FORUM

Redistribution in Aegean Palatial Societies

Redistribution and Political Economies in Bronze Age Crete

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Abstract

Palatial authorities in Bronze Age Crete traditionally are thought to have functioned as centralized redistributive agents, reallocating wealth to the community as a whole and providing security in times of crisis. These institutions were gradually transformed, however, into mobilizers of wealth, rendering support exclusively to the elite and their associates. The present article explores this narrative; it reassesses the assumed impact of redistribution on the economy of Cretan states by studying the archaeological correlates of staple storage. It adopts a bottom-up perspective: besides data from palatial contexts, it incorporates evidence from ordinary domestic units. It argues that the impact of redistribution, as envisioned by neo-evolutionists, is highly questionable. Palatial institutions in Crete did not distribute goods to members of all social strata. Nor did they provide social security. Rather, they mobilized wealth meant to serve the exclusive needs of the elite.*

INTRODUCTION

Redistribution typically is considered to have been the cornerstone of the particular palatial economies that emerged in Crete and mainland Greece in the second millennium B.C.E. and ancient economies in general.1 Taking the absence of markets for granted, most scholars have regarded redistribution and reciprocity as the only forms of economic transaction. Political authorities were described as coordinators of the gathering and subsequent redistribution of locally produced goods to the populace under their control. However, the impact of redistribution on the function of ancient economies increasingly has been called into question, particularly by scholars who, emphasizing the role of the individual and his or her capacity to bring about changes to the structure of the economic system, have treated the production, exchange, and distribution of goods as parts of a wider social process, one in which individuals actively create relationships through their actions.2 We are thus beginning to perceive that the proposed role of redistribution in regulating economic activity was not as determinative as was previously thought and that what has been described as redistribution was, in most cases, nothing other than a constant movement of goods upward, mobilized to support elites and their retainers.3

In the case of Bronze Age Crete, it is generally accepted that the palatial economies of the island were redistributive in nature.4 This view is based partly on the large size of the palatial storerooms but mainly on an anachronistic inference from the economic organization of the Late Bronze Age Mycenaean palaces.5 Given the significant impact of redistribution on the functioning of political economies on the island and the conviction that there were no other types of economic transaction, certain scholars attempted to examine further the role of redistribution in the context of Bronze Age Crete and to identify any changes from the Protopalatial to the Neopalatial period on the basis of palace storage facilities and diachronic changes in their potential. It was therefore argued that during the Protopalatial period, palaces collected and centrally stored staple goods, which were distributed to the community in times of crisis, providing support and

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1 Nakassis et al. 2011.

2 See, e.g., Giddens 1984; Shanks and Hodder 1995, 4–5.


4 See, e.g., Finley 1957; Renfrew 1972, 480–82.

5 E.g., Finley 1957.
security for the population against poor harvests and localized crises. During the Neopalatial period, however, redistribution became an elite-oriented system for the mobilization of goods. The goods handled by palatial institutions were used exclusively to serve elite needs rather than society as a whole. This influential narrative was based on the assumed decrease of storage within the palaces from the Protopalatial to the Neopalatial period.

In the present contribution, I address the question of redistribution in the context of Bronze Age Crete by focusing on artifactual and ecofactual evidence for staple storage. The importance of storage in understanding redistribution lies in the fact that it is an intermediate stage in a complex process of production, distribution, and consumption of goods. The goods intended for redistribution must have been stored either in a central building or in a peripheral complex under the control of the central authority. Even in cases when goods were to be channeled straight from their center of production to their center of consumption, there must have been some sort of collection and short-term storage station. However, the significant role of storage in understanding redistribution in the context of the Aegean has been overshadowed by the great impact of textual data. The tablets of the Mycenaean palaces were—and still are—the primary source of evidence for redistribution. As a result, the information provided by the testimonies for storage practices was often ignored.

