts. It

is necessary, then, to discuss the anthropological mechanism of contingent repetition as it existed in Mycenaean society. Contingent repetition is at once a synthesis between recognition and imitation. Or, the recognition of an already existing social role, which is always a relational role between two or more interacting personas, and the subsequent imitation of the practices and connotations which accompany the role. In other words, the projection of a repetitive manner of being which must be reproduced in a creative and inventive fashion in the context of arising and contingent situations.

What must then be discussed to fully elaborate on this mechanism and its role in the reproduction of social personae are the French theorist Jean-Paul Sartre's (2016: 26) concept of "subjectivity" and theorist Louis Althusser's (2008: 44) concept of "interpellation." Sartre (2016: 26) describes an agent's subjective position as a synthesis between "repetitive being" and "inventive being" whereby an individual projects the same manner of being or existence into situations which are always new through an adaptive response. These two characteristics are inseparable, as the individual repeats themselves within contingent situations that require an inventive and creative response

which ultimately lead back to the reproduction of the individual's original manner of being (Sartre 2016: 26). This being said, Sartre (2016) only describes the subjective position of the individual in the context of the individual and individual existence. In order to further Sartre's (2016: 26) concept of subjectivity and bring it up from the level of the individual to the level of the social, one must complement this concept with Althusser's (2008: 44) notion of ideology and ideological interpellation. Althusser (2008: 36) describes ideology, following the Marxist tradition, as representing the imaginary relationship of individuals to their real conditions of existence, or as a narrative of symbolic elements which acts as an illusion that alludes to the material reality of a society but which obfuscates it in a way which renders the social reality and narrative as acknowledged and reproducible on the part of subjects. In other words, in order for this symbolic narrative to be acknowledged by individuals within a society, the society must integrate or interpellate them within a group into its ideological framework and thereby constitute them as subjects within a group, or as subjects who adhere to the basic parameters (class, social identities, power relations, etc.) set forth by this ideological framework. Utilizing this definition of ideology, Althusser (2008: 44) moves onto his central thesis that ideology is not an abstraction but is rather an actualized narrative for concrete subjects and is only made possible in its reproduction by such concrete subjects. In fact, there is no category of the subject in a social group without it first being constituted within the ideological narrative (Althusser 2008: 45). Therefore, Althusser (2008: 47) argues that all ideology interpellates or integrates concrete individuals as concrete subjects. Yet how does an ideological framework achieve this interpellation whereby the individual recognizes and affirms that they are in fact a participating subject

or member of a social group? Althusser (2008: 43) here asserts that a subject recognizes themselves as a participating member in a group through their involvement in material practices and rituals which are structured by and which structure the social group. This strongly resembles, and is founded upon, Marx's (2020) famous thesis that, "the mode of production of material life conditions the general processes of social, political, and intellectual life. It is not the consciousness of men [sic.] that determines their existence, but their social existence that determines their consciousness." For Althusser (2008: 43), the subject derives their conception of themselves (their ideas, beliefs, etc.) through their material actions inserted into material practices which are themselves defined by the material ideological apparatus (religious institutions, a state, a dominant mode of production, etc.) from which ultimately derive the ideas and identity of the subject in question. In the context of economic and social interpellation into an ideological framework, the subject derives their conceptions of themselves through participation within the economic sectors of production and consumption. Here, the material apparatus of ideology is the culmination of all social and economic hierarchies, or the relations inherent within a mode of production, and the material practice is that of the production and circulation of goods. Exchange, of which consumption is one form, therefore acts as an economic ritual which inscribes, reproduces, and reflects an already existing social persona that exists, and can only be conceived of as existing, within the parameters of an ideological framework. However, this process is not static and operates in a state of perpetual movement which is inherent in any process. Contingent and historically determined situations arise which require an adaptive response on the part of the subject in order to reproduce themselves and their place in the ideological framework

continuously. The synthesis between inventive and repetitive being within a single subject proposed by Sartre (2016: 26) allows for the continuous repetition of the subject's identity. Through each arising contingent situation which the subject encounters, inventive being, or the creative aspect of a single subject, allows the subject to adapt in such a way that repetitive being, or the ideological presuppositions of the subject, is carried forward indefinitely. This is the process of contingent repetition, whereby the social persona of a subject is continuously repeated in the encounter of contingent situations, and which can be represented by the basic schema:

$$(X) \leftarrow A \rightarrow (X) \leftarrow A \rightarrow (X)$$

Where (X) is representative of a socially determined and contingent situation, and A is representative of a social agent, "Subject A", who recognizes and acknowledges their social persona, or placement in an ideological framework, and who imitates this role in these arising contingent social situations. As it pertains to consumption, the socially contingent situation encountered by Subject A is the circulation of goods and the forms of exchange which may present themselves. Subject A is either distributed goods or presented goods which they have the possibility of consuming and can choose to either accept or consume these goods, respectively. Of course, there are material restrictions which may apply to these situations (such as Subject A is given no choice in what sort of goods are distributed to them, or they can only "afford" a certain class of goods, etc.), but the effect of this continuous imitation is unchanged. The subject acknowledges their role through their participation in these practices, and subsequently imitates it through this participation, thus projecting their already existing social persona in an act of affirmation which reproduces their positioning within the ideological framework. In this way, a

society invariably imitates itself through numerous acts on the part of its social agents who perpetually reconstitute themselves as members of a group.

The Deleuzian “Process” and the Socius: Production as Consumption as Recording

Taking Marx’s (2020) thesis that production and consumption are one and the same, theorists Gilles Deleuze and Felix Guattari (2009: 10) argue that not only are production and consumption part of a unified process, but that this process contains within it a third aspect: that of “recording.” Following loosely the Marxist approach to economic study whereby the historically determined mode(s) of production also structure the social body which utilizes it and to which it is ultimately subject to, this new threefold process and its contingent structures are what constitute the structures and forms of the “socius” (Deleuze and Guattari 2009: 10), or what Deleuze and Guattari (2009) use to designate the social body and the ultimate culmination of its relations. This process of production-consumption-recording must be examined in depth before one can explain its relation to the body and surface of the socius. Deleuze and Guattari (2009: 4) argue that there are no relatively independent spheres or circuits within an overall economic process, but that production is immediately consumption and a recording process. Furthermore, the recording process and consumption directly determine the form of production within the production process itself (Deleuze and Guattari 2009: 4). Nothing lies outside the purview of the production process since the sum of all recording processes are consumed by social agents who reside within and are inscribed upon the surface of the socius which is ultimately structured by the economic process as it is situated within the realm of production (Deleuze and Guattari 2009: 4). Thus, Deleuze and Guattari (2009: 4), by incorporating recording and consumption within production

itself, make them the productions of a singular process. Following this logic of a unified process to its end, they argue that recording ultimately falls back upon production, meaning that the production of recording is itself produced by the production of production (Deleuze and Guattari 2009: 16). In a similar way, recording, having been produced by production and acting back upon it, is followed by consumption, whose own production is produced by the production of recording which has recorded and interpellated the category of the subject or possible consumers upon the recording surface of the socius (Deleuze and Guattari 2009: 16). No independent spheres exist within an economic process apart from those categories which are ascribed for analytical purposes to mechanisms which appear as separate, but which are different parts of one continuous process. These categories are analytical tools for theoretical discussion, but do not exist as actualized divisions within the empirical reality of an economy. Deleuze and Guattari (2009: 139) take this concept of the threefold economic process, which exists within the confines of production itself, and extend it to the field of what they term “social production.” Social production, as it exists within and as the genesis of the socius or total social whole of a given people, is achieved through the coding of desire and control over the production of desire itself (Deleuze and Guattari 2009: 139). For Deleuze and Guattari (2009: 139), the production of desire, or as they deem it the process of “desiring-production,” occurs from the moment there is social production. Social production is purely desiring-production as it occurs under determinate conditions. They assert that the social field, the whole network of social relations as it exists within social space, is invested by desire, and that it is the “historically determined product of desire” (Deleuze and Guattari 2009: 29). The socius produces the concept of desire, or an ideologically

latent form of desire which precipitates “need,” for the subject and produces it in a definite manner which defines the subject. It codes the “flows” of varying desires in such a way that constitutes the production and reproduction of a social group (Deleuze and Guattari 2009). This is the ultimate task of the socius: to determine and code the desires of its members, and in doing so organize the production of production, the production of recording, and the production of consumption (Deleuze and Guattari 2009: 141). By coding desire and by determining the forms of its members’ desires into such a way that opposing social segments are formed and distributed, the socius constitutes itself and all of its contours.

It would be useful here to discuss in depth what is meant by “coding,” a term used by many theorists (Baudrillard 1981; Bourdieu 1991; Deleuze and Guattari 2009), defined in the context of the production and reproduction of identities within a social group through determinate groups of signs which act as a sort of language at the social level. This “code” is a semiotic code of signs, or of differential meanings and values which are socially constituted, and which exist in a sort of quasi-feedback loop with socially produced desire. Desire is determined and coded into a system of signs, or the subject is conditioned by the socius in such a way as to identify a certain group of signs with themselves. Then, desiring this group of signs and desiring to express themselves through this determinate and determined group of signs, the subject is conditioned and recorded upon the surface of the socius as not only a subject, but as a particular category of subject (social standing, class identity, etc.) which is in alignment with that particular group of signs. The sign grouping is both determined and determinate in that it is prescribed to a subject by the ideological framework or code of the socius, yet which also

determines the social identity of the subject who it is prescribed to. In this way, desire is coded by the socius into an expression of identity through a predetermined grouping of signs and thereby reproduces this identity within a feedback loop in which the subject is constantly constituting and reconstituting themselves in a manner appropriate to them as dictated by the socius. This is what comprises the “recording” aspect of the Deleuzian economic process, whereby recording is produced and reproduced through the sectors of consumption and production (Deleuze and Guattari 2009). Yet where does consumption come into play and what is its relation to the sector of recording? Far from accepting primarily any exchangeist notions of society, whereby social relations are exclusively viewed as practices of exchange (exchange of ideas, goods, language, etc.), Deleuze and Guattari (2009: 142) propose that circulation is not the chief aspect within the social and economic mechanisms of the socius. Rather, they argue that what is essential for a comprehensive analysis is a socius of inscription, where the primary thing is “to mark and be marked” (Deleuze and Guattari 2009: 142), or to record the category of the subject through systems of signs into the social fabric. Circulation only occurs if this inscription or recording process requires or permits it (Deleuze and Guattari 2009: 142). Since it has already been argued previously that consumption is a form of exchange or circulation (Baudrillard 1981), consumption can be determined to be both embedded within and subordinate to the recording process. Consumption is an essential mechanism in the recording of subjects and their social personae onto the surface of the socius. Through the established $SgEV\left(\frac{Sr}{Sd}\right)$ of the object of consumption as it exists in opposition to other objects of consumption, subjects are presented with commodities which themselves exist in a semiotic network of determined and determinate signs by which to express their

social identities and thereby become inscribed upon the socius as a definite type of social agent signified by these commodities acting as determinate signs. Within consumption the subject is able to record themselves by consuming a certain type of commodity with its own determined sign form and thereby reaffirm their recognized role or persona. In consuming a certain type of sign form of a commodity, the subject expresses, records, and reaffirms a certain aspect of their social identity which corresponds with this sign form.

Going further, one must analyze Deleuze and Guattari's (2009) theoretical concept of the socius in correspondence with Bourdieu's (1991) distinction between social and physical space. The socius is the culmination of all social relations, processes, and agents and encompasses all that is material and immaterial within the context of a particular society (Deleuze and Guattari 2009). Therefore, the socius exists as a combination of both spatial categories proposed by Bourdieu (1991), and the contours which exist within a group's physical and social spaces are what comprise the contours of the socius. The socius is the relation between these two spaces, or the effect of a group's social coding upon its material conditions and the effect of its material conditions upon its social coding. The socius is the embedding of the two spaces within each other in a dialectical manner. Yet the socius is also the preceding cause of the process of production-consumption-recording as well as its ultimate result. The process of production-consumption-recording produces the socius and in turn the socius is what generates the specific relations of the process which make up the overall form of both entities. This process of production-consumption-recording exists at the nexus of social and physical space, and structures and is structured by both. The process of social coding,

a semiotic code of signs within a social group, is the basis of the construction of social reality (Bourdieu 2020: 165). Social agents are located within a material locus but are not particles to be moved by physical forces alone but are agents who acknowledge a social reality and who are bearers of cognitive structures (Bourdieu 2020: 165). This code is a symbolic system which holds a structuring power because the code itself is a structured system which is not constituted by chance but rather by the power relations within the particularity of a given socius (Bourdieu 2020: 166). In this way, the socius interpellates agents into itself and includes them within the structured code or ideological framework, which constitutes the social personae of the included agents. The agent is a subject only because they are categorized as such by the code of the particular socius in which they reside, and this code is an ideological framework produced and reproduced by the socio-economic process of production-consumption-recording which exists at the nexus of social and physical space. The coded identity or social persona of the agent is then recognized, imitated, and reaffirmed through the process of contingent repetition, thereby causing the semiotic code of a socius to exist in a state of movement and reproduction. In other words, and as it applies to consumption, the code within a socius structures the differential distributions and consumption habits of objects of consumption and is reproduced by the action of consumption itself. The totality of contingent structures and behaviors of a particular socius and its members which regard consumption and the movement of the object of consumption are what comprise the economic rationality, as it applies to consumption, of a group.

Three Forms of Consumption within the Mycenaean Social Economy

Within the particularity of an economy there may exist differing, yet coexisting, structures, such as various modes of exchange and mechanisms for the circulation of commodities. It must be remembered that an economic structure is the sum of all existing economic relations within a group and is oftentimes irreducible to a singular definition derived from one component within that structure. It is counterintuitive to define an economy by one form of relation within it at the expense of ignoring coexisting relations which may not be as prevalent, yet which are objective and present within the overall structure. This being said, three forms of consumption are readily apparent in the study of Mycenaean political economy, all of which can theoretically satisfy the needs of each of the four sectors within Earle's (2019) total general economy. However, what will be discussed here are the forms of consumption as they existed in the Mycenaean social economy. The Mycenaean economy has been determined by Aegeanists to have primarily functioned through the exchange mechanism of redistribution (Galaty et al. 2011) characteristic of many early states. Sahlin (2017: 170) defines redistribution, or "pooling", as a centralized movement of collection from members of a group and the subsequent redivision within this group, or as a centralized system of reciprocities. As it existed in the confines of the Mycenaean social economy, the movement of redistributive consumption can be represented as such:

$$SE = Sw(A) \rightarrow P \rightarrow SgEV \left(\frac{Sr}{Sd} \right) A$$

Whereby the surplus wealth (Sw) produced by individual A is pooled into the centralized palatial authority (P) and subsequently redistributed to individual A in an allotment corresponding to and signifying their social standing. Here the palace acts as an outside authority or third party which determines and reproduces the social standing, or personae,

of the individuals which pool their surplus resources into it. The movement of redistribution is able to fulfill the consumptive needs of the subsistence, political, and social economies, yet what will be discussed will be the symbolic function of redistributive exchange rather than its utilitarian possibilities. The next form of consumption, already discussed previously, is the consumption of symbolic exchange, which has been represented by the logical equation:

$$SE = SbE \rightarrow SgEV \left(\frac{Sr}{Sd} \right)$$

As it concerns Mycenaean society, the logic of ambivalence and of the gift in symbolic exchange as proposed by Baudrillard (1981) must here be modified: the logic of symbolic exchange and its ambivalence becomes a logic of difference and of $SgEV \left(\frac{Sr}{Sd} \right)$ as it concerns the differential allotment in feasting and redistributive scenarios. Feasting and redistribution were not only a form of symbolic exchange but existed as a form of consumption which distinguished social standing. According to Godelier (1999), the process of gift-giving and symbolic exchange establishes a twofold relationship which exists in an hierarchical imbalance: the imbalance of the gift-giver and the receiver who is given a debt or obligation that they must repay, as well as a relationship of social solidarity between two members in a group who partake in the exchange and thereby affirm their connection. Expanding our analysis of this mode of consumptive exchange, we can say that feasting (Fig. 2) is one such form in which symbolic exchange occurs, whereby social identities were reproduced in the form of feasters and feast-throwers, normally comprised of the general populace and palatial authorities respectively (Wright 2004), through gift-exchange. Further distinction of social identity seems to have also occurred through the medium of the feast, or the differential allotment of feasting

equipment evident in the archaeological record (Borgna 2004; Dabney et al. 2004). What is most remarkable though, is that the mechanism of redistributive consumption seems to have had a component of symbolic exchange separate from its primary function of satisfying subsistence needs. The Mycenaean feast was the symbolic counter-gift to the extraction of resources from the general populace by the palace.

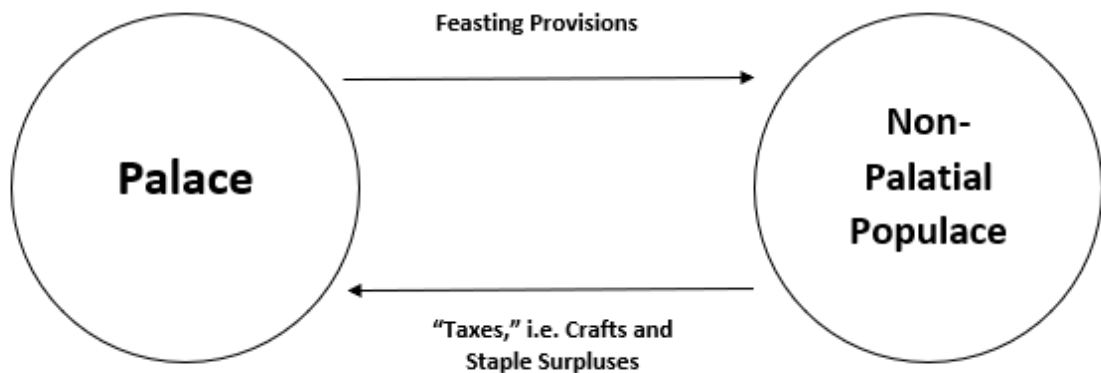


Fig 2. The Mycenaean Feast as a form of gift-giving between the palatial and non-palatial sectors

The two forms of consumption, redistributive consumption and feasting, here are inextricably linked. Going further, the pooling and redistribution of resources seems not only to have existed as a pragmatic economic method of exchange, but also as a bureaucratic exchange which symbolically reproduced the positioning of social agents within Mycenaean society and the state which regulated it. The reproduction of palatial and individual roles was by no means a primary function of redistribution yet appears to have been a secondary component which derived from the first. Symbolic exchange qua redistribution legitimized structural hierarchies within Mycenaean society between the palatial centers and their sub localities and between the categories of the state and the individual. The third form of consumptive exchange in the Mycenaean social economy is

the exchange which may have occurred in hypothetical regional markets on the mainland, as proposed by Galaty et al. (2011) and Parkinson et al. (2013). This mode of exchange, existing along with and outside the confines of the normal redistributive movements overseen by the palatial authorities, can be characterized as para-redistributive or post-redistributive exchange depending on the time in which it occurred relative to palatial redistribution. These terms are not currently in use in the description of exchange forms outside of palatial redistribution and appear here for the first time in the context of this study. Instead of characterizing these exchanges which occurred outside of redistribution as “market” oriented, which carry a host of theoretical implications, the terms “para-redistributive” and “post-redistributive” are theoretically neutral and flexible in their description. The forms of these exchanges are ambiguous, and could possibly include some form of market competition, and so a descriptive term is necessary in the discernment of Mycenaean economic rationality as opposed to the prescriptive description of market exchange which subsumes the study of all other forms of para-redistributive and post-redistributive forms of commodity circulation. Para-redistributive and post-redistributive consumption in the social economy can be represented as such:

$$SE = \frac{EcEV}{UV} \rightarrow SgEV \left(\frac{Sr}{Sd} \right)$$

Whereby the use-value (UV) of a certain good was interpreted to have had some form of economic exchange-value (EcEV) corresponding to it and was consumed in some form of reciprocal exchange between two parties outside of the palatial purview. The absence of a system of coinage, or a “universal equivalent” (Marx 2017: 70), through which to measure the value of a commodity creates a certain amount of ambiguity in pinpointing an exact value which is not relational in nature. Here the form of *EcEV* as it existed in the

LBA appears as an unknown variable in para-redistributive and post-redistributive exchange and in the absence of a universal equivalent in Mycenaean society theoretical analysis allows only for the conjecture of possible “currency” types which unfortunately cannot be substantiated through the archaeological record. An important aspect of para-redistributive and post-redistributive exchange which must be noted is the relation of the state to individual exchange. Although para-redistributive and post-redistributive exchange occurred outside the confines of palatial redistribution, it is important to not eliminate the influence of the state in these exchanges. While the state or palace was not the primary mover of exchange in this form of consumption, it must be recognized as an already existing expression of Mycenaean social stratification with a significant role in structuring the social code which preceded exchange and consumption types which existed outside of its direct purview. For these three forms of consumption, three separate network groups will be formulated through the analysis of archaeological contexts which best characterize and correspond to each form of consumptive exchange.