In my opinion, studying storage in cultural contexts that have not provided deciphered economic documents—such as Bronze Age Crete—is the only possible way to approach the concept of redistribution. My emphasis on the archaeological evidence for storage is not, however, driven solely by the lack of deciphered administrative documents. It expresses the conviction that the analysis of economic organization in any cultural context must be based on the study of the economic activities of not only the ruling groups—activities that are usually presented in archival sources generally biased toward institutional concerns—but also the lower social classes, which are usually represented by archaeological data only. I have adopted a diachronic approach, starting from the period before the establishment of the major centers of power, known as “palaces,” and ending with the destruction of these centers at the end of the Late Minoan IB period (1425 B.C.E.), with the exception of Knossos, which was destroyed in Late Minoan IIIA (1375 B.C.E.).

Storage of Staples in Prepalatial and Palatial Crete

Our information on staple collection and storage in Prepalatial Crete is scant. We know very little about the Neolithic period (7000–3000 B.C.E.), but we have a better, albeit not fully representative, picture of the Early Minoan (3000–2100 B.C.E.) and Middle Minoan IA (2100–1900 B.C.E.) periods. One feature of the Neolithic is the absence of large storage containers. Hole-mouthed jars and bowls, jars with offset rims, collared jars, globular jars with large staple handles and tall flared collars, and tubs are the most common storage vessels during this time. Pithoi, such as those used in mainland Greece, are absent from the Neolithic contexts of the island. Pits have been identified in some Neolithic contexts, but there is no secure evidence for their use for staple storage. Storage containers have been found within domestic units, usually in direct association with food-processing installations and equipment. Data on communal storage is absent, although the large cache of carbonized grain found outside the aceramic settlement of Knossos might be such a case.

The limited capacity of storage containers, their distribution in domestic units, and their association with food-processing equipment are characteristic of a pattern of short-term storage and immediate consumption. Storage was used to cover the nutritional needs of each household, although it should be noted that the patchy nature of the data does not permit us to estimate the amounts of food produced by each independent household or to determine whether the amounts stored could cover times of food shortage. A similar picture is also observed in mainland Greece, where—despite the use of more varied storage technologies such as pithoi, pits, and built installations—the storage potentials do not suggest accumulation of staples over and above household needs.

Pithoi appear in Crete for the first time during the Early Minoan period. Their capacity usually varies

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7 Halpering 1994, 188–89.
8 See, e.g., Tomkins 2007, 25, 30, 42–4, figs. 1.4, 1.8, 1.15.
9 The production of pithoi in mainland Greece started in the last phase of the Neolithic period (see, e.g., Cullen and Keller 1990; Perlès 1992, 144).
10 Tomkins 2004, 43.
between 75 and 120 liters, although in certain cases, larger pithoi (up to 332 liters) have been found. Storage facilities, such as pits, are rare, and there is no evidence confirming their use for staple storage, while large built storage complexes are absent. One enigmatic structure is the Early Hypogeum at Knossos. The structure, if interpreted as a granary, indicates an expansion of the storage system. Its use for grain storage, however, is anything but certain. The same uncertainty applies to other structures, such as the stone-lined shaft of the building at Chamaizi and the two circular structures north and south of the building at Hagia Photia (Sitia), which have been considered storage facilities indicating mass collection and storage of goods. Regarding the Chamaizi structure, however, it should be noted that the excavation by Davaras indicated that it was used as a well. The Hagia Photia structures are also enigmatic: one was interpreted as a granary—without excavated data, however—and the other was probably used as a tomb.

Understanding Early Minoan storage practices is difficult given that very few centers have been explored fully. The best case studies are those of Myrtos Phournou Koriphi and Tripiti. In the settlement of Myrtos Phournou Koriphi, each domestic unit possessed a small number of storage vessels. The storage capacity of the pithoi found in each residential unit indicates a storage model aimed exclusively at covering the household’s nutritional requirements; there is no evidence for storage above those needs or for redistribution. Low storage potentials were also observed in the settlement of Tripiti. The storage vessels found in the settlement are few and of low capacity. The evidence indicates extremely limited storage of goods, although the use of storage containers made of perishable materials cannot be ruled out. The evidence from other Early Minoan sites, such as Hagia Triada, Debla, Vasiliki, Malia, and Knossos, confirms the direct relationship of storage equipment to domestic needs and the lack of central storage facilities that would indicate mass storage. Storage, therefore, forms part of a “short-term and immediate use” pattern. It was intended solely to cover the nutritional needs of each household. By contrast, in mainland cultures, large-scale staple storage was practiced.

On Crete, marked changes in the scale of staple storage appeared during the Protopalatial period, when the first regional palace-centered polites emerged (1900–1700 B.C.E.). Investigation biases mean that storage within palaces is better represented in the archaeological record than is storage in ordinary domestic units. The production of pithoi with a substantial storage capacity, about 100–150 liters, increased significantly, as did, apparently, pithoi of more than 200 liters. Stores within palaces show careful planning and labor investment in their construction.

Discussions regarding storage strategies during this period have focused on the large subterranean structures at Knossos and Phaistos, known as kouloures and considered granaries. Their enormous storage capacity could have provided considerable subsistence relief for most of the population of these urban centers. Their disuse in the Neopalatial period has been ascribed to the shift from a redistributive system supporting and providing security for the community as a whole to a system supporting the elite. It was argued that the decrease in the storage capabilities of the palaces and the assumed increase in craft activities within palaces provided evidence for a change in political economy from a staple-financed to a wealth-financed economy. However, it has been convincingly shown that the excavation data are difficult to assess and that the kouloures may not have been granaries.

The peak of storage activity in the palaces during the Neopalatial period (1700–1425 B.C.E.) was directly linked to the ever-increasing need for centrally stored wealth. Here, our data are certainly more representative than those for the Protopalatial period, allowing us to investigate the storage practices adopted at various levels of society. Extensive storerooms, stone-lined cists, enclosures, large pithoi, and silos show that the mobilization, control, and long-term storage of wealth were primary concerns of the political groups controlling palaces. Considerable quantities of goods were also kept in the stores of most central buildings and in wealthy mansions of nonpalatial settlements that also
had sizeable storerooms. Obviously, the peripheral centers do not demonstrate the same level of storage facility planning and complexity as the palaces.

The capacity of the pithoi produced during this period increased considerably and ranged from 100 to 400 liters and in some cases up to 580 liters (fig. 1).29 The large pithoi are mostly found in palaces, central buildings of nonpalatial settlements, wealthy mansions, and, on very rare occasions, simple houses. The particularly careful manufacture of the pithoi in palatial storerooms, combined with the careful construction of the storerooms themselves and the complex patterns of accessibility, could all be part of a planned scenographic setting for the display of the stored wealth itself.

The high storage potentials observed in the governing sector clearly contrast with those of most domestic units located around palaces and the central buildings of nonpalatial settlements.30 Many of the houses were provided with only a few low-capacity storage containers; many others preserve no pithoi. Built domestic storage facilities are also rare. The overall picture we have from these contexts points to storage practices covering immediate requirements. Higher storage potentials are seen in only a very few domestic units. These households were able to attain a level of relative self-sufficiency, and in a few cases, there is evidence for the accumulation of low quantities of surplus.

The extant information on the storage practices adopted following the generalized destruction at the end of Late Minoan IB (1425 B.C.E.) is fragmentary. Knossos was the only palatial center to survive. The tablets of the palace archive, the largest assemblage of such texts to have come to light, show that the K諾ssian ruler controlled a large part of the production and movement of goods across the island, while redistributing part of the wealth to individuals dependent on the central authority.31 The palace storerooms were modified extensively, and their storage potential reduced.32 Some of these modifications were due to the need to reinforce and refurbish the complex after serious devastation. I believe, however, that most modifications, such as decreasing the capacity of some built storage installations and not using others, taking some stores out of use and changing patterns of circulation around the storage sectors of the palace, may reflect a political decision. The reduced storage potential of the palace contrasts with the picture presented in the written documents, which refer to quantities of goods that could not have been stored in the palace storerooms. It is possible that the needs of the palatial authority in terms of staples stored within the palace itself had decreased: only a portion of the staples were kept in the complex, while the main bulk seems to have been stored in peripheral centers close to the sites of production, consumption, and export.33