METHODS AND MATERIALS

Knappett and Social Network Analysis in Archaeological Study

Network analysis is a fundamentally relational approach rather than a categorical one (Knappett 2011: 57). Using SNA, the present study intends to discern the economic rationality of LBA exchange systems through the analysis of bipartite networks consisting of both the relative “values” of assemblages and inferred social agents of individual burials. A key feature of bipartite networks is a focus on the position of actors in relation to one another as expressed through the artifact acting as a third party (Knappett 2011: 56). Knappett (2011) provides an informative theoretical and methodological synthesis of ANT and SNA, whereby SNA includes both actors and objects instead of previous uses where an emphasis on one or the other has been the main focus. With this new bimodal approach to SNA through ANT, in which social agents and artifacts are included, Knappett in his analysis of LBA assemblages intended to demonstrate how networks of objects and human actors brought each other into being. The focus here, however, will be to discern foci of social and economic power in networks in which agents associated with high value artifacts in comparable burial assemblages are inferred to reflect consumptive and thereby productive control of culturally significant commodity chains. Knappett defines two types of network analyses which are beneficial to archaeological study: positional analysis and relational analysis

(Knappett 2011: 57). A positional network analysis primarily focuses on locating structural equivalencies in the network, or groups of socially similar status and their positioning within an overall network, while a relational network analysis focuses on direct ties between actors, or assesses their strength, directionality, density, etc (Knappett 2011: 57). Knappett (2011) argues that while the latter emphasizes the agency of actors, it risks being too narrow in its consideration of outside structural factors, while the former has the advantage of an overall structural overview, it risks denying the agency of individual actors and their unique relations with one another (Knappett 2011: 57). Therefore, in order to consider both the relations of individual agents as well as their positions in a larger network structure, a combination of these two analyses is ideal for archaeological research. Any network analysis undertaken in this study will be a network based off of material data from the archaeological record, or in what Bourdieu (1996) terms the “physical space”, yet will be assumed to have been organized by and indeed itself be a reflection of the overall social relations and significations taking place in what Bourdieu terms the “social space”. Networks of social actors and associated artifacts are taken here to be the physical manifestation of social relations. Through this presupposition, one can begin to map the topography of Mycenaean social space and determine differential positioning of social identities and thereby locate foci of social and economic power. It is only through exchange in the general economy that these accumulations of culturally significant goods found in assemblages were acquired and social positions in differential power structures were established, reflected, and reproduced. Network analysis for this particular project will include data points, or

“nodes”, from both the remains of the deceased and the total “value” of the associated grave goods and the “links” between them by association.

Modeling Prestige Networks for Mortuary Data

The process by which archaeological networks are studied contains three components (Mills 2017). A past phenomenon must first be identified which holds interest for a possible network analysis, such as the presence of economic stratification within a social group. Then, an abstraction of this phenomenon must be formulated, such as a semiotic accumulation of wealth, before finally this abstraction must be converted into actual data to be input into network analysis. It must be remarked upon though that network analysis reveals network structures in the dataset which may or may not correspond with actual structures embedded within past social groups (Mills 2017).

In order to justify the following methodology, it is necessary to describe the preceding rationale behind it and expound upon some preliminary remarks. Prestige network models, as it applies to mortuary data, are bipartite networks consisting of both the material remains of deceased social agents within a tomb group and the relative prestige value of the associated assemblages within their respective tomb groups. What must be remarked upon is the nature of this second nodal type, that of the relative prestige value, which is an inherently semiotic concept. The relative prestige value is an ascribed value which corresponds with Baudrillard’s (1981) $SgEV\left(\frac{Sr}{Sd}\right)$, or a value derived from the difference of one type of good to another, in this case a value derived from a difference of raw material types and frequencies present in varying mortuary assemblages from the LH record. The differential presence of certain raw material types

in the record is read as a system of signs which are coded, and which represent a material expression akin to a language. These systems of signs, or of signifiers and their signified, are representative of the relative wealth accumulation or overall sign value which is associated with the deceased social agent with whom they are in context with. This overall sign value, for the purposes of modeling the present networks, is ascribed a relative prestige value which is assumed to have accompanied the deceased social agent, and whose assemblage in the burial context is thought to have been an expression of a certain facet of social identity. The accompanying assemblages are objects of consumption, or goods which hold sign value as their primary value form and whose only function is the distinction of one identity against another. One burial has associated assemblages which are considered “prestigious” only because these goods are differentiated from goods which are considered mundane. One cannot escape this relation, as one category can only exist in contradiction to the other which is its necessary counterpart.

Three semiotic categories for burials can be formulated based on criteria of varying amounts of remains within a grave and their respective semiotic prominence : that being a single burial, a cohabiting burial, and a subordinated burial. The first of these, a single burial, contains within it a single set of remains with grave goods which are directly representative of the individual’s social persona, and can be represented by the schematic:

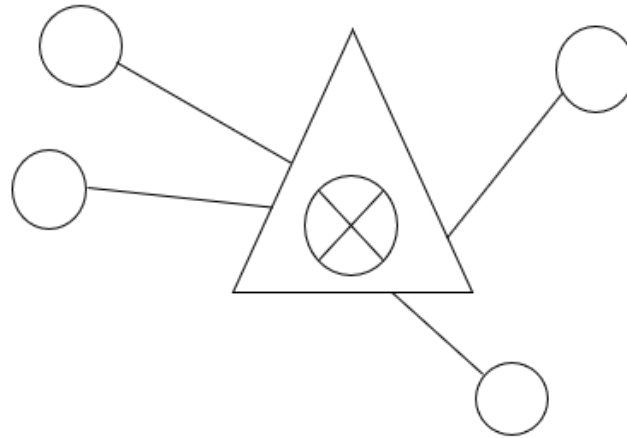


Fig 3. Semiotic Category “Single Burial”

Whereby the triangle is representative of the buried remains, the crossed circle the social persona of the buried individual which is signified, and the outer circles represent the grave goods which act as the signifiers of this social persona. The second semiotic category of burial which can be found in mortuary contexts is the cohabiting burial type, which contains the remains of at least two buried individuals whose associated grave goods signify both social personae. The cohabiting burial type can be represented by the schematic:

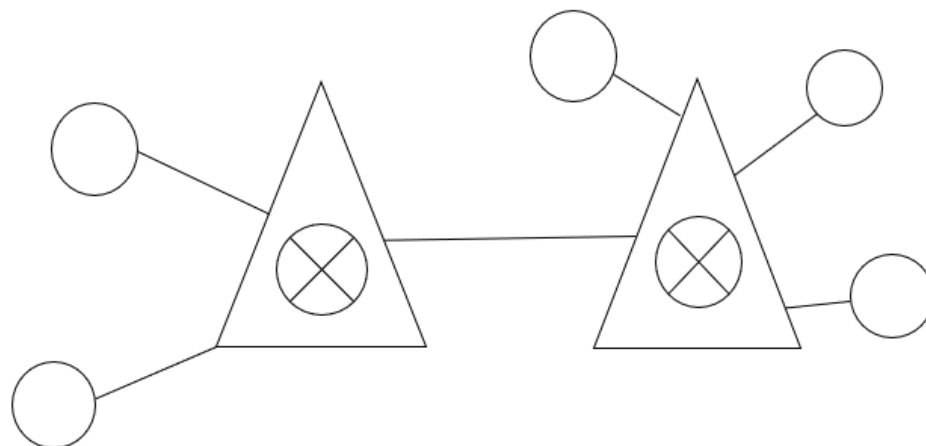


Fig 4. Semiotic Category “Cohabiting Burial”

Where the triangles represent two distinct buried remains, the crossed circles two distinct social personae represented, and the circles represent various grave goods which signify these social personae. The third semiotic category of burial is that of the subordinated burial, which contains more than one set of buried remains, yet only social persona which is dominant. Other sets of remains are subordinated to this burial and act, along with grave goods present in the assemblage, as signifiers of this dominant persona. It can be represented as such:

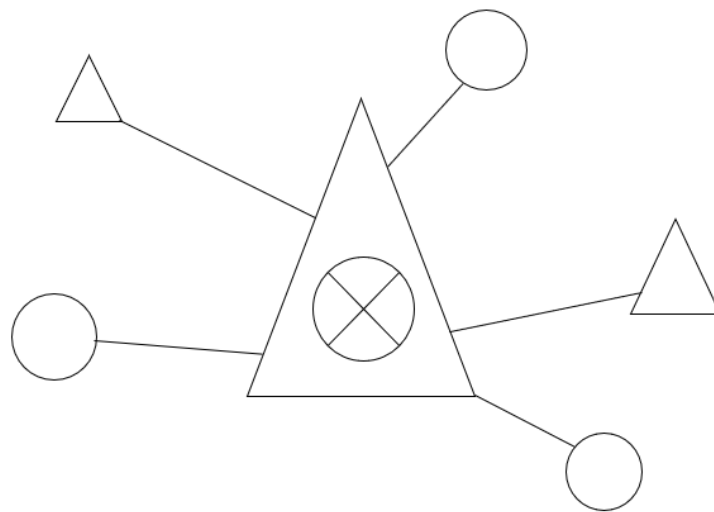


Fig 5. Semiotic Category “Subordinated Burial”

Where the triangles represent the presence of human remains, the circles associated grave goods, and the crossed circle as representing the social persona which is signified in the burial. These sketches of semiotic burial types provide some preliminary elaboration on the logic of modeling prestige networks, and ultimately any total semiotic network produced through SNA will exist as a collected network of several of these burial types.

Regarding the specifics of the prestige network paradigm developed within this analysis, the following networks are bimodal in nature, comprised of two separate nodal or vertex categories. These two mode networks, also called affiliation networks, are used

in SNA to determine the relations between nodes of two different kinds. In this case, the nodal categories represented are both the “relative value” scores, derived from the raw material frequencies of mortuary assemblages, and the remains of the deceased social agents who are associated with these assemblages. Due to the presence of varying nodes within these categories, these networks are classified as “whole networks,” or networks which study multiple disparate entities, as opposed to “ego networks,” or networks which study the relation between one node and its subordinate nodes (e.g., a ship acting as a central node with subordinate nodes consisting of the original areas of production of its cargo).

Within SNA, two approaches to interpretation exist, both of which will be utilized in the modeling of prestige networks: this being the study of overall network structure and the study of node position within a network structure. Regarding theories of overall network structure, the study of whole network attributes is given primacy in the paradigm of prestige network modeling. Within archaeological networks, three whole network attributes are studied: that being cohesion or the density of ties, the presence of subgroups or components, and how random ties may produce “small worlds” (Mills 2017). The categorization of economic tiers based on a semiotic value falls firmly under the study of the presence of subgroups or components. Using the SNA program NodeXL Basic (Smith et al. 2010), shared component networks can be compiled in a Fruchterman-Reingold force directed type network, whereby nodes (in this case those representing individual burials) with shared secondary nodal components (or similar “relative value” scores shared by different burials) are placed into distinct groups of varying accumulations of wealth based on raw material frequencies. The presence of distinct

groups or economic tiers is indicative of a social division based upon class or the differential distributions and accumulations of material wealth. What will be the primary focus here will be an analysis of how wealth accumulation via raw material frequencies produced similar or dissimilar levels of economic tiers at sites representative of redistributive and para-redistributive/post-redistributive consumption in sites falling under different political tiers formulated by Cosmopoulos (2019). In doing so, one may compare the levels of economic division from primarily redistributive based consumption sites to the shift towards post-redistributive consumption which can be assumed to have occurred after the collapse of the Bronze Age States in order to discern if there is a reproduction of the economic rationality of the palatial era to the post-palatial era on the LH mainland.

Regarding the study of node position in SNA, which is the study of how the positioning of a node within the network structure influences the behavior and categorization of that node (Mills 2017), two main approaches exist: the study of strong and weak ties between nodes, and centrality studies, or how central or prominent a node is within an overall network structure. In archaeology, node centrality is a theoretical construct illustrating how a node interacts with other nodes and its resulting dynamic potentiality (Mills 2017). In other words, node centrality can be incredibly useful when studying the relation between network components based upon a single nodal category in terms of relating structural prominence to group hierarchies. Centrality is regarded as a person or group with more social prominence, which may or may not result from prominence in a network structure (Mills 2017). As it pertains to prestige network models, however, the centrality of a nodal group is in fact representative of a group's lack

of social prominence as measured by high accumulations of wealth based upon “relative value” scores. Nodal centrality becomes more prominent for a subgroup in prestige networks not through high accumulations of semiotic wealth, but through the higher number of actors which are connected to the node which is representative of an economic tier. Thus, node centrality in prestige network models must be interpreted counterintuitively to centrality studies in other network analyses. A group which lies on the fringe of an overall network structure can be reasonably assumed to hold a higher level of prestige and accumulated wealth distributed to a select few actors. In contrast to this, a subgroup which is most central in a prestige network is more likely to have a lower level of prestige and wealth accumulation which is distributed over a larger group of associated actors.

These networks do not represent the directional flow or kinetic exchange of goods as other SNA studies concerned with exchange do, but rather are indicative of the final outcome of differential exchange strategies which are themselves derivative of the recording-consumption relation within the Deleuzian “process” (Deleuze and Guattari 2009) of production-consumption-recording. Through such networks, one may view the end result, present in the final placement of social agents in the context of burial, of the coding process by which the socius records and establishes differences in social space through patterns of consumption in physical space.

Mycenaean Sites of Perati, Achaia Clauss, and Mycenae Grave Circles A&B

The three sites which will be analyzed throughout the course of the thesis will be the Perati, Achaia Clauss, and Mycenae Grave Circles A&B sites. Each archaeological

context will be analyzed in correspondence with a specific mode of consumption which has been discussed previously, that being: redistributive consumption, para-redistributive consumption, and post-redistributive consumption . The first of these contexts which will be analyzed is the Perati site, which is a post palatial cemetery located in the East Attica Region on the Greek mainland. The phases of the Perati cemetery site are dated to the LHIIIC period, and thus existed after the collapse of the Bronze Age states (Murray 2018). Therefore, Perati will be used in the creation of a series of networks which will analyze the para-redistributive consumption and hypothetical models of regional market exchange proposed by Parkinson et al. (2013) which existed after the deterioration of the palatial redistributive system. Regarding the nature of the data available, Sarah C. Murray (2018) provides a detailed description of the 130 tomb groups at the Perati cemetery which includes the counts of grave goods in the assemblages as well as their raw material frequencies.

Concerning the network groups analyzing redistributive exchange, the assemblages excavated from the cemetery at the Achaia Clauss site, which has a phase dated to the palatial era at LHIIIA1, will be utilized as the intended dataset. Paschalidis et al. (2018) provides similar data for the Achaia Clauss site as Murray (2018) does for the Perati site, explicitly detailing the grave goods associated with each burial in the cemetery and the raw material frequencies which exist in each assemblage. This set of networks will be used in the analysis of the economic rationality of the redistribution of surplus goods during the palatial era as it occurred at Achaia Clauss.

The third site which will be studied will be the Late Phase II of the Mycenae Grave Circles A&B, whose grave goods data is provided by Giampaolo Graziadio

(1991). Late Phase II of both grave circles dates firmly to the LHI-LHII period, or within the bounds of the height of the palatial era and therefore during a period of redistributive exchange headed by the administrative center of the palace (Graziadio 1991). The site of Mycenae, as opposed to the Achaia Clauss site which existed as a sub locality within a palatial region, was a major palace center and can therefore be used as comparable palace center to pair with Achaia Clauss. Graziadio (1991) provides an analysis of 16 burials from the Late Phase II section of Grave Circles A&B, 15 of which were from Circle B and 1 which was from Circle A. He uses a multivariate system to categorize the burials based on a “units of wealth” system (Graziadio 1991). Since Mycenae is a major palatial center, the graves represented are almost exclusively of an elite status with higher accumulations of wealth than what are normally recovered from other Mycenaean sites (Graziadio 1991). This bias obviously does not represent a complete cross section of social stratification across all Mycenaean communities, yet when paired with Achaia Clauss allows for a more comprehensive view of the relation between the palatial and non-palatial sectors.

Differential Raw Material Types at Perati and their Implications

Murray (2018) analyzes the mortuary assemblages of the 12th century BCE cemetery located at the post palatial LHIIIC Perati site in East Attica, and her compiled dataset of raw material frequencies of grave goods comprises the data represented which will be used for network study of para-redistributive consumption. In sum, Murray (2018) argues against previous models of exotica use in the post palatial period which affirmed that imported goods in mortuary contexts served a primary function of elite fashioning

and interaction. She argues instead that the imported goods at the cemetery at Perati are instead indicative of heterogeneous mortuary rituals associated with a diverse population in the wake of the collapse of Late Bronze Age states (Murray 2018). Using the raw material types and their frequencies of nonimported burial goods at the cemetery at Perati as a proxy for the determination of wealth, Murray (2018) attempts to demonstrate that the presence of imported goods was not tied to self-fashioning strategies by elites but was instead present in burial contexts of varying wealth. Murray (2018) ranks the tombs at the Perati cemetery based off of a rating system which was calculated as the sum of the total number of nonimported grave goods divided by the number of individuals buried in the tomb, at which point a number which represented the prestige of the raw material types was added: whereby ceramics, bronze, and stone received one point for each good of that type, and where ivory, gold, and silver objects were ascribed two points (Murray 2018). This can be visualized in the following equation:

Murray's "Rating" for Tomb Groups

$$= \frac{\text{Total No. of Nonimported Goods}}{\text{No. of Burials in Tomb Group}} + \sum \text{Points of Nonimported Goods}$$

From here, Murray (2018) concluded that there was a discontinuation at post palatial Perati in the use of exotica being used previously by elites as signs of status to becoming representations of the varied mortuary practices of the local population at large which corresponded to a region-wide decentralization after the fall of the Late Bronze Age states. Her dataset, however, reveals a differential distribution of raw material types of varying value which seems indicative of differential access to wealth regardless of the presence or absence of exotica (Murray 2018). This dataset pertaining to the frequency of

raw material types of burial assemblages will be utilized in the construction of a social network of the distribution of “value” and inferred social agents qua the remains in order to map a social topography of the Perati cemetery.

Tomb	Rating	No. of Burials	Nonimported Tomb Contents						Imported Tomb Contents	
			Pots	Bronze	Ivory	Gold	Silver	Stone	Object Type(s)	Origin
104	n/a	?	5	–	–	–	–	1	cartouche	Egypt(?)
100	3.3	4	3	–	–	–	–	2	weight	Syria-Palestine
34	5.5	4	13	–	–	–	–	1	faience frag.	Egypt
90	6.5	4	9	1	–	–	–	4	scarab	Egypt
25	8.0	2	11	1	–	–	–	–	chair	Cyprus
24	8.0	1	2	–	1	–	–	1	bullae, seal	Cyprus, Anatolia
9	8.0	3	10	–	–	1	–	1	earring	Cyprus
30a	12.0	2	12	–	–	–	–	8	weight	Egypt
142	12.6	5	11	–	2	–	1	19	seal	Cyprus
1*	12.8	8	24	4	–	6	2	10	seals	Egypt, Mesopotamia
11	13.5	2	7	1	1	2	–	2	earring	Cyprus
152	15.3	4	13	3	2	3	1	3	weight	Syria-Palestine
147	16.8	5	21	2	–	5	6	15	scarabs, rosettes	Egypt, Syria-Palestine
157*	20.7	3	18	1	1	1	2	12	amulet	Syria-Palestine

Table 3. Tombs with exotica and their contents from phases I-II of the cemetery at Perati, from Murray (2018). An * indicates a tomb with an indiscernible amount of remains, but which can be assumed to have contained at least one burial.

Tomb	Rating	No. of Burials	Nonimported Tomb Contents						Imported Tomb Contents	
			Pots	Bronze	Ivory	Gold	Silver	Stone	Object Type(s)	Origin
49	2.0	1	–	–	–	–	–	1	gold amulet	Syria-Palestine
28	3.0	1	2	–	–	–	–	–	iron knife	Cyprus
38*	8.2	6	22	2	–	1	–	–	iron knife	Cyprus
30	11.0	3	8	1	1	–	–	8	faience amulets	Egypt
75*	11.4	8	29	–	2	–	4	8	scarabs	Egypt
145*	12.5	8	36	1	–	2	4	1	scarab	Egypt
13	22.8	6	47	1	7	3	3	22	scarabs	Egypt
12	n/a	?	40	5	1	4	6	15	bronze knife	Syria-Palestine(?)

Table 4. Tombs with exotica and their contents from phases II-III of the cemetery at Perati, from Murray (2018). An * indicates a tomb with an indiscernible amount of remains, but which can be assumed to have contained at least one burial.

Tomb	Rating	No. of Burials	Pots	Bronze	Ivory	Gold	Silver	Stone	Phase
106	2.5	2	3	-	-	-	-	-	I-II
121	3.0	1	2	-	-	-	-	-	I-II
126	3.0	1	2	-	-	-	-	-	I-II
129	3.0	1	2	-	-	-	-	-	III
132	3.0	1	2	-	-	-	-	-	I-II
114	3.5	2	5	-	-	-	-	-	I-II
122*	3.8	4	11	-	-	-	-	-	III
133	4.0	1	3	-	-	-	-	-	I-II
113	5.3	3	7	-	-	-	-	3	I-II
123	7.3	4	10	5	-	-	-	2	I-II
110	8.0	1	4	-	-	-	-	2	I-II
124	8.3	3	10	1	-	-	-	5	I-II
125	9.0	1	3	-	-	1	-	1	I-II
131	9.5	4	13	3	-	-	1	1	I-II
112	n/a	?	15	1	-	-	-	1	I-II
127	9.7	6	9	1	1	1	-	4	I-II
111	10.0	9	21	1	1	1	-	3	I-II
128	n/a	?	3	5	3	-	3	6	I-II
130	16.0	1	15	-	-	-	-	-	III
108	n/a	?	20	1	5	-	-	11	II-III

Table 5. Tomb contents in datable tombs with finds in the eastern zone of the cemetery at Perati, reproduced from Murray (2018).

Strategies for the Determination of Relational Value in Network Analysis

Following Murray (2018), a strategy similar to her calculations of rating tombs will be used in a slightly modified fashion in order to determine the relative “value” of each individual in a tomb group based upon the raw materials of its nonimported grave goods. The relative “value” (RV) score for each individual in a tomb group is calculated as the sum of the total prestige points of the nonimported goods which were previously

defined by Murray (2018) divided by the total number of burials in a given tomb group.

Overall, the basic equation is as follows:

$$\text{Relative "Value" for Individual} = \frac{\sum \text{Points of Nonimported Goods}}{\text{No. of Burials in Tomb Group}}$$

Subsequently, the RV score of the ≈130 buried individuals in the 42 published tomb groups were calculated and recorded along with the associated tomb group and the number of individuals buried within each tomb group for input into the network software NodeXL Basic (Smith et al. 2010) for the construction of a Fruchterman Reingold force directed network (Table 4).

Tomb Group	No. of Burials in Tomb	Relative “Value” of Individual Burials Based on Raw Material Types Found
104	1* ⁱ	6
100	4	1.25
34	4	3.5
90	4	3.5
25	4	3.5
24	1	4
9	3	4.33
30a	2	10
142	5	7.2
1	8	6.75
11	2	8
152	4	7.75
147	5	12
157	3	13
49	1	1
28	1	2
38	6	4.33
30	3	6.33
75	8	6.125
145	8	6.25
13	6	16
12	1*	82
106	2	1.5
121	1	2

126	1	2
129	1	2
132	1	2
114	2	2.5
122	4	2.75
133	1	3
113	3	3.33
123	4	4.25
110	1	6
124	3	5.33
125	1	6
131	4	4.75
112	1*	17
127	6	3
111	9	3.22
128	1*	26
130	1	15
108	1*	42

Table 6. Data input for a Network Analysis of the cemetery at Perati with Tomb Groups and associated individuals and the calculated relative “value” of each individual burial, information regarding the tomb groups and burials is taken from Murray (2018).

Networks and Capital

Charles Kadushin (2012) takes the concept of social capital originally formulated by Bourdieu (2002) and applies it to the methods of network analysis. Social capital, defined by Kadushin (2012) as access to networked resources, has many observable correlates both through physical resources and social ties. Regarding the present data, the analysis of burial assemblages is an analysis of the accumulation of objectified cultural capital in the form of grave goods as a mediating proxy to study the ties of social capital or, as Kadushin (2012) expresses it, the collection of social ties which perform some sort of social function which is related to the facilitation of certain actions. In this light, the differential frequency and distribution of raw material types observed at the cemeteries at Perati and Achaia Clauss can act as a correlate of social capital within a network analysis. The presence of different raw material types observed within these burial assemblages is

the residue or final result of a larger, preexisting network of exchanges and social strategies which led to the observed accumulations. The RV score calculated for individual burials is similar to the SgEV (Baudrillard 1981) of the grave goods whereby the value of each raw material type gains its value only by its difference to other raw material types which are observed within the same assemblage. The SgEV of each raw material type observed at the cemeteries at Perati and Achaia Clauss will be assumed here to signify access to material and immaterial capital, or to access to actual or potential resources which were possessed by the inferred social personae of the deceased within the tomb groups.

Defining Vertices and Edges

In order to construct a bipartite network of the burials within the cemeteries at the Perati and Achaia Clauss sites, one must define the parameters of the network itself to include inferred social agents and the RV scores of the individuals as determined by the raw material types within the burials. In this way, any network produced will be able to incorporate both agents and artifacts and thereby provide a more complete view of the social space at Perati and Achaia Clauss. Therefore, vertex or node one will be defined as the individual burial observed within a tomb group, designated by its tomb group label followed by an alphabetic label descending with the number of burials (ex. The node representing the first burial in tomb group 30a is designated as 30a-A, the second as 30a-B, etc.). Vertex two will be defined as the calculated RV score associated with each individual burial as represented in Table 5. Evans et al. (2012) define the edges or links of a network as representative of the interaction between vertices which occur within different types of space, or as it pertains to the present study as occurring within social

space. The interactions between nodes which will be studied within the present analysis are the exchange interactions which led to the differential distribution of raw material types within the cemetery at Perati, or the interactions between the differing economic positions of social personae which facilitated these exchanges and subsequent accumulations.

Limitations and Focus: Vertical versus Horizontal Differentiation

A limitation which becomes evident in the methodology of such an analysis is a focus on vertical rather than horizontal differentiation (Parker Pearson 2016: 74), instead of a comprehensive analysis which incorporates both. Parker Pearson (2016) defines vertical differentiation as the economic or political positioning within a hierarchical structure of an individual in a burial context, whereas horizontal differentiation corresponds to the individual's group membership or collection of personal roles (wife, warrior, father, etc.). It should be noted then that the concept of social personae here is taken to exclusively mean the individual's structural or economic persona as it existed in a hierarchy of social personae,. This of course subsumes the second half of a more complete analysis, which would include a study of the horizontal differentiation of social personae through an analysis of grave goods which signify personal roles. The focus of the present analysis, however, is the determination of the economic rationality of consumption as it existed on the LH mainland and therefore is inherently weighted to the consideration of vertical positioning.

RESULTS

Mycenae Grave Circles A&B SNA Results

For the network series analyzing Mycenae Grave Circles A&B, a slightly different nodal criteria were used. Following Graziadio's (1991). I also compare mortuary assemblages using "units of wealth," a term he designates based on a multivariate analysis of the quality of palatial grave goods. As a result of the differential access to data on the mortuary assemblages, Graziadio's (1991) "units of wealth" will replace the "relative value" scores as the second nodal category. Network input data for the Late Phase II burials in Grave Circles A&B are recorded in Table. 23.

Burial Designation	Units of Wealth as determined by Graziadio (1991)
Δ: c	78
Δ: b	70
Λ1	10
Γ: d	18
N: b	85
K	18
Γ: c	135
M: a	3
Π	8
O: a	25
O: b	25
Γ: b	115
M: b	40
E: b	190
O: c	220
Grave II (Circle A)	253

Table 7. Network Input Data for Mycenae Grave Circles A&B following Graziadio's (1991) "units of wealth"

First, a network (Fig. 6) representing a general overview of the distribution of "wealth" at the site was created, and clusters or groups of burials corresponding to a similar "wealth" group were observed.

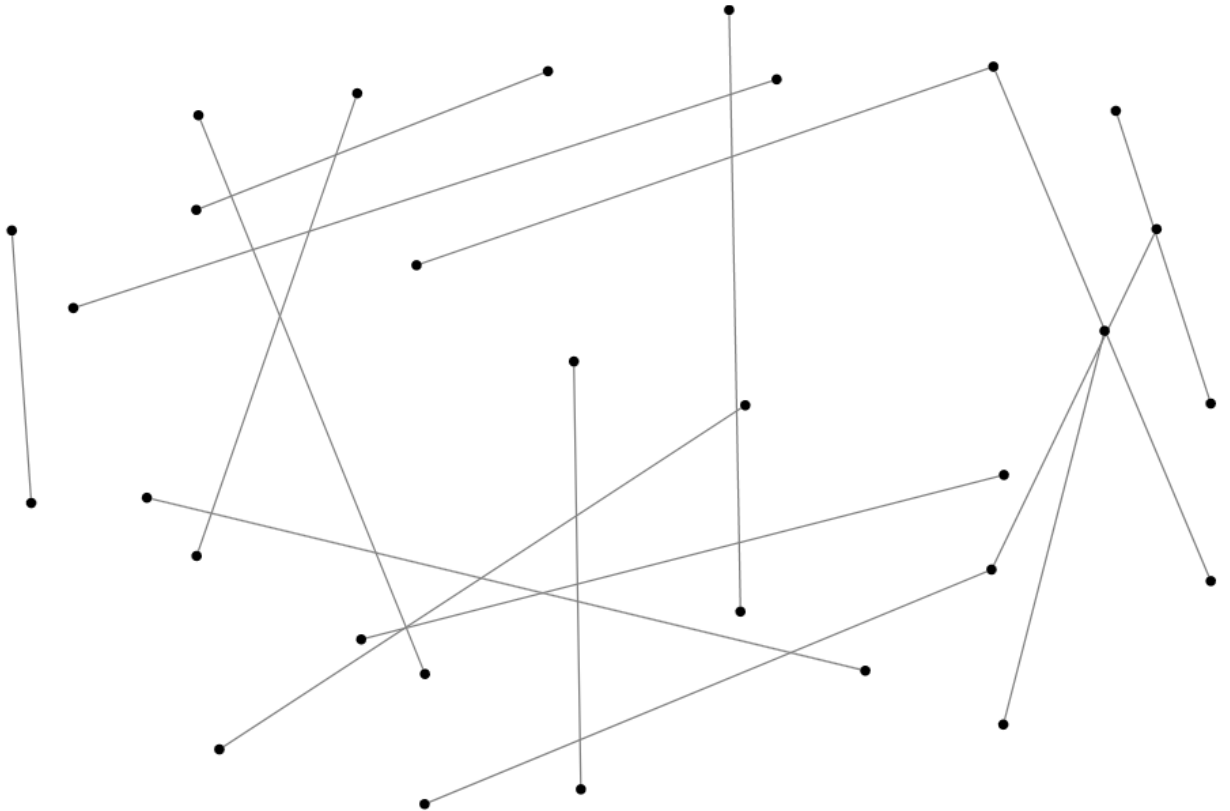


Fig 6. Fruchterman-Reingold Network 1 of Individual Burials and Relative "Values" of Grave Circles A&B at the Mycenae site

A loose clustering around two value nodes in the center of the network structure was observed within this first network, whereby two groups of two burials were connected to each of the two nodes designating Graziadio's (1991) units of wealth. This indicated a slight presence of shared economic status among these elite burials, yet nothing which indicated significantly separated economic strata of the population

represented by the cemetery. In order to better visualize these two clusters though, the original network was grouped by a connected component, the “wealth” groups, and subsequently a second network (Fig. 6) was created with the data corresponding to the network 2 (Fig. 6) groups being recorded in Table. 8.

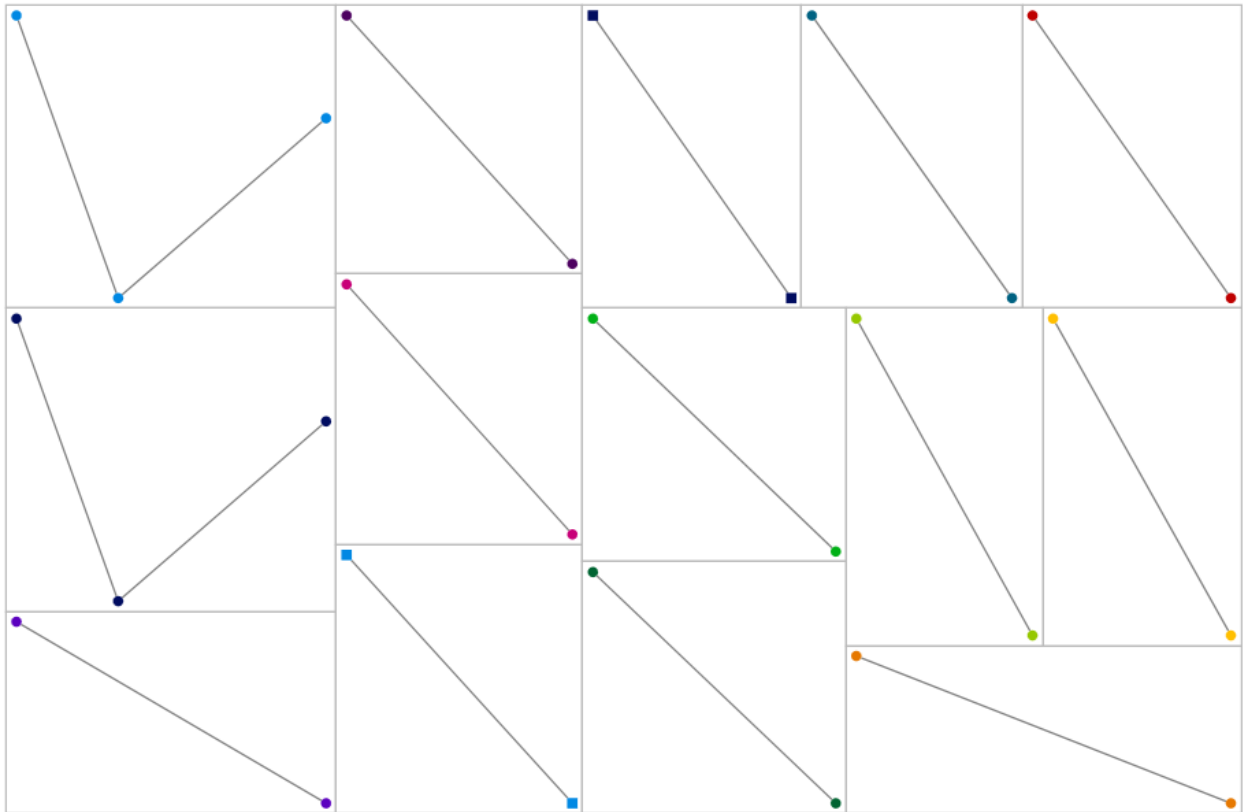


Fig 7. Fruchterman-Reingold Network 2 of Grave Circles A&B at Mycenae Grouped by Connected Component (Units of Wealth)

Network 2 Group	Burials within Network Group
G1	O: a, O: b
G2	Γ: d, K
G3	Γ: b
G4	Grave II
G5	M: b
G6	E: b
G7	O: c
G8	Π
G9	Δ1
G10	Δ: b

G11	Δ: c
G12	M: a
G13	Γ: c
G14	N: b

Table 8. Mycenae Grave Circles A&B Groups Defined by Network 2

Of the 16 Burials at the site, 14 distinct value groups were recorded. Noticing a slight clustering of value, a system of grouping the individuals and their units of “wealth” into economic tiers was reformulated (Table. 9) to fit Graziadio’s (1991) own parameters, ascending in “wealth” increments of 50.0 to accommodate the range observed within the cemetery.