The limited excavation of the urban center of Knossos does not permit us to relate the storage potentials of the palace to those of the wider domestic sector.34 The fragmentary data at our disposal indicate, for this period, too, a storage pattern of securing household needs between productive periods. This picture is confirmed by the other Late Minoan IIIA centers on the island, where storage practices were intended to ensure household autarky. Of course, there would have been cases, such as those of the Little Palace and the Royal Villa, in which the households/groups using these buildings would have stored substantial quantities of goods.

STORAGE AND REDISTRIBUTION

The archaeological testimonies for storage point to the strongly decentralized character of staple storage in the Prepalatial period and the lack of evidence for the redistribution of goods. The collection and storage of goods was intended primarily to cover household nutritional needs and may, in certain cases, also have ensured that goods were set aside for future use. The good or bad management of household resources, periodic fluctuations in the composition of households (which determined the availability of labor to cultivate the land and meet the nutritional requirements of the workforce), the redistribution of arable land (which would have changed from one generation to another), and participation in trade networks must have been major causes of economic variation. A wide array of data suggest systematic and sustained differences in wealth and status among members of communities as well as differences in the patterns of development of the various centers of the island.35 These variations assumed a strongly socioeconomic character, particularly toward the end of the Prepalatial period, with the emergence of groups that controlled the mechanisms of production and access to wealth. This may

29 For pithoi used during the Neopalatial period, see Christakis 2006a, 124–32. Christakis 2008, 109–18.
31 See Hatzaki (2005) for the Knossian settlement in the Late Minoan III period.
have been only the start of a process that was to develop and reach its peak in the sociopolitical system of the palaces.\footnote{Cherry 1986; Whitelaw 2004; Wright 2004.}

During the Protopalatial period, there was a swing from domestic and personal ownership of surplus to its central management on behalf of a ruling class. The integrated storage systems of the palaces were not a development or modification of earlier, corresponding types but the result of a sudden change, the causes of which should perhaps be sought in the complex social and ideological upheavals of the late Prepalatial period. The accumulation of staple goods was intended to support a system based on the supply of specialized services by individuals who were not directly involved in the primary production process. The storage of large amounts of goods continued into the Neopalatial period. The study of storage practices in the various sectors of the social system underlines the accumulation of wealth at the top of the social pyramid, with the palaces being the basic storage centers for staples of both their settlement and the wider area.

The question that must be answered, therefore, is how far the storage potentials observed in the central sector of Cretan Bronze Age societies conform to the scenario, proposed or hinted at by many researchers, according to which political authorities operated as redistribution or buffering agents against food shortages. The excavated data from the Protopalatial period are very patchy. The increased production of high-capacity pithoi, combined with extensive and well-equipped central storerooms appearing for the first time, however, provides important arguments for the reinforcement of the storage system with the intention of stockpiling agricultural wealth. The contextualization of these new storage technologies within palaces is a clear indication of the importance that the accumulation of goods would have had for local ruling groups. A complex administrative system controlled the movement of goods from the periphery to the center and vice versa.\footnote{See, e.g., Olivier 1989; Weingarten 1990.} However, testimonies do not allow a full understanding of the economic relations among the various groups active within palatial domains or even among various palatial domains themselves. It is reasonable to suppose, though, that the adoption of storage behaviors that stress the accumulation of large quantities of staples indicates a system based on the collection and subsequent redistribution of wealth. Of course, not being able to calculate, even approximately, the total storage potential of palaces and peripheral centers and not knowing the quantity...
of wealth managed by each political group, we cannot grasp the scale of redistribution—whether, in other words, this stored wealth was intended exclusively for the elite and its dependents or whether wider social strata might have had access to it.