Economic Tiers for Grave Circles A&B	Tier Increments by Graziadio’s (1991) “units of wealth”
Economic Tier I	1-50
Economic Tier II	50-100
Economic Tier III	100-150
Economic Tier IV	150-200
Economic Tier V	200-250
Economic Tier VI	250-300

Table 9. Revised Economic Tiers following Graziadio’s (1991) multivariate analysis of “units of wealth”

Individual burials were assigned an economic tier based upon their relative “values” compared against the tier criteria (Table. 9). The economic tiers corresponding to the tomb groups were then recorded (Table. 10) and subsequently a third network (Fig. 8) was created consisting of vertices representing the individual burials and their assigned economic tier.

Burial Designation	Graziadio’s (1991) Designated “Units of Wealth”	Economic Tiers based on “Units of Wealth”
Δ: c	78	II
Δ: b	70	II
Λ1	10	I

Γ: d	18	I
N: b	85	II
K	18	I
Γ: c	135	III
M: a	3	I
Π	8	I
O: a	25	I
O: b	25	I
Γ: b	115	III
M: b	40	I
E: b	190	IV
O: c	220	V
Grave II (Circle A)	253	VI

Table 10. Burials with Designated Units of Wealth and their corresponding Economic

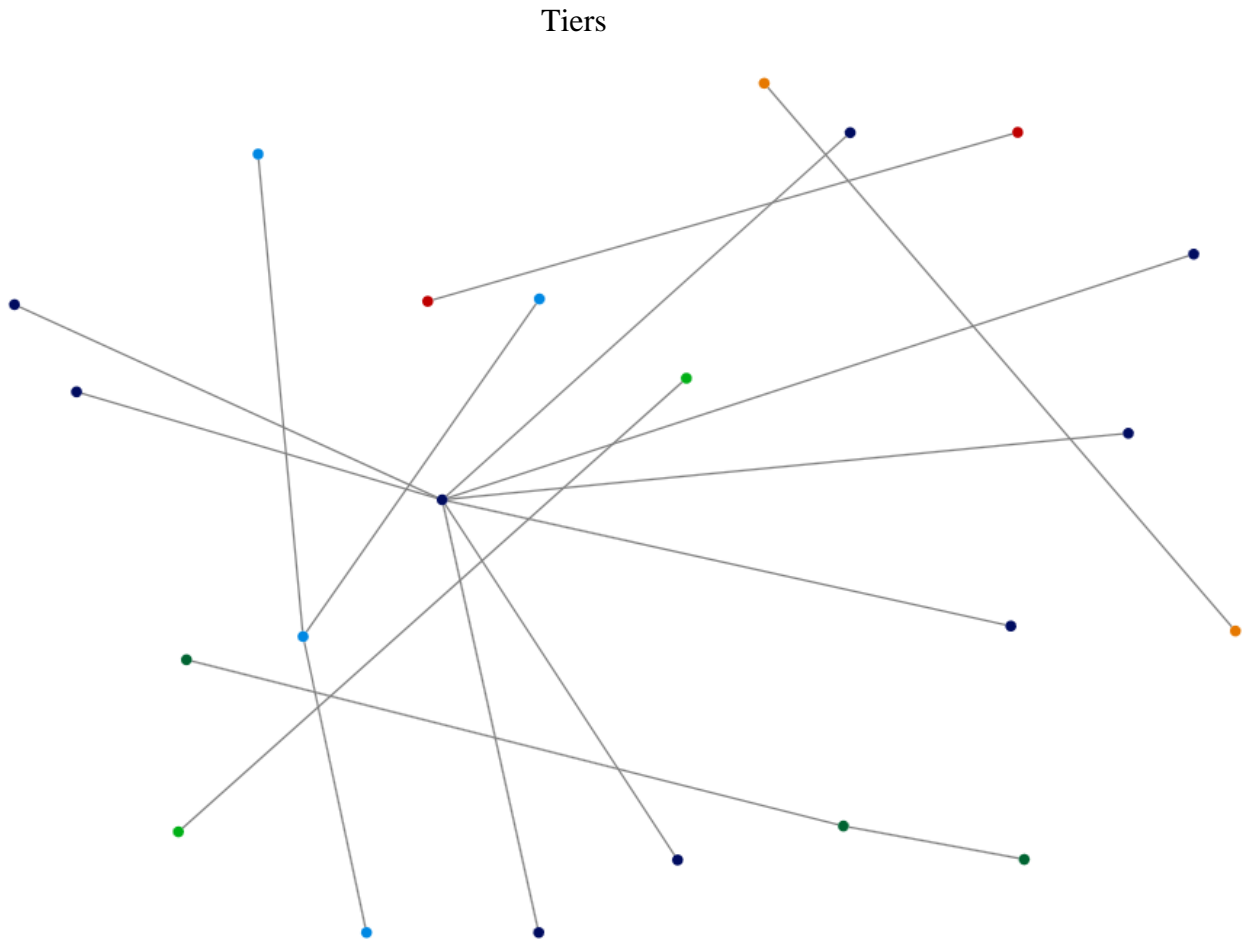


Fig 8. Fruchterman-Reingold Network 3 of Grave Circles A&B at Achaia Mycenae Grouped by Economic Tier

Following the data from this, six major distinct clusters appeared within this network (Fig. 8) corresponding with the presence of economic tiers I, II, III, IV, V, and VI with a range of “wealth” ranging from 0-300.0. The economic tier which was most distinct within this network structure was economic tier I, which was situated firmly in the center of the network with seven burials attached to the central node designating the stratum of economic tier I. In order to discern the internal variability within each of these clusters or economic tiers and to analyze the relative regulation of commodity consumption within these strata, two further networks were constructed with vertices representing the individual burials and their associated units of “wealth.” The first of these networks (Table. 11, Fig. 9) represented economic tier I, and the second (Table. 12., Fig. 10) represented economic tier II. Economic tiers III, IV, V, and VI (as indicated in Table. 10) were excluded from further network analysis as they contained an insufficient amount of burials to construct a useful network structure yet are represented in Tables. 13, 14, 15, and 16.

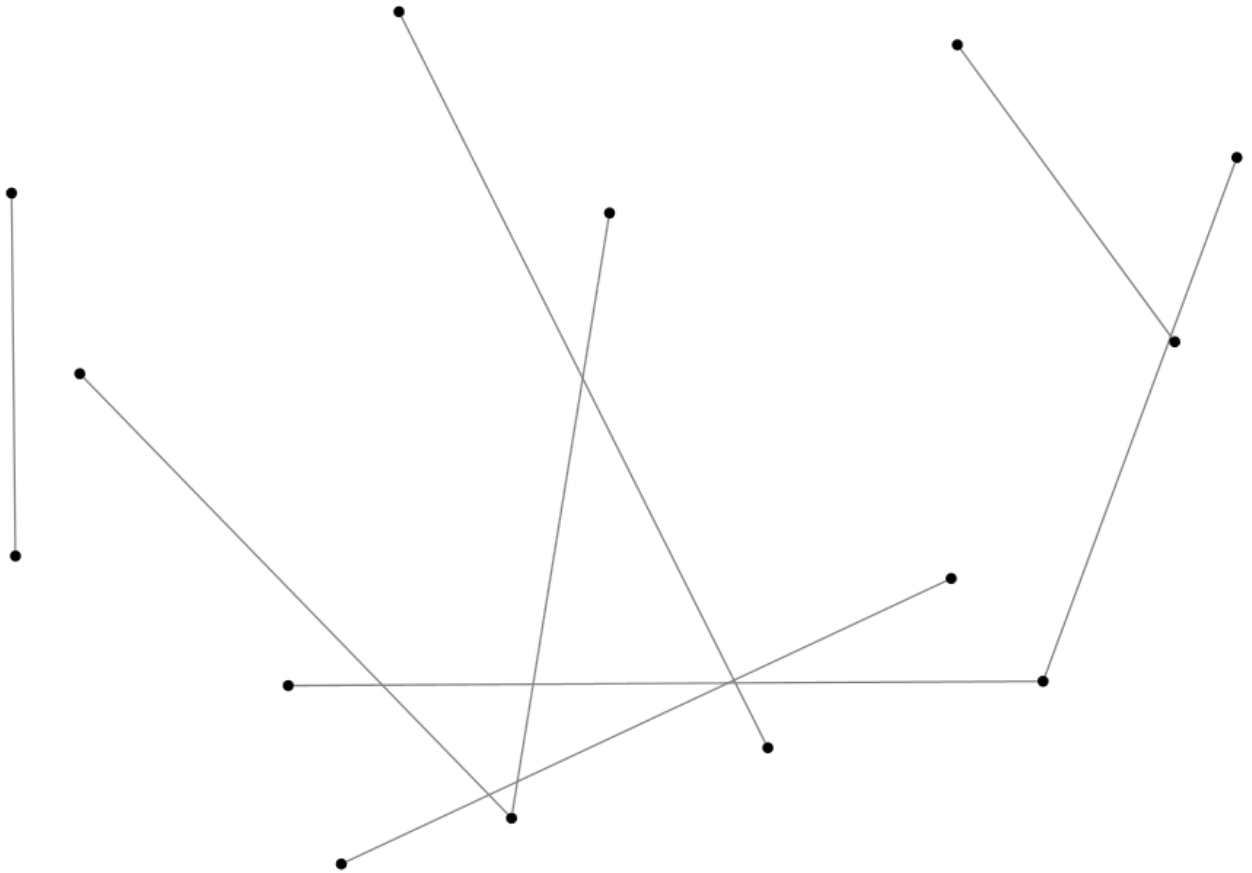


Fig 9. Fruchterman-Reingold Showing Variability of Burials and Units of “Wealth” within Economic Tier I of Grave Circles A&B at Mycenae

The structure of the network representing economic tier I (Fig. 9) indicated a loose clustering of burials with similar wealth accumulations yet appeared to be decentralized overall and therefore representative of a more variable, more deregulated logic of exchange. There were few nodes designating wealth units which were shared by more than one burial, and even then there were no more than two burials each associated with these shared nodes, as indicated in Table. 27.

Burials within Economic Tier I	Graziadio’s (1991) Designated “Units of Wealth”
Λ1	10
Γ: d	18
K	18
M: a	3

Π	8
O: a	25
O: b	25
M: b	40

Table 11. Burials within Economic Tier I along with Graziadio's (1991) Units of Wealth

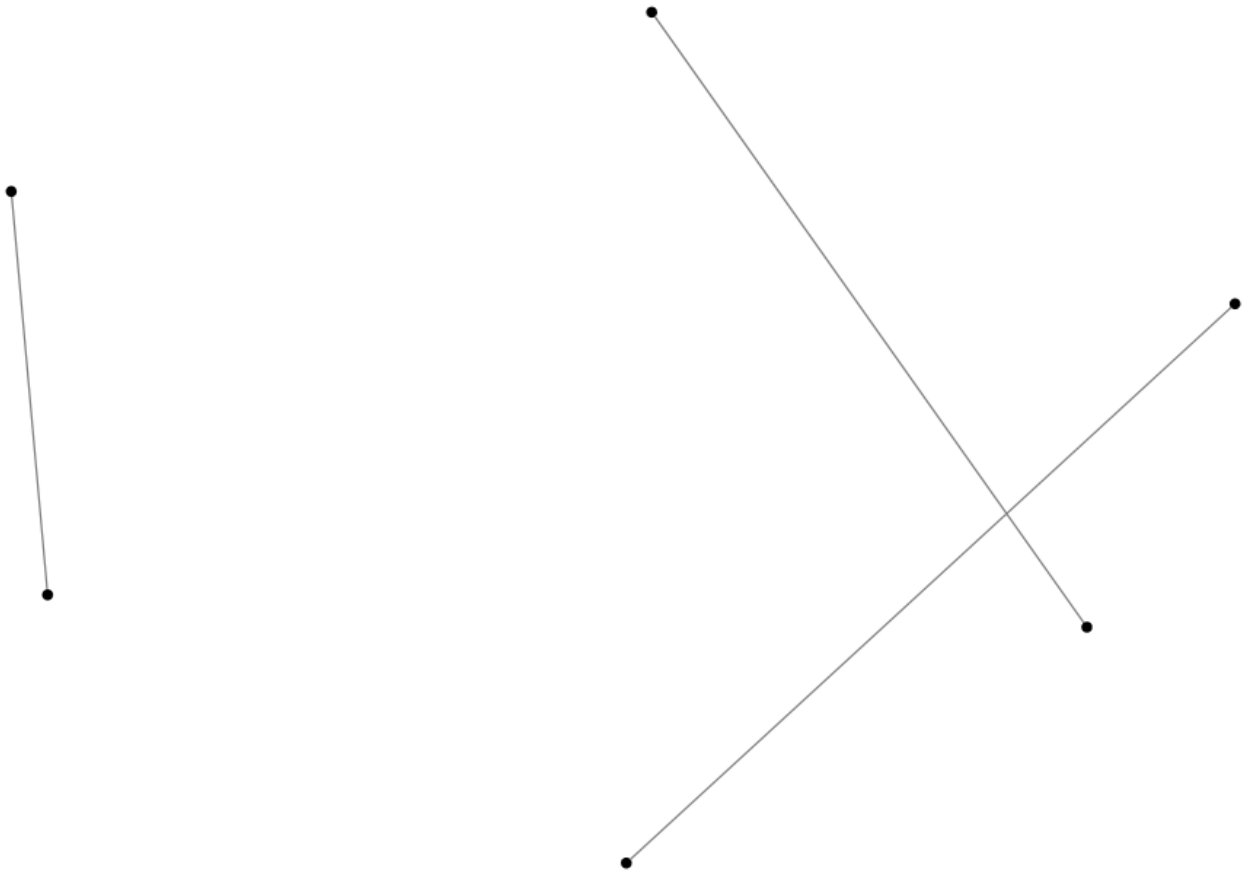


Fig 10. Fruchterman-Reingold Showing Variability of Burials and Relative “Wealth” within Economic Tier II of Grave Circles A&B at Mycenae

The structure of the network representing economic tier II (Fig. 10) indicated a similar, and even more decentralized structure than the network representing economic tier I. There were no clusters of burials with similar nodes designating wealth accumulations present in the overall network structures, with no centralized value group. This is possibly indicative of an even more deregulated logic of exchange and consumption than was present within the social strata represented by the burials within

economic tier I. The distinct levels of wealth separation can be seen in the values recorded in Table 12.

Burials within Economic Tier II	Graziadio's (1991) Designated "Units of Wealth"
Δ: c	78
Δ: b	70
N: b	85

Table 12. Burials within Economic Tier II along with Graziadio's (1991) Units of Wealth

Burials within Economic Tier III	Graziadio's (1991) Designated "Units of Wealth"
Γ: c	135
Γ: b	115

Table 13. Burials within Economic Tier III along with Graziadio's (1991) Units of Wealth

Burials within Economic Tier IV	Graziadio's (1991) Designated "Units of Wealth"
E: b	190

Table 14. Burials within Economic Tier IV along with Graziadio's (1991) Units of Wealth

Burials within Economic Tier V	Graziadio's (1991) Designated "Units of Wealth"
O: c	220

Table 15. Burials within Economic Tier V along with Graziadio's (1991) Units of Wealth

Burials within Economic Tier VI	Graziadio's (1991) Designated "Units of Wealth"
Grave II (Circle A)	253

Table 16. Burials within Economic Tier VI along with Graziadio's (1991) Units of Wealth

The results of the first Fruchterman-Reingold network representing Mycenae Grave Circles A&B (Fig. 6) indicated the presence of clusters of burials with similar or shared "values." In order to substantiate and better discern these clusters, a second network (Fig. 7) was created which indicated the presence of 14 clusters comprised of the

16 recorded burials (as recorded in Table. 8). This represented a distinct similarity between values for the recorded tomb groups, and a further network (Fig. 8) was created to better visualize the groupings. This network (Fig. 8) provided a more substantial clustering, with six major groups corresponding to economic tiers I, II, III, IV, V, and VI (as defined in Table. 9) becoming evident. Although some clusters were discerned, the overall network structure of the burials at Mycenae Grave Circles A&B indicated a heterogeneous accumulation of wealth and a deregulated logic of consumption with little similarity between and within strata represented at the cemetery.

Mycenae Grave Circles A&B Summary

- An initial network representing all burials and nodes designating units of wealth indicated a loose and minimal clustering of network groups.
- A second network showing shared components substantiated this observation of minimal clustering and grouped the 16 burials into 14 network groups based on shared values of units of wealth.
- Subsequently, a third network which grouped burials into groups based upon economic tiers acting as a proxy for different socio-economic strata at the site was formulated. Two distinct structural clusters were discerned (economic tiers I and II) which indicated two possible socio-economic strata within the population represented by the cemetery. Four other burials were found to represent higher distinct economic tiers (III, IV, V, and VI), yet did not belong to a structural cluster.

- The structure of the network representing economic tier I (Fig. 9) indicated a minimal clustering yet overall seemed to imply a decentralized logic of consumption and wealth accumulation which was mostly heterogeneous.
- The structure of the network representing economic tier II (Fig. 10) contained within it no structural clustering and implied an even more decentralized and deregulated logic of consumption and wealth accumulation, with each of the three burials being associated with a different value associated with Graziadio's (1991) units of wealth.

Achaia Clauss SNA Results

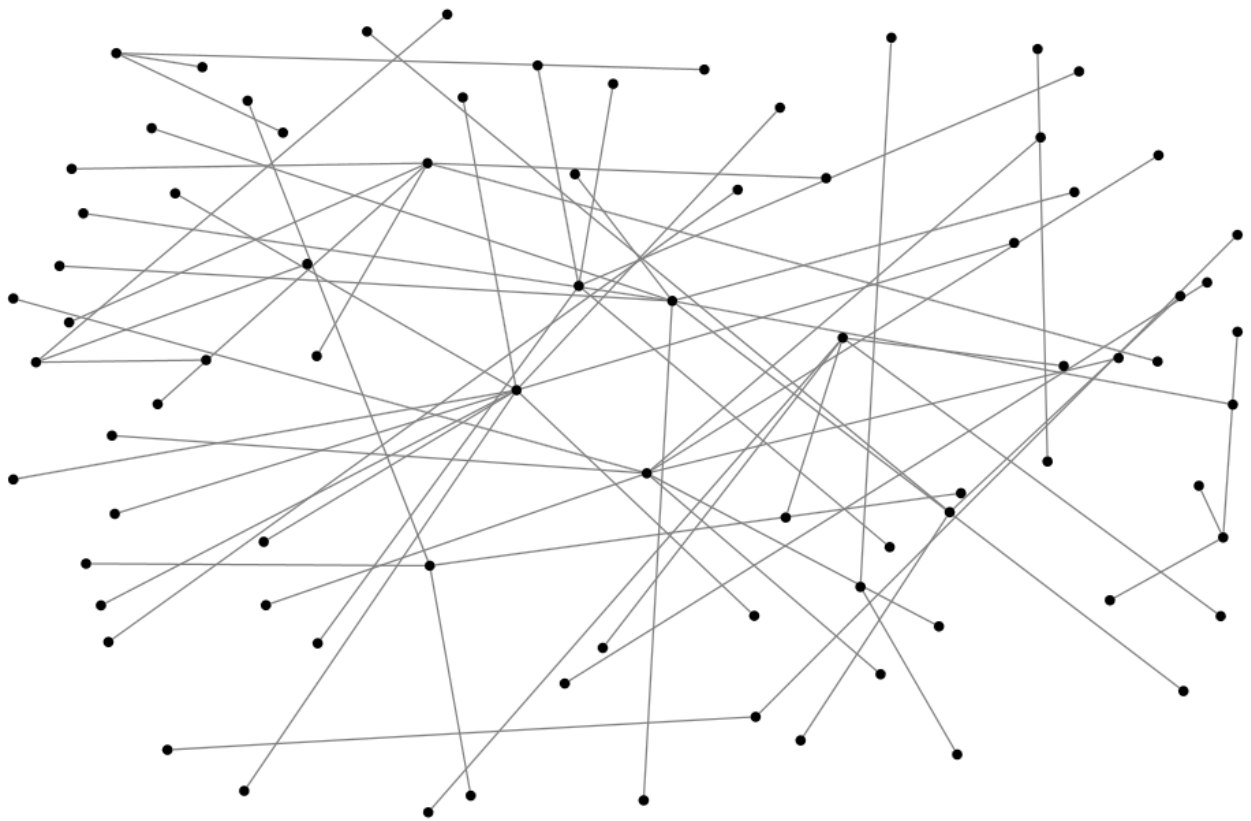
For the Achaia Clauss cemetery, an almost identical method was followed as was in the analysis of the Perati networks. Data recorded from the raw material frequencies were represented in Table. 17 for input into NodeXL Basic (Smith et al. 2010) in the construction of a bipartite Fruchterman-Reingold network.

Tomb Group	No. of Burials in Tomb	Relative "Value" of Individual Burials Based on Frequency of Raw Material Types
A	4	5.5
B	8	8.25
Γ	2	9.5
Δ	5	4.6
E	5	14.6
ΣΤ	7	7.57
Za	1	3
Zb	3	1
H	3	7.67
Θ	6	16
I	1*ii	23
K	3	27.67
Λ	3	8.33
Ma	2	14.5

Mb	1	7
N	10	4.7

Table 17. Data input for a Network Analysis of the cemetery at Achaia Clauss with Tomb Groups and associated individuals and the calculated relative “value” of each individual burial.¹

First, a network (Fig. 11) representing a general overview of the distribution of “value” at the site was created, and clusters or groups of burials corresponding to a similar relative “value” group were observed. The structure of this network indicated a strong clustering of distinct relative value groups which were in a central placement of the network with attached burials around the edges of the network. This was representative of a distinction between socio-economic strata at the Achaia Clauss site represented by the differing wealth accumulations of the burials present at the cemetery.



¹ Tomb Groups and No. of Burials from Paschalidis et al. (2018)

Fig 11. Fruchterman-Reingold Network 1 of Individual Burials and Relative “Values” at the cemetery at the Achaia Clauss site

In order to better visualize these clusters, the original network was grouped by a connected component, the relative “value” groups, and subsequently a second network (Fig. 12) was created.

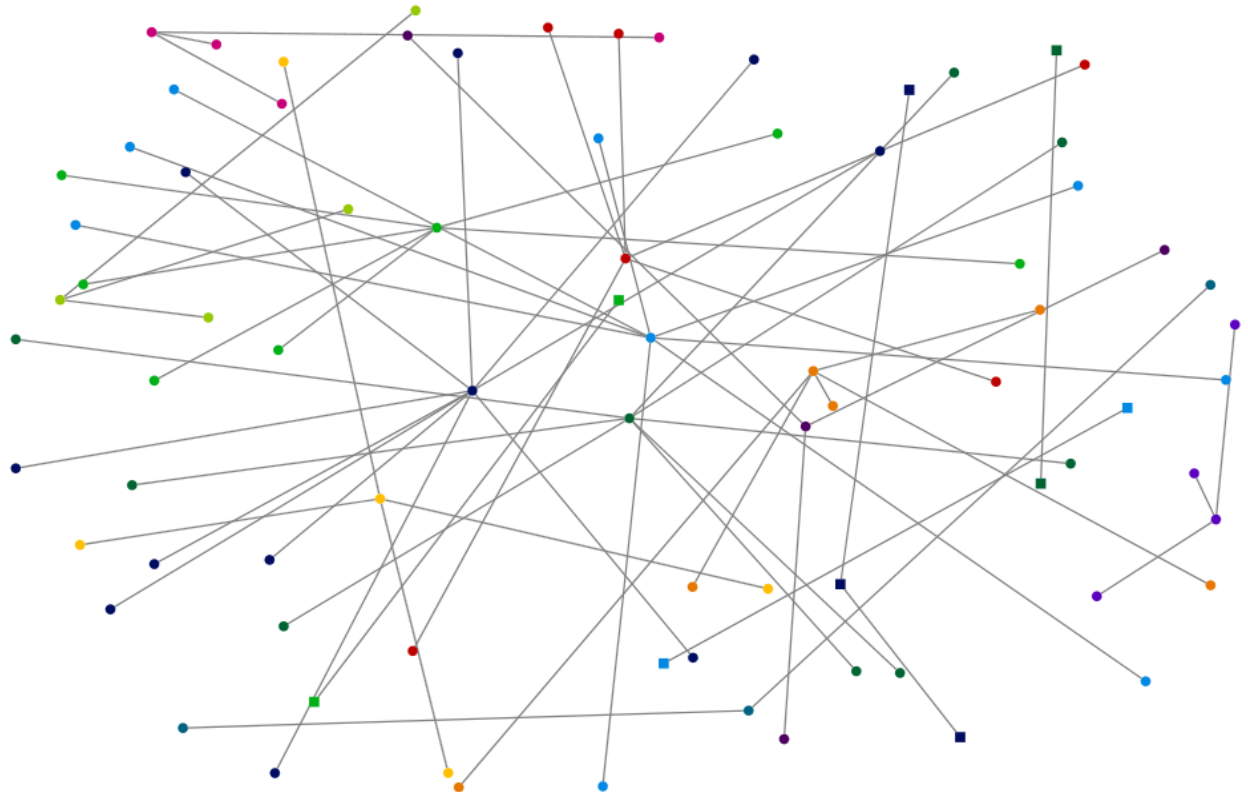


Fig 12. Fruchterman-Reingold Network 2 of Cemetery at Achaia Clauss Grouped by Connected Component (Relative “Value”)

Noticing a clustering of value, a system of grouping the individuals and their relative “value” into economic tiers was formulated (Table. 18), ascending in “value” increments of 5.0 to accommodate the range observed within the cemetery.

Economic Tier by Relative “Value”	Tier Increments
1	0-5.0
2	5.0-10.0
3	10.0-15.0
4	15.0-20.0

5	20.0-25.0
6	25.0-30.0
7	30.0-35.0
8	35.0-40.0
9	40.0-45.0
10	45.0-50.0
11	50.0-55.0
12	55.0-60.0
13	60.0-65.0
14	65.0-70.0
15	70.0-75.0
16	75.0-80.0
17	80.0-85.0

Table 18. Criteria for “Economic Tiers” within the Cemetery with a Relative “Value” Range of 0-85.0 defined by Increments of 5.0

Individual burials within tomb groups were assigned an economic tier based upon their relative “values” compared against the tier criteria (Table. 18). The economic tiers corresponding to the tomb groups were then recorded (Table. 19) and subsequently a third network (Fig. 13) was created consisting of vertices representing the individual burials and their assigned economic tier.

Network 3 Group	Economic Tier Represented	Tombs Within Network Group
G1	2	A, B, Γ, ΣT, H, Λ, Mb
G2	1	Δ, Za, Zb, N
G3	3	E, Ma
G4	4	Θ
G5	6	K
G6	5	I*

Table 19. Achaia Clauss Groups Defined by Network 2 and Economic Tiers Represented by Groups

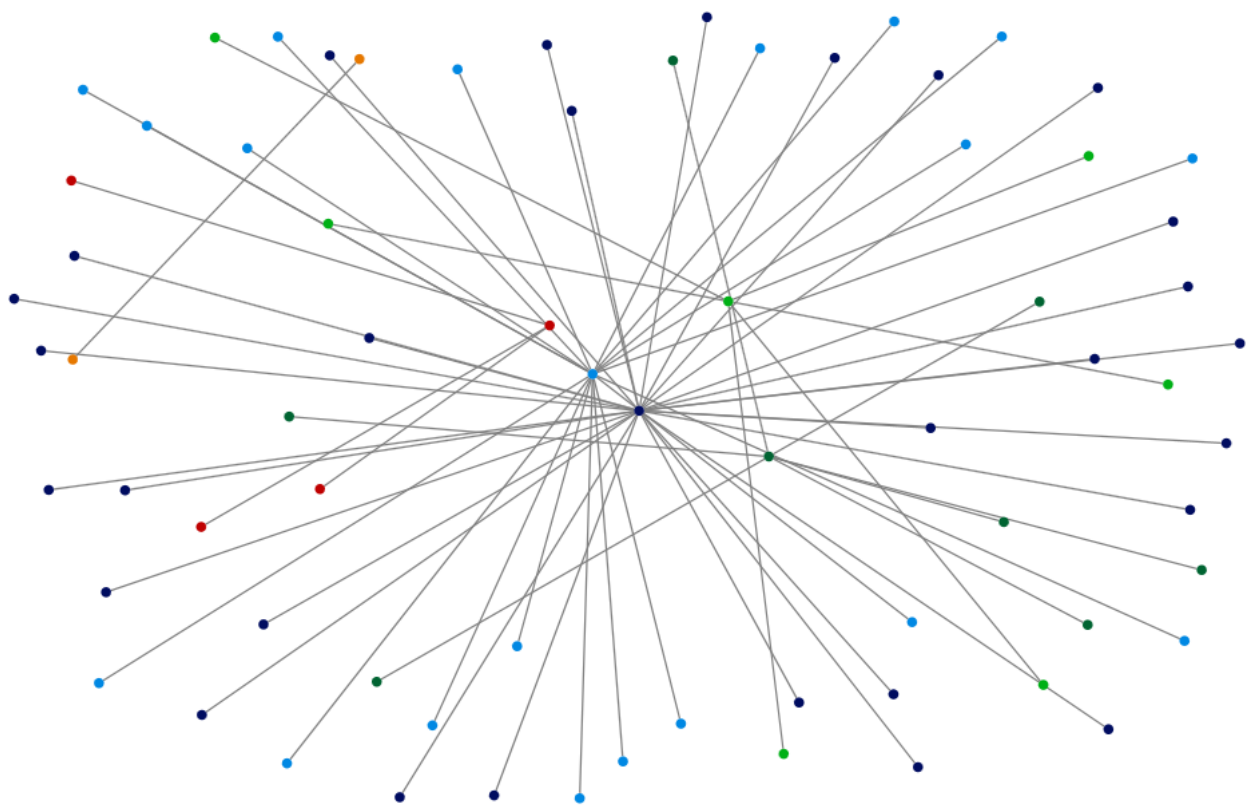


Fig 13. Fruchterman-Reingold Network 3 of Cemetery at Achaia Clauss Grouped by Economic Tier

The structure of this network (Fig. 13) indicated a presence of five distinct structural clusters, with the largest clusters (economic tiers 1, 2, and 3) holding a central placement within the overall network structure. This corresponded to the presence of three dominant socio-economic strata at the Achaia Clauss site as represented by the wealth accumulations of the burials within the cemetery. Following the data from this, five distinct and reliable clusters appeared within this network (Fig. 13) corresponding with the presence of economic tiers 1,2, 3, 4, and 6 with a range of “value” ranking from 0-30.00. In order to discern the internal variability within each of these clusters or economic tiers, three further networks were constructed of the three most prominent economic tiers with vertices representing the individual burials and their associated relative “values.” The first of these networks (Table. 20, Fig. 14) represented economic

tier 1, the second (Table. 21, Fig. 15) represented economic tier 2, and the third (Table. 22, Fig. 16) represented economic tier 3.

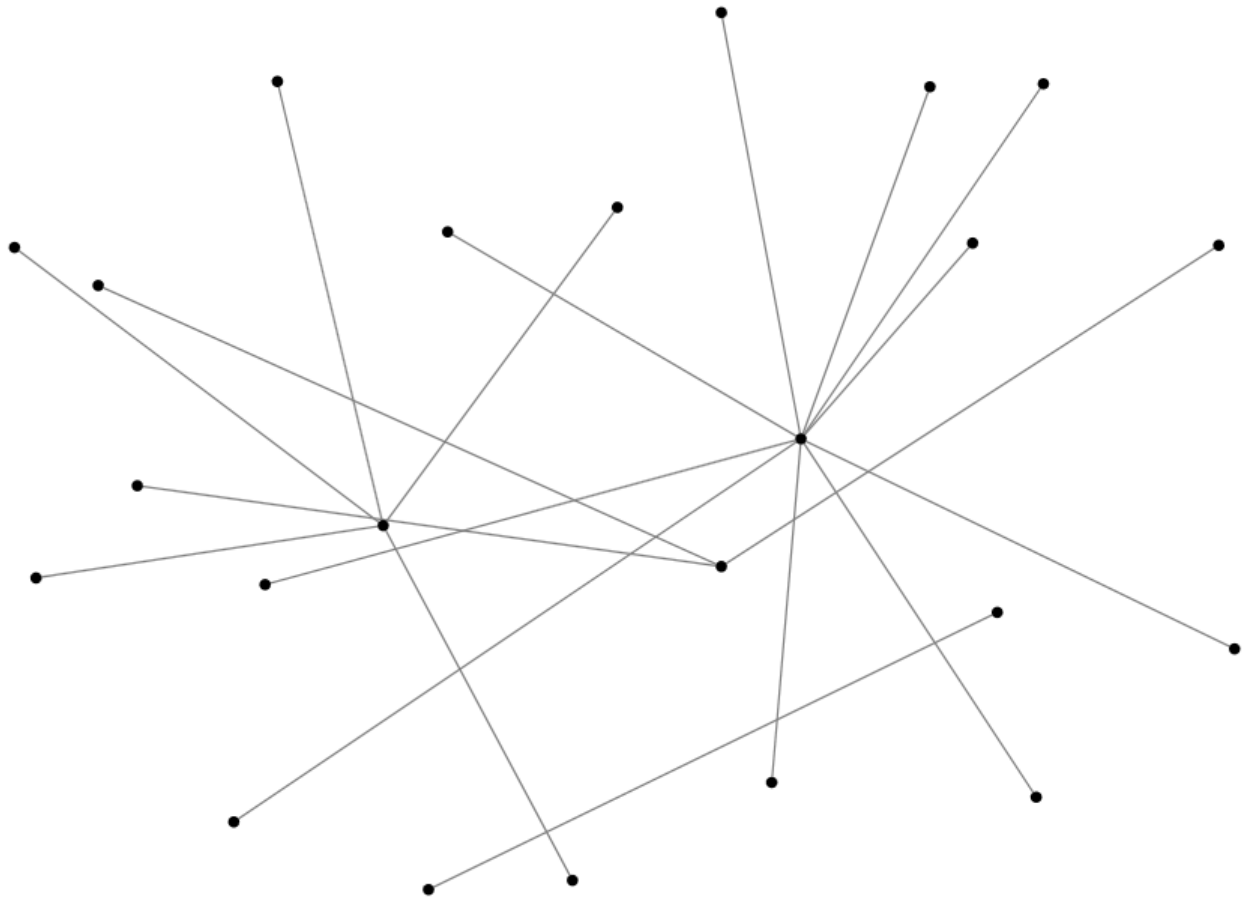


Fig 14. Fruchterman-Reingold Network 4 Showing Variability of Burials and Relative “Values” within Economic Tier 1 at the Cemetery at Achaia Claus

Tombs Within Economic Tier 1	No. of Burials Within Tomb	Relative “Value” of Individual Burials Based on Frequency of Raw Material Types
Δ	5	4.6
Za	1	3
Zb	3	1
N	10	4.7

Table 20. Tomb Groups and their Relative “Value” of Individual Burials within Economic Tier 1 at Achaia Claus

The structure of this network representing economic tier 1 (Fig. 14) contained a strong clustering of value groups which held a central placement within the overall network structure. This was strongly indicative of a regulated and centralized logic of consumption which created distinct groups within this socio-economic stratum. There was a similarity between burials and a homogeneity of relative value distribution within this network which indicated a homogeneity within the socio-economic stratum which corresponded with economic tier I. This homogeneity within prominent structural clusters implied a more regulated system of commodity circulation and distribution within economic tier 1.

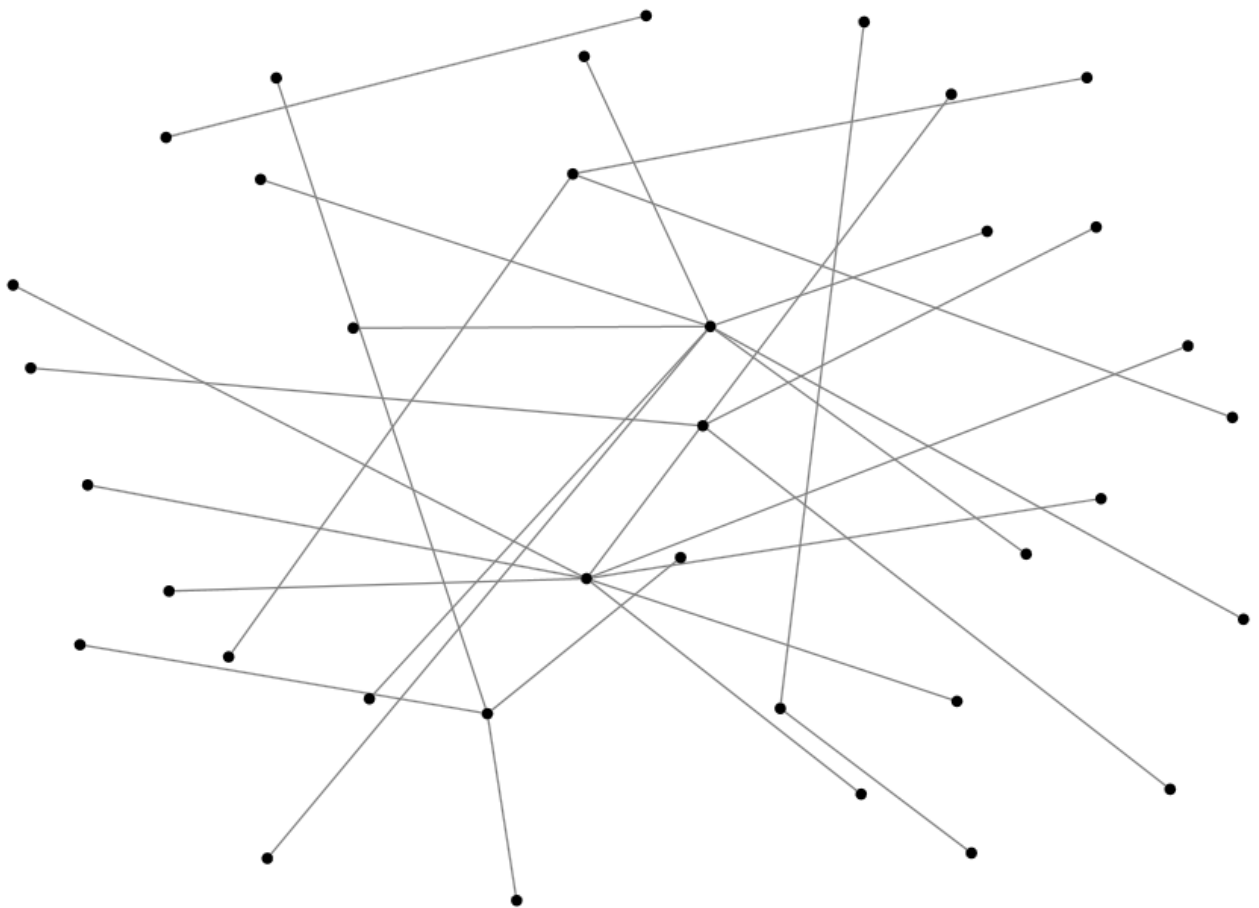


Fig 15. Fruchterman-Reingold Network 5 Showing Variability of Burials and Relative “Values” within Economic Tier 2 at the Cemetery at Achaia Claus

The structure of the network representing the burials and relative value distribution within economic tier 2 (Fig. 15) was similar to the network representing economic tier 1 (Fig. 14). There were distinct clusters of burials around those nodes which represented the corresponding relative value scores and were therefore also representative of a more regulated and centralized distribution of goods within the socio-economic stratum represented by economic tier 2.

Tombs Within Economic Tier 2	No. of Burials Within Tomb	Relative “Value” of Individual Burials Based on Frequency of Raw Material Types
A	4	5.5
B	8	8.25
Γ	2	9.5
ΣΤ	7	7.57
H	3	7.67
Λ	3	8.33
Mb	1	7

Table 21. Tomb Groups and their Relative “Value” of Individual Burials within Economic Tier 2 at Achaia Clauss

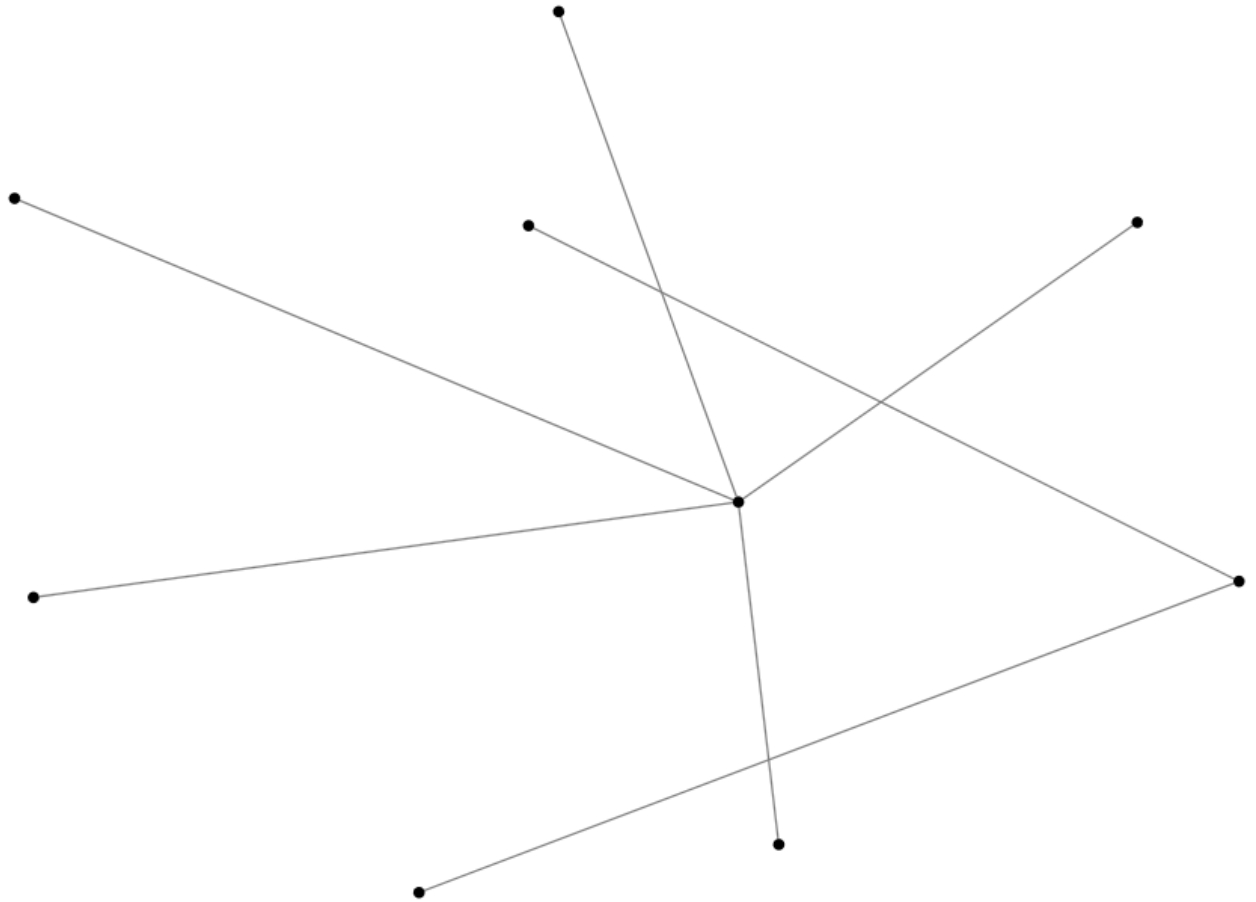


Fig 16. Fruchterman-Reingold Network 6 Showing Variability of Burials and Relative “Values” within Economic Tier 3 at the Cemetery at Achaia Claus

Tombs Within Economic Tier 3	No. of Burials Within Tomb	Relative “Value” of Individual Burials Based on Frequency of Raw Material Types
E	5	14.6
Ma	2	14.5

Table 22. Tomb Groups and their Relative “Value” of Individual Burials within Economic Tier 3 at Achaia Claus

The structure of the network representing economic tier 3 (Fig. 16) was slightly dissimilar in its overall network structure to those networks representing economic tiers 1 and 2 (Fig. 14, 15). Two distinct groups centered around the nodes designating relative value scores were discerned in the structure, with one taking a centralized position within

the overall structure and one which was less prominent and located on the periphery. This indicated a centralized distribution of commodities within the socio-economic stratum which corresponded with economic tier 3, yet one which was possibly less so than the centralization evident within economic tiers 2 and 3.

Group 6 (as indicated in Table. 24), representing economic tier 5, was excluded from further network analysis as it contained a majority of burials with an indiscernible amount of remains and was therefore deemed to be unreliable. The remaining economic tiers, although clearly present, did not include enough burials within them to conduct further network analysis yet were recorded as present in Tables. 23, 24, and 25.

Tombs Within Economic Tier 4	No. of Burials Within Tomb	Relative “Value” of Individual Burials Based on Frequency of Raw Material Types
⊖	6	16

Table 23. Tomb Groups and their Relative “Value” of Individual Burials within Economic Tier 4 at Achaia Clauss

Tombs Within Economic Tier 5	No. of Burials Within Tomb	Relative “Value” of Individual Burials Based on Frequency of Raw Material Types
I	1*	23

Table 24. Tomb Groups and their Relative “Value” of Individual Burials within Economic Tier 5 at Achaia Clauss

Tombs Within Economic Tier 6	No. of Burials Within Tomb	Relative “Value” of Individual Burials Based on Frequency of Raw Material Types
K	3	27.67

Table 25. Tomb Groups and their Relative “Value” of Individual Burials within Economic Tier 6 at Achaia Clauss

The results of the first Achaia Clauss Fruchterman-Reingold network (Fig. 11) indicated the presence of clusters of burials with similar or shared “values.” In order to substantiate and better discern these clusters, a second network (Fig. 12) was created which indicated the presence of 16 clusters comprised of the 16 recorded tomb groups (as recorded in Table. 19). This represented a distinct similarity between values for the recorded tomb groups, and a further network (Fig. 13) was created to better visualize the groupings. This network (Fig. 13) provided a more substantial clustering, with five major groups corresponding to economic tiers 1, 2, 3, 4, and 6 (as defined in Table. 18) becoming evident.

Achaia Clauss Summary

- An initial network representing all burials and nodes designating relative value scores indicated a strong clustering of network groups.
- A second network showing shared components substantiated this observation of distinct structural clusters based on shared relative value scores.
- Subsequently, a third network which grouped burials into groups based upon economic tiers acting as a proxy for different socio-economic strata at the site was formulated. Three distinct structural clusters were discerned (economic tiers 1, 2, and 3) which indicated three possible socio-economic strata within the population represented by the cemetery at Achaia Clauss. Ten other burials were found to represent higher distinct economic tiers (4, 5, and 6), yet did not belong to a structural cluster. The presence of economic tier 5, however, was not deemed to be reliable as tomb group I contained an indiscernible amount of remains.

- The structure of the network representing economic tier 1 (Fig. 14) indicated a strong presence of distinct structural clusters and implied a centralized and regulated logic of consumption and wealth accumulation which was mostly homogeneous.
- The structure of the network representing economic tier 2 (Fig. 15) contained a strong presence of distinct structural clusters and also implied a centralized and regulated logic of consumption and wealth accumulation.
- The structure of the network representing economic tier 3 (Fig. 16) contained a presence of two structural clusters, yet with one which was more centralized than the other. This implied a regulated distribution of commodities within the socio-economic stratum corresponding to economic tier 3, yet one which was less centralized than those strata represented by economic tiers 1 and 2.

Perati SNA Results

Perati was a post palatial site which was occupied following the collapse of the Late Bronze Age states (Murray 2018). As the palatial states usually present during the Late Helladic had already collapsed by the earliest phase of the cemetery at Perati (Murray 2018: 34), normal redistributive models (Galaty et al. 2011) of Mycenaean economic organization and its subsequent stratification are not applicable here.

Alternative models of economic exchange must then be considered which lie outside of palatial redistribution, such as Parkinson et al.'s (2013) hypothesis regarding the existence of regional markets in the Late Bronze Age Aegean. Taking the existence of these proposed regional markets as a point of departure, the present analysis assumes the

continuation of this prehistoric market exchange into the post palatial era and seeks to discern if such a form of exchange led to the differential distribution of wealth at the Perati site.

The relative “values” of the ≈ 130 buried individuals in the 42 published tomb groups were calculated and recorded (Table 26.) along with the associated tomb group and the number of individuals buried within each tomb group for input into the network software NodeXL Basic (Smith et al. 2010) to construct various Fruchterman-Reingold force-directed networks.

Tomb Group	No. of Burials in Tomb	Relative “Value” of Individual Burials Based on Frequency of Raw Material Types
104	1*iii	6
100	4	1.25
34	4	3.5
90	4	3.5
25	4	3.5
24	1	4
9	3	4.33
30a	2	10
142	5	7.2
1	8	6.75
11	2	8
152	4	7.75
147	5	12
157	3	13
49	1	1
28	1	2
38	6	4.33
30	3	6.33
75	8	6.125
145	8	6.25
13	6	16
12	1*	82
106	2	1.5
121	1	2
126	1	2
129	1	2

132	1	2
114	2	2.5
122	4	2.75
133	1	3
113	3	3.33
123	4	4.25
110	1	6
124	3	5.33
125	1	6
131	4	4.75
112	1*	17
127	6	3
111	9	3.22
128	1*	26
130	1	15
108	1*	42

Table 26. Data input for a Network Analysis of the cemetery at Perati with Tomb Groups and associated individuals and the calculated relative “value” of each individual burial.²

First, a network (Fig. 17) representing a general overview of the distribution of “value” at the site was created, and clusters or groups of burials corresponding to a similar relative “value” group were observed. The structure of this network contained a presence of structural clusters of burials at the periphery of the overall network structure

² Tomb Groups and No. of Burials from Murray (2018)

around the central nodes representing relative value scores.

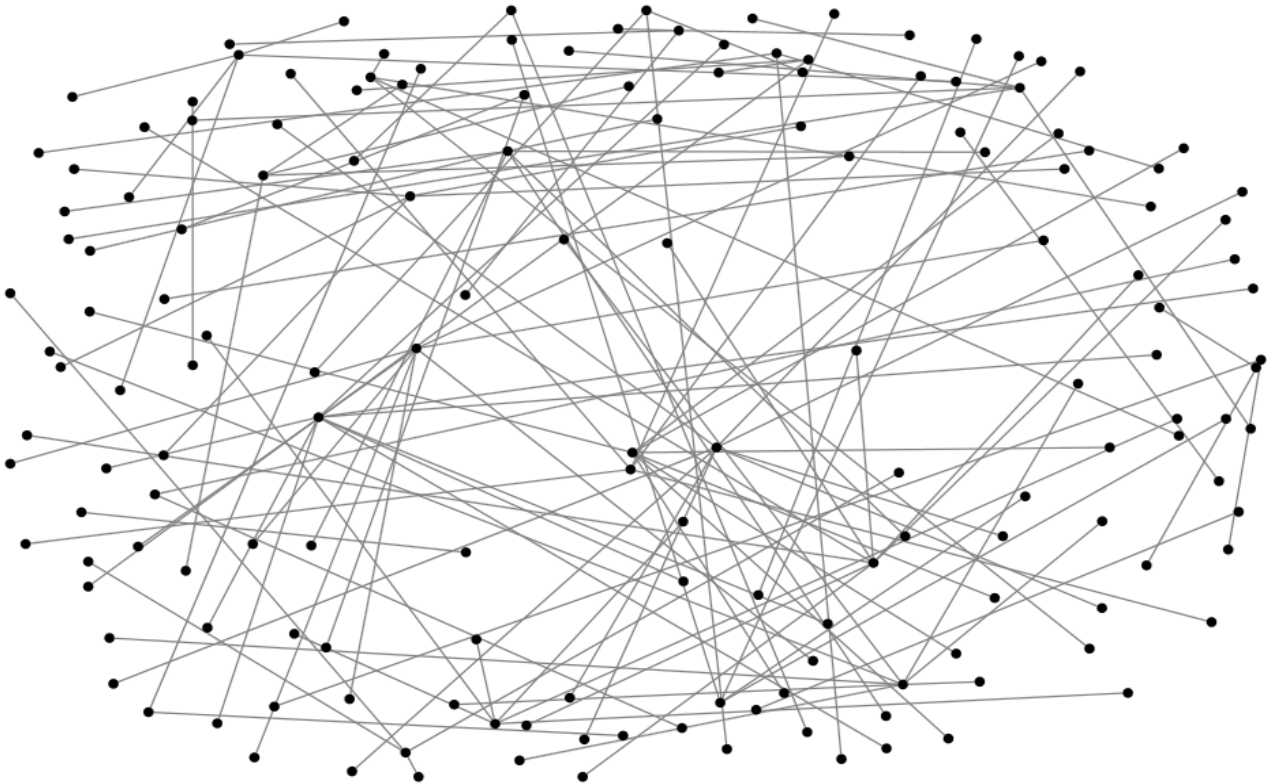


Fig 17. Fruchterman-Reingold Network 1 of Individual Burials and Relative “Values” at the LHIIC Cemetery at the Perati site

In order to better visualize these clusters, the original network was grouped by a connected component, the relative value groups, and subsequently a second network (Fig. 18) was created with the data corresponding to the network 2 (Fig. 18) groups being recorded in Table 27. Of the ≈ 130 burials, 32 distinct relative value groups were observed.

Noticing a clustering of value, a system of grouping the individuals and their relative value into economic tiers was formulated (Table. 27), ascending in value increments of 5.0 to accommodate the range observed within the cemetery.

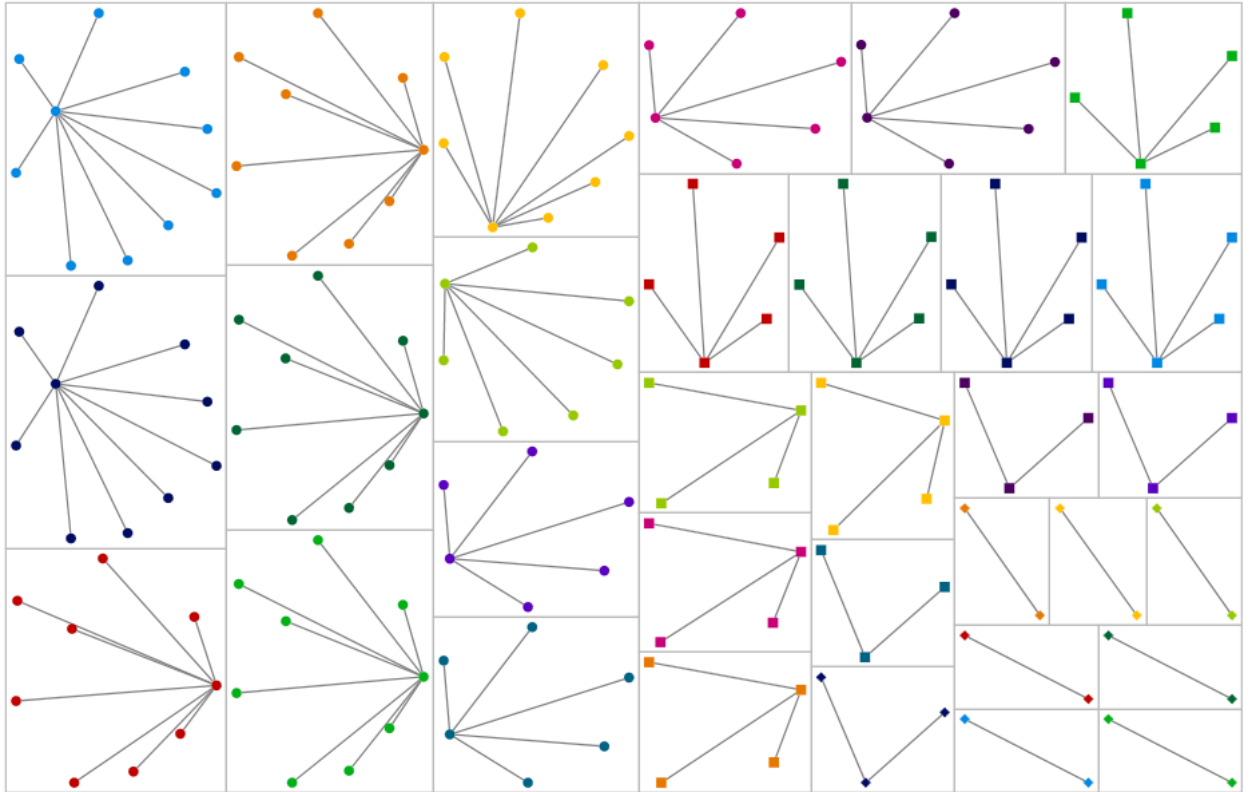


Fig 18. Fruchterman-Reingold Network 2 of Cemetery at Perati Grouped by Connected Component (Relative “Value”)

Network 2 Group	Tombs Within Network Group	Relative “Value” Represented
G1	9, 38	3.22
G2	111	4.33
G3	145	6.25
G4	1	6.75
G5	75	6.13
G6	34, 90	3.5
G7	127, 133	3
G8	13	16
G9	121, 28	2
G10	25, 104, 110, 125	6
G11	147	12
G12	142	7.2
G13	131	4.75
G14	123	4.25
G15	100	1.25
G16	122	2.75
G17	152	7.75
G18	157	13

G19	113	3.33
G20	124	5.33
G21	30	6.33
G22	30a	10
G23	11	8
G24	114	2.5
G25	106	1.5
G26	128*	26
G27	130	15
G28	108*	42
G29	49	1
G30	12*	82
G31	24	4
G32	112*	17

Table 27. Groups Defined by Network 2 by Connected Component (Relative “Value”)

Individual burials within tomb groups were assigned an economic tier based upon their relative values compared against the tier criteria (Table. 28). The economic tiers corresponding to the tomb groups were then recorded (Table. 29) and subsequently a third network (Fig. 19) was created consisting of vertices representing the individual burials and their assigned economic tier.

Economic Tier by Relative “Value”	Tier Increments
1	0-5.0
2	5.0-10.0
3	10.0-15.0
4	15.0-20.0
5	20.0-25.0
6	25.0-30.0
7	30.0-35.0
8	35.0-40.0
9	40.0-45.0
10	45.0-50.0
11	50.0-55.0
12	55.0-60.0
13	60.0-65.0
14	65.0-70.0
15	70.0-75.0
16	75.0-80.0
17	80.0-85.0

Table 28. Criteria for “Economic Tiers” within the Cemetery with a Relative “Value” Range of 0-85.0 defined by Increments of 5.0

Network 3 Group	Economic Tier Represented	Tombs Within Network Group
G1	1	100, 34, 90, 24, 9, 49, 28, 38, 106, 121, 129, 132, 114, 122, 133, 113, 123, 131, 127, 111
G2	2	104*, 30a, 142, 1, 11, 152, 30, 75, 145, 110, 124, 125
G3	3	130, 147, 157
G4	4	13, 112*
G5	9	108*
G6	6	128*
G7	17	12*

Table 29. Groups Defined by Network 3 and Economic Tiers Represented by Groups

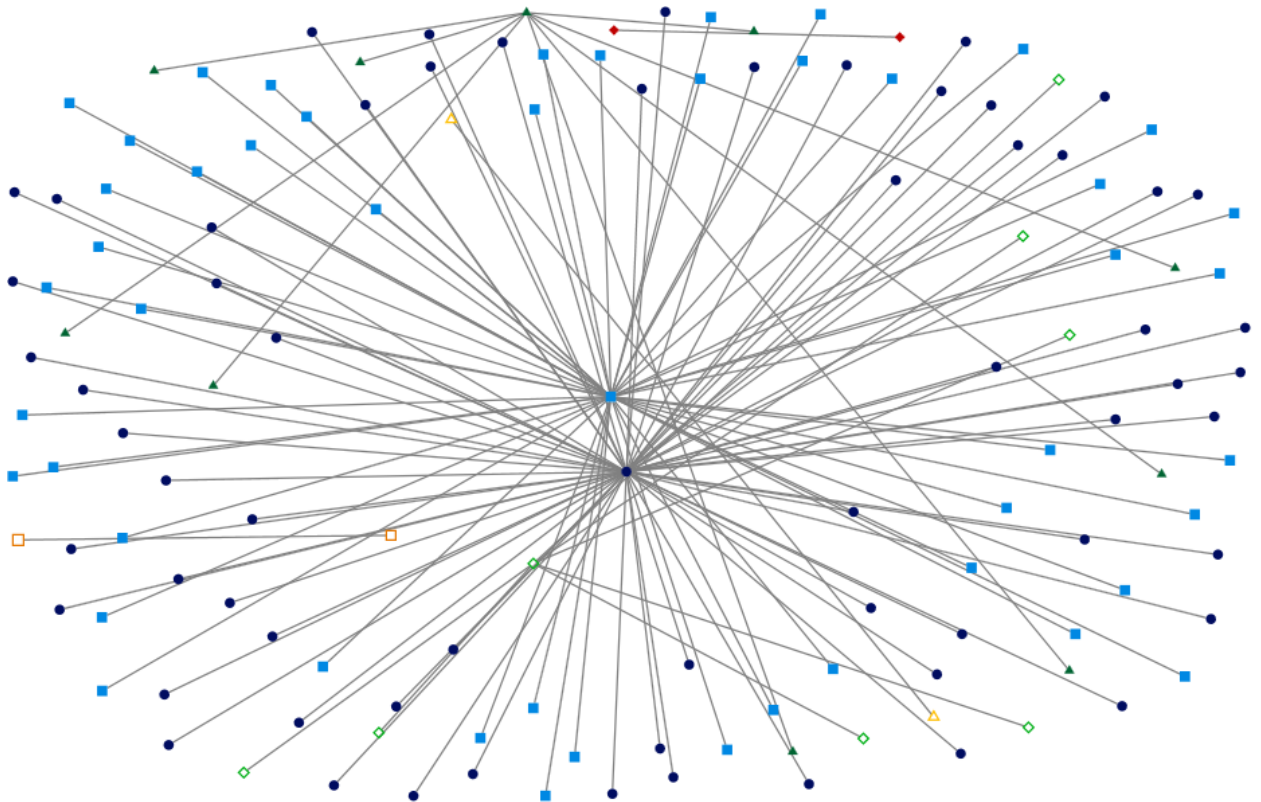


Fig 19. Fruchterman-Reingold Network 3 of Cemetery at Perati Grouped by Economic Tier

Following the data from this, three major distinct clusters appeared within this network (Fig. 19) corresponding with the presence of economic tiers 1,2, and 3 with a range of “value” ranking from 0-15.00. The structure of this third network (Fig. 19) revealed a central position of those nodes which represented economic tier 1 and economic tier 2, with a third node which represented economic tier 3 located on the upper periphery of the overall network structure. The centrality of the nodes which represented economic tier 1 and economic tier 2 indicated a higher concentration of individual burials attached to these nodes, and therefore implied the socio-economic strata associated with economic tier 1 and economic tier 2 contained within them a higher portion of the population at Perati as represented by the cemetery at the site. The less prominent position of the node which represented economic tier 3 implied a smaller portion of the population at Perati had a higher accumulation of semiotic wealth with higher relative scores distributed among those within the corresponding socio-economic stratum.

In order to discern the internal variability within each of these clusters or economic tiers, three further networks were constructed with vertices representing the individual burials and their associated relative values. The first of these networks (Table. 30, Fig. 20) represented economic tier 1, the second (Table. 31., Fig. 21) represented economic tier 2, and the third (Table. 32, Fig. 22) represented economic tier 3. Groups 4,5,6, and 7 (as indicated in Table. 29) were excluded from further network analysis as they contained a majority of burials with an indiscernible amount of remains and were therefore deemed to be unreliable.

Tomb Groups within Economic Tier 1	No. of Burials in Tomb	Relative “Value” of Individual Burials Based on Frequency of Raw Material Types
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100	4	1.25
34	4	3.5
90	4	3.5
24	1	4
9	9	4.33
49	1	1
28	1	2
38	6	4.33
106	2	1.5
121	1	2
129	1	2
132	1	2
114	2	2.5
122	4	2.75
133	1	3
113	3	3.33
123	4	4.25
131	4	4.75
127	6	3
111	9	3.22
25	4	3.5

Table 30. Tomb Groups and their Relative “Value” of Individual Burials within Economic Tier 1 as Represented by Network 4

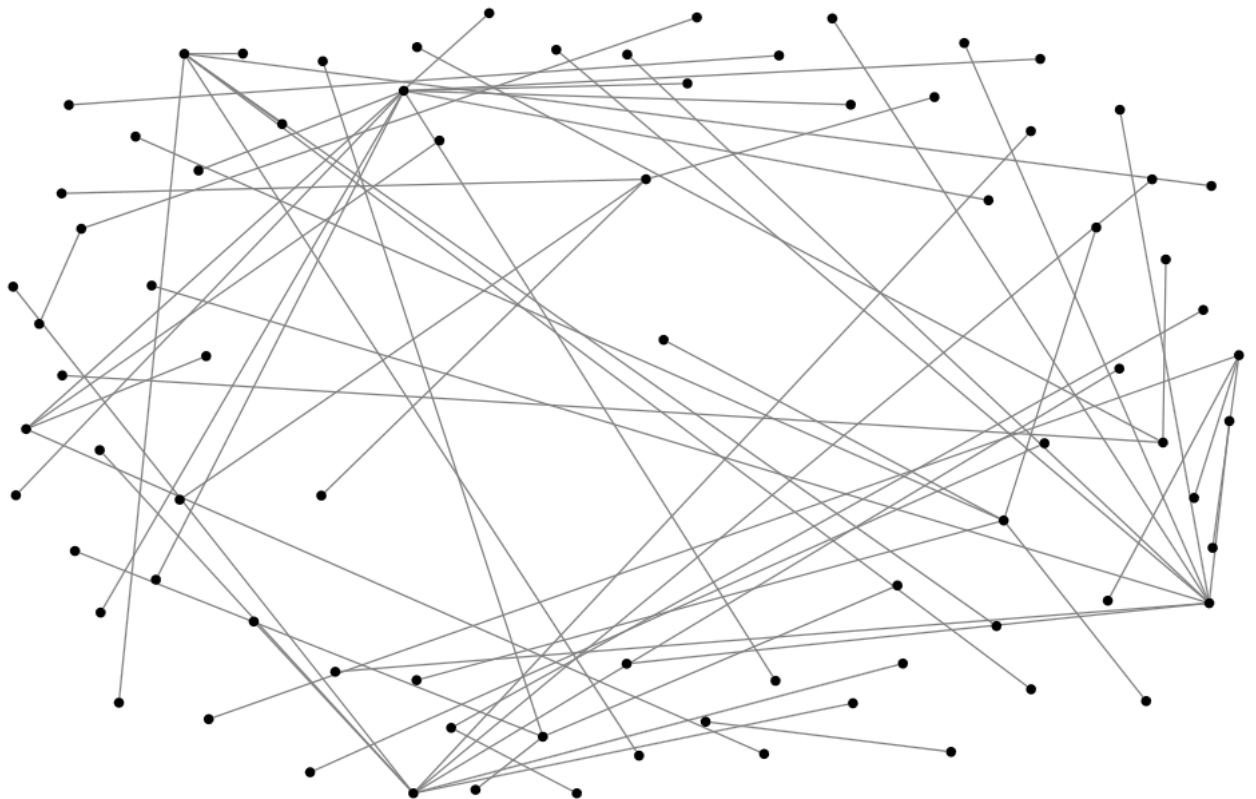


Fig 20. Fruchterman-Reingold Network 4 Showing Variability of Burials and Relative “Values” within Economic Tier 1 at the Cemetery at Perati

The structure of the network representing economic tier 1 (Fig. 20) displayed a loose clustering around the periphery of the overall network structure, with the center of the network remaining largely empty. This indicated a more heterogeneous structure to the wealth accumulation as represented by the relative value nodes, with definite but distinct structural clusters. This was evident of a distinction of groups within this socio-economic stratum, yet in a way which did not indicate a regulated stratification. No group holds a central position within the network structure. Instead of a few centralized groups, the network representing economic tier 1 (Fig. 20) contained several smaller groups confined to the periphery of the structure. This was indicative of a decentralized logic of consumption which did not seem to be regulated, yet which distinguished smaller clusters of individuals with varying accumulations of wealth.

Tomb Groups within Economic Tier 2	No. of Burials in Tomb	Relative “Value” of Individual Burials Based on Frequency of Raw Material Types
104	1*	6
30a	2	10
142	5	7.2
1	8	6.75
11	2	8
152	4	7.75
30	3	6.33
75	8	6.125
145	8	6.25
110	1	6
124	3	5.33
125	1	6

Table 31. Tomb Groups and their Relative “Value” of Individual Burials within Economic Tier 2 as Represented by Network 5

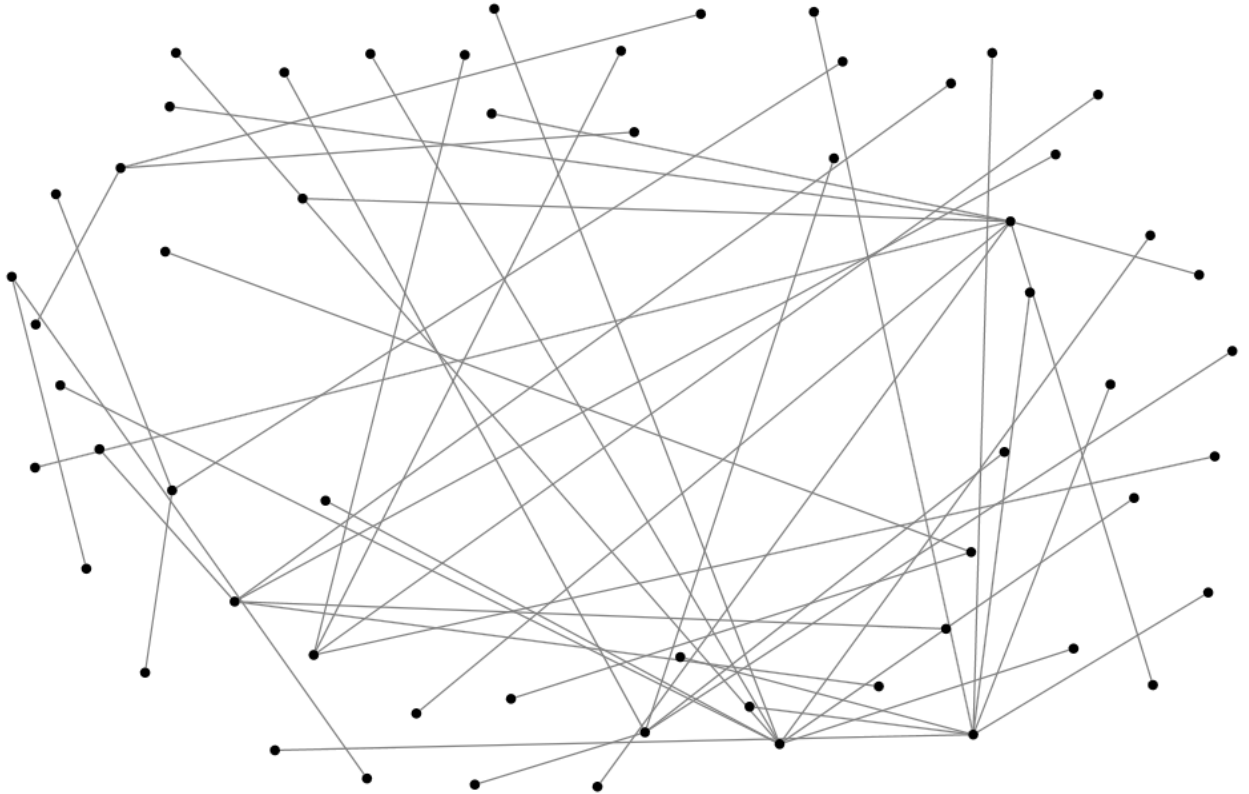


Fig 21. Fruchterman-Reingold Network 5 Showing Variability of Burials and Relative “Values” within Economic Tier 2 at the Cemetery at Perati

The structure of the network representing economic tier 2 (Fig. 21) showed a similar structure to that discerned from the network representing economic tier 1 (Fig. 20). A loose clustering around the periphery of the overall network structure was observed here, with the center of the network remaining empty of any centralized nodal group. This indicated a more heterogeneous structure to the wealth accumulation as represented by the relative value nodes, with definite but distinct structural clusters. This was evident of a distinction of groups within this socio-economic stratum, yet in a way which did not indicate a regulated stratification. As with the network representing economic tier 1 (Fig. 20), no group holds a central position within this network structure. Instead of a few centralized groups, the network representing economic tier 2 (Fig. 21) contained several smaller groups confined to the periphery of the structure. This was

indicative of a decentralized logic of consumption which did not seem to be regulated, yet which distinguished smaller clusters of individuals with varying accumulations of wealth. The similarities between the structure of the economic tier 1 network (Fig. 20) and the economic tier 2 network (Fig. 21) indicate a continuous logic of consumption within these two socio-economic strata, with only differing levels of wealth accumulation distinguishing them.

Tomb Groups within Economic Tier 3	No. of Burials in Tomb	Relative “Value” of Individual Burials Based on Frequency of Raw Material Types
130	1	15
147	5	12
157	3	13

Table 32. Tomb Groups and their Relative “Value” of Individual Burials within Economic Tier 3 as Represented by Network 6

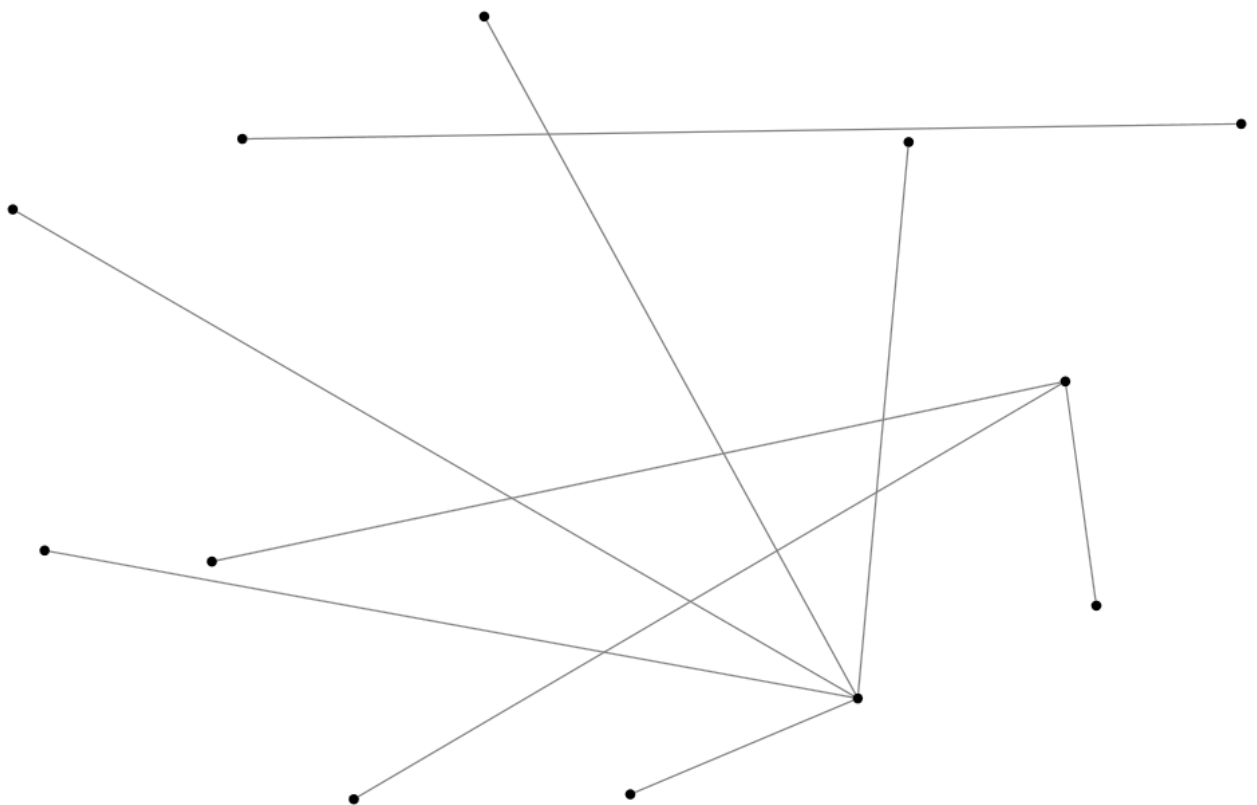


Fig 22. Fruchterman-Reingold Network 6 Showing Variability of Burials and Relative “Values” within Economic Tier 3 at the Cemetery at Perati

The structure of the network representing economic tier 3 (Fig. 22) displayed two distinct clusters of burial groups, neither of which held a central position in the overall structure. One further burial with a higher relative value score than these clusters was also confined to the periphery, yet which did not belong to any structural cluster. The structure of the network representing economic tier 3 (Fig. 22) held no centralized structural clusters, and instead had two distinct groups existing at the periphery. This was indicative of a more deregulated logic of consumption, similar to that of economic tier 1 and economic tier 2, which differentiated burial groups, yet which did seem to be centralized in any fashion.

The results of the first Perati Fruchterman-Reingold network (Fig. 17) indicated the presence of clusters of burials with similar or shared values. In order to substantiate and better discern these clusters, a second network (Fig. 18) was created which indicated the presence of 31 clusters comprised of the 42 recorded tomb groups (as recorded in Table. 27). This represented a distinct similarity between values for the recorded tomb groups, and a further network (Fig. 19) was created to better visualize the groupings. This network (Fig. 19) provided a more substantial clustering, with three major groups corresponding to economic tiers 1, 2, and 3 (as defined in Table. 28) becoming evident. Group one, corresponding to economic tier 1, contained 64 burials. Group two, corresponding to economic tier 2, contained 48 burials. Group three, corresponding to economic tier 3, contained 9 burials. As previously stated, groups 4,5, and 6 (recorded in Table. 29) were excluded from further analysis on the grounds that they contained an

indiscernible amount of remains and were therefore deemed unreliable for analysis. Three further networks (Fig. 20, Fig. 21, Fig. 22) were created to determine the internal variability within each group.

Perati Summary

- An initial network representing all burials and nodes designating units of wealth indicated a clustering of network groups around the central nodes representing differing relative value scores.
- A second network showing shared components substantiated this observation of minimal clustering and grouped the ≈ 130 burials into 32 network groups based on shared values of units of wealth.
- Subsequently, a third network which grouped burials into groups based upon economic tiers acting as a proxy for different socio-economic strata at the site was formulated. Three distinct structural clusters were discerned (economic tiers 1, 2, and 3) which indicated three possible socio-economic strata within the population represented by the cemetery.
- The structure of the network representing economic tier 1 (Fig. 20) indicated a strong clustering around the periphery with no structural clusters holding a central position. This seemed to imply a decentralized logic of consumption and wealth accumulation which was mostly heterogeneous and generated a differentiation among burials which belonged to a similar social standing.
- The structure of the network representing economic tier 2 (Fig. 21) was almost identical to that observed in the network representing economic tier 1 (Fig. 20) in

its patterning. This seemed to imply a similar logic of consumption as well, which was decentralized, heterogeneous, and which differentiated smaller subgroups among burials of a similar social standing.

- The structure of the network representing economic tier 3 (Fig. 22) contained two distinct structural clusters, neither of which held a central position. This was indicative of a more deregulated logic of consumption which differentiated burial groups, in a similar fashion to economic tier 1 and economic tier 2, yet which did not seem to be centralized in any fashion.

DISCUSSION

A Comparison of the Three Network Groups and Their Implications

The results of the three network groups (Mycenae Grave Circles A&B, Achaia Clauss, and Perati) are each indicative of the economic rationality of consumptive practices at each of the three corresponding sites. The network structure of Mycenae Grave Circles A&B, a strictly palatial site comprised solely of elite burials, indicated a decentralized logic of consumption which was heterogeneous in nature. Only two prominent structural clusters were present, and each economic tier represented thereafter were represented by a single burial each. Within the elite social stratum at Mycenae, the network results seemingly suggested a plurality of differing wealth accumulations with minimal shared components by which to form a group identity. This could in fact be a direct result of the record's bias, as the represented burials as a whole could have existed as a singular elite group identity with slight internal variations of wealth accumulation. The elite palatial group represented by Grave Circles A&B was probably of a singular socio-economic class which contained within it a logic of internal variability when compared against itself, yet which might appear homogenous in comparison to a site with a broader representation of the total stratification of Mycenaean society (i.e., a record which contains elite and non-elite burials). Achaia Clauss, on the other hand, was a site which contained a comprehensive sample of differing socio-economic strata and whose

networks implied a centralized, and highly regulated logic of consumption which formed structural clusters that were homogenous within each of its three most prominent economic tiers (economic tiers 1, 2, and 3). Placed in the context of the palatial redistribution which occurred at the site, it can be strongly inferred that this is the result of the palatial administration dictating the differential distribution of wealth to the various socio-economic strata at the Achaia Clauss site. The centralized logic of wealth accumulation at the site is most likely the result of the economic rationality of a central palace system distributing wealth to the wider non palatial populace which was situated within its influence. Overall, there is strong evidence of a regulated consumption and distribution of goods at the Achaia Clauss site. The Perati network group, similar to the Achaia Clauss group, was comprised of a broad sample of burials in which several social strata were present. Like the Achaia Clauss network group, the results indicated three major structural clusters representing burials belonging to economic tiers 1, 2, and 3. This being said, the highest economic tier present at Achaia Clauss (a single tomb group containing three burials which belonged to economic tier 6) was twice as much as the highest economic tier present at Perati (economic tier 3). Three major structural clusters were discerned from the Perati network group though in a similar fashion to the Achaia Clauss results. Though, while the networks at Achaia Clauss seemed to imply a regulated and centralized logic of commodity distribution, the networks at Perati indicated a heterogenous clustering in which no relative value group held a central position within the overall structure of the networks representing individual economic tiers (Fig. 20, Fig. 21, and Fig. 22). Placed in the context of the collapse of the Bronze Age states which occurred before the earliest phase of the Perati cemetery, this would align with the

dissolution of the centralized palatial redistribution system. What is curious though is the continuation of an almost exact social stratification which existed during the palatial era as represented by the Achaia Clauss network series. If there was a complete overhaul and shift to a new economic system at the Perati site, why was an almost identical logic of social differentiation as that found at the palatial Achaia Clauss site present? There must have been a continuation of a circulation practice between the two sites which linked them, and therefore implying the presence of an alternative mode of consumption which existed outside of the palatial system of redistribution. The logic of social stratification within this para-redistributive form of exchange must have persisted after the collapse of the state and its practice of redistribution into a post-redistributive form of exchange which was identical to that mode of exchange which existed alongside redistribution during the palatial era.

“Market” Exchange versus Para-Redistributive and Post-Redistributive Consumption

Several scholars (Halstead 1992; Schon 2011; Pullen 2013; Lupack 2011; Parkinson et al. 2013; Galaty et al. 2011) in recent years have focused on the plurality of exchange mechanisms which might have existed outside the sphere of redistributive consumption during the palatial era. They instead propose a market model whereby aggrandizing craftspeople and elites interacted and competed outside the purview of the palatial centers to exchange goods in strategies of accumulating economic wealth and social prestige (Pullen 2013; Hruby 2013). From this perspective, the palace becomes an actor within a market whose strategies of redistribution are in itself a form of consolidating power in the face of competition with emerging elite classes (Pullen 2013).

Although the emphasis on alternative exchange models is an overwhelmingly positive direction in the study of Mycenaean political economies as a strong critique of rigid typological models which subsume the particularities of a given society, there are problems inherent with this research which undermines its position. To fully grasp Mycenaean economic rationality, one must describe the Mycenaean economy on the basis of its particular and historically determined relations. In an attempt to challenge the rigidity of typological models, market proponents characterize any exchange outside of palatial redistribution as market exchange which carries with it a host of theoretical presuppositions which are difficult to validate and which subsumes particular economic relations in the same capacity as a rigid redistributive approach. Markets, in both the substantivist and formalist approaches, are disembodied structures with value systems based on competing social actors who seek to maximize profit. Proponents of the market hypothesis, such as Julie Hruby (2013), suggest a “mixed palatial economy” whereby several craftspeople competed on Mycenaean labor markets and where makeshift forms of currency comprised of prestigious commodities (such as olives and wine) that were exchanged with standard equivalencies. Two problems arise from such a position. First, the conception of a market which is projected onto the Mycenaean political economy by market proponents is a projection of conceptions which surround modern thinking about the way present day markets function, whereby modern market categories are reproduced in a series of presuppositions about the way markets are theoretically supposed to function. This includes the separation of human economies from major social institutions such as the state where individual social actors engage in self-aggrandizing strategies for accumulating wealth in a purely economic setting. In alternative market theories, there is

a hazard of completely divorcing the social agent from the basic framework of a society of which major social institutions are reflecting and reproducing entities. Although para-redistributive strategies of exchange may have existed outside of the direct mechanisms of the Mycenaean palatial system, this does not mean that these strategies were divorced from the social structuring which occurred through the palace and its systems of redistribution. This being said, para-redistributive and post-redistributive forms of consumption may occur outside the confines of redistribution, but this does not imply in any capacity that these forms of consumption were inherently mercantile. This leads to the second problem about the logistical practices of alternative market theories, which refers to how exactly did exchange occur in the absence of a universal equivalent? Some sort of currency or universal equivalent by which to measure standard equivalencies of value is oftentimes a defining feature in the functioning of markets. Yet if there is no such commodity by which to measure value present in the Mycenaean record then how can social actors participate and compete on a market of individual relations? Hruby (2013) suggests in response to this major gap that either the development of a makeshift currency with standard equivalencies through prestige goods or else an advanced form of barter occurred. Though since the time of Marcel Mauss (2000) such theories of barter and proto-currency have largely declined in popularity among anthropologists for the principal reason that there is no evidence for the existence of within-barter economies anywhere in the historical or ethnographic record (Graeber 2004; 2021). Instead, anthropologists have found the idea that actors in a society without currency engage in competing market economies where the goal is the maximization of individual profit to be largely false, and instead have shown that these actors almost always form gift-

economies or exchange using complex systems of credit and debt which do not allow for the accumulation of profit in the way a formalist or substantivist model of market exchange might suggest (Graeber 2004; 2021). This being said, it is almost wholly obvious from the archaeological record that there was indeed a plurality of exchange types which existed outside of the redistributive mechanisms present in Mycenaean society. In order to bypass the theoretical connotations which accompany the term “market,” I propose the terms para-redistributive and post-redistributive consumption be used as they describe an exchange which occurs alongside redistribution or after it but which do not carry any theoretical connotation with them. The network analyses associated with the Perati site confirm the continuation of some sort of consumptive exchange with a similar logic of stratification discerned from the networks associated with the cemetery at Achaia Clauss, which lies firmly in the palatial era of redistribution. Yet the LHIIIC phase of Perati dates to after the collapse of the Bronze Age States, and therefore when there were no administrative centers to oversee redistribution, so a form of exchange which existed alongside redistribution must have continued on. Furthermore, a similar stratification of wealth associated with redistributive and para-redistributive exchange occurred with post-redistributive consumptive practices as well. This can be seen in the consolidation of semiotic wealth in the prestige model networks into three main economic tiers for both Perati and Achaia Clauss. This similarity implies a reproduction at Perati of an economic rationality which was already present at the Achaia Clauss site. Not only were the stratifications of wealth similar between both sites, but the differentiation of social personae of actors occupying the sites was similar as well. There was a continuation of recording the social personae upon the fabric of the Mycenaean

socius within the economic process through similar forms of consumption which can not be wholly or exclusively be explained through redistribution, as redistribution had ceased to exist at Perati. In the absence of this occurring solely through redistribution, one must consider the possibility of exploring the almost certain possibility that redistribution was not the sole form of exchange in the palatial era. It can be seen from the accumulations of culturally significant commodities acting as objects of consumption that the social differentiation of agents occupying Perati and Achaia Clauss continued, and therefore it must be inferred that the economic rationality which reproduced this differentiation was itself reproduced after the collapse of the Mycenaean redistributive system by the agents it differentiated. Thus, at both the social and economic level there is substantial evidence for a continuation of an economic rationality which included a plurality of exchange types.

CONCLUSION

The economic rationality of the Mycenaean political economy included several forms of exchange, all of which had unique effects on determining and reproducing the social personae of the economic actors at all levels on the LH mainland. Within the network groups produced from cemeteries at Mycenae Grave Circles A&B, the Achaia Clauss site, and the Perati site there was shown to be a continuation of a differentiating social logic after the fall of the palaces and the economic system of redistribution on the LH mainland. This substantiates the position that there were in fact alternative modes of exchange which existed outside of palatial redistribution, and challenges previous “top-down” models of the Mycenaean political economy in which the palace dominated every aspect of Mycenaean economic life. Prestige model networks allow for a study of this differentiation and reproduction on a social and economic level and can gain improved accuracy when applied on a wide regional scale. The inclusion of further sites into such models can allow for a broader analysis of social stratification present in prehistoric political economies.

REFERENCES

Althusser, Louis

2008 *On Ideology*. Verso, London.

Barthes, Roland.

1977 *Elements of Semiology*. Hill and Wang, New York.

Baudrillard, Jean.

1981 *For a Critique of the Political Economy of the Sign*. Telos Press, St. Louis.

Borgna, Elisabetta.

2004 Aegean Feasting: A Minoan Perspective. *Hesperia* 73 (2): 247-279.

Bourdieu, Pierre.

1996 Physical Space, Social Space and Habitus. *Instituut for Sosiologi og Samfunnsgeografi*: 1-22.

Bourdieu, Pierre,

2002 The Forms of Capital. In *Readings in Economic Sociology*, edited by Nicole Woolsey Biggart, pp. 241-258. Blackwell Publishers, Massachusetts.

Bourdieu, Pierre

2020 *On the State: lectures at the college de France, 1989 - 1992*. Polity Press, S.I.

Cosmopoulos, Michael B.

2006 The Political Landscape of Mycenaean States: A-pu2 and the Hither Province of Pylos. *American Journal of Archaeology* 110(2): 205–228.

Cosmopoulos, Michael B.

2019 State Formation in Greece: Iklaina and the Unification of Mycenaean Pylos. *American Journal of Archaeology* 123(3): 349–380.

Dabney, Mary K., Paul Halstead, and Patrick Thomas

2004 Mycenaean Feasting on Tsoungiza at Ancient Nemea. *Hesperia* 73(2): 197–215.

Deleuze, Gilles, and Guattari Félix

2009 *Anti-Oedipus: capitalism and schizophrenia*. Penguin, London.

Earle, Timothy K.

- 2019 *An Essay on Political Economies in Prehistory*. Eliot Werner Publications, Clinton Corners.
- Evans, T.S., R.J. Rivers, and C. Knappett.
2012 Interactions in Space for Archaeological Models. *Advances in Complex Systems* 15 (1&2): 1-17.
- Galaty, Michael L., Dimitri Nakassis, and William A. Parkinson
2011 Redistribution in Aegean Palatial Societies. Introduction: Why Redistribution?. *American Journal of Archaeology* 115(2): 175.
- Godelier, Maurice.
1977 *Perspectives in Marxist anthropology*. Cambridge University Press, Cambridge.
- Godelier, Maurice.
1999 *The enigma of the gift*. University of Chicago Press, Chicago.
- Godelier, Maurice.
2012 *Rationality and Irrationality in Economics*. Verso, London.
- Graeber, David
2004 *Fragments of an Anarchist Anthropology* . Prickly Paradigm Press, Chicago.
- Graeber, David
2021 *Debt: the first 5,000 years*. Melville House, Brooklyn.
- Graziadio, Giampaolo
1991 The Process of Social Stratification at Mycenae in the Shaft Grave Period: A Comparative Examination of the Evidence. *American Journal of Archaeology* 95(3): 403.
- Halstead, Paul
1992 The Mycenaean palatial economy: Making the most of the gaps in the evidence. *Proceedings of the Cambridge Philological Society* 38: 57–86.
- Hruby, Julie
2013 Crafts, Specialists, and Markets in Mycenaean Greece. The Palace of Nestor, Craft Production, and Mechanisms for the Transfer of Goods. *American Journal of Archaeology* 117(3): 423–427.
- Kadushin, Charles.
2012 *Understanding Social Networks: Theories, Concepts, and Findings*. Oxford University Press, Oxford.
- Knappet, Carl.

2011 *An Archaeology of Interaction: Network Perspectives on Material Culture & Society*. Oxford University Press, Oxford.

Lupack, Susan

2011 Redistribution in Aegean Palatial Societies A View from Outside the Palace: The Sanctuary and the Damosin Mycenaean Economy and Society. *American Journal of Archaeology* 115(2): 207–217.

Marx, Karl.

2020 *A Contribution to the Critique of the Political Economy*. Lector House.

Marx, Karl, and Friedrich Engels.

2017 *Capital (Volume I: A Critique of Political Economy)*. Digireads.com Publishing.

Mauss, Marcel

2000 *The Gift: the form and reason for exchange in archaic societies*. Norton, New York.

Mills, Barbara J.

2017 Social Network Analysis in Archaeology. *Annual Review of Anthropology* 46(1): 379–397.

Murray, Sarah C.

2018 Imported Exotica and Mortuary Ritual at Perati in Late Helladic III East Attica. *American Journal of Archaeology* 122 (1): 33-64.

Parker Pearson, Mike.

2016 *The Archaeology of Death and Burial*. Texas A&M University Press, College Station.

Parkinson, William A., Dimitri Nakassis, and Michael L. Galaty

2013 Crafts, Specialists, and Markets in Mycenaean Greece. Introduction. *American Journal of Archaeology* 117(3): 413

Pascal, Blaise

1996 *Pensées*. Penguin, London.

Paschalidis, Constantinos, Photini J. P. McGeorge, and Wiesław Więckowski

2018 *The Mycenaean cemetery at Achaia Clauss near Patras: people, material remains and culture in context*. Archaeopress Archaeology, Oxford.

Pullen, Daniel J.

2013 Crafts, Specialists, and Markets in Mycenaean Greece. Exchanging the Mycenaean Economy. *American Journal of Archaeology* 117(3): 437.

Sahlins, Marshall

2017 *Stone Age Economics*. Routledge Classics, London.

Sartre, Jean Paul

2016 *What is Subjectivity?*. Verso, London.

Smith, M., Ceni A., Milic-Frayling, N., Shneiderman, B., Mendes Rodrigues, E., Leskovec, J., Dunne, C., (2010). NodeXL: a free and open network overview, discovery and exploration add-in for Excel 2007/2010/2013/2016, from the Social Media Research Foundation: <https://www.smrfoundation.org>

Wright, James C.

2004 A Survey of Evidence for Feasting in Mycenaean Society. *Hesperia* 73 (2): 133-178.

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Jennings, T., A. Smallwood, J. Ray, V. Hanvey, S. Scott, D. Miller, and D.
Stephens (In Preparation) Early Archaic Aggregation along the Lower
Ohio River Valley.