Difficulties in estimating storage potentials in the palatial sector of Bronze Age states in Crete do not permit the definition of differences either in the scale of redistribution or in the character of political economy from the Protopalatial and the Neopalatial periods. The excavation evidence, as described above, shows that the accumulation and storage of staples was of primary concern to the political groups that used palaces during the Protopalatial and Neopalatial periods. The proposed shift from a staple-financed to a wealth-financed economic system, a narrative based on the assumed centralization and intensification of the production and circulation of luxury items, needs reassessment. It should be stressed that diachronic data on production and circulation of luxury items are biased, given that Neopalatial contexts are better explored than Protopalatial ones. This aside, recent research demonstrates the existence of a complex system of production and distribution of luxury goods, beginning in the Protopalatial period and probably earlier.40 I would argue that storage facilities, craft goods and exotic valuables, trade networks, and administrative practices suggest that wealth-financed economic systems were active within Protopalatial states.

Some proposals may, however, be put forward for the Neopalatial period, as the storage potentials of the palaces and many central buildings of peripheral settlements can be reconstructed relatively accurately on the basis of their architectural layout—spaces were built with specific purposes in mind—and their artifactual assemblages. The working hypothesis I have adopted regarding the correlation of storage and redistribution is that an adult in a preindustrial society would require 300 to 400 liters of grain per year to cover his or her basic nutritional needs.41 Based on this, if we compare the optimal storage potentials observed in the central buildings, palatial or otherwise, with the needs of the inhabitants of their extensive settlements, it becomes immediately obvious that it is unlikely that the stored goods could ever have sustained large groups of the population. The palace of Knossos, for instance, the largest urban center in Crete, with an estimated population of 15,000 people, had an optimal storage potential of about 300,376 liters, enough to cover the needs of only 750–1,000 persons for a year, even assuming that goods were distributed only for short periods rather than all year round. The evidence from the other centers, both palatial and peripheral, is similar.42 Although these estimates are only approximate and, of course, subject to considerable variation, the overall picture—that the central storage potential falls far short of the needs of the local population—is clear.

The storerooms of the palaces and other central buildings were thus designed with the intention of storing enough goods to meet the needs of a limited group of people rather than those of the wider population of the settlement, as has been argued on the basis of the excavated data. The size of the palace storerooms, no matter how extensive, cannot be used as proof of the existence of redistributive systems in a Polanyian sense, according to which goods were redistributed to the wider society. Had such a scenario applied, the central authority would have required many and extensive storage complexes for the collection, storage, and security of the goods intended for redistribution. Furthermore, excavation data do not support any narrative that sees palatial authorities as subsistence relief agents.

It is, of course, possible that goods could equally well have been stored in peripheral warehouses within the settlement or the wider region controlled by the central authority.43 The Arsenal and the Northeast House at Knossos and the Bastion at Hagia Triada are indeed peripheral warehouses a short distance from the central complex. In many other settlements, though, such as Zakros, Malia, and Gournia, no such complexes have yet been identified. These two different pictures largely result from the limited archaeological exploration of these settlements. They may also, however, reflect differences in the management and storage policies adopted by the local ruling groups. The large quantities of agricultural produce mentioned on certain tablets found in palatial and peripheral central buildings are further indirect evidence of the existence of storage complexes, as the goods in question could not have been stored in the settlements themselves.44

In my view, however, the possible existence of peripheral warehouses in the settlement or the hinter-
land near areas of production would not have best served the aims of the local ruling groups. In a mutable and competitive sociopolitical framework like that of Neopalatial Crete, where access to sources of wealth would have been strictly controlled and the display of wealth could establish, maintain, and change social relations, storing goods far from the center put the safety of the stored capital at risk. In any case, if the ruling groups actually did operate as redistributors of goods to society at large, many sizeable warehouses equipped with pithoi would have been necessary. Here, too, it should be noted that although there are many and varied storage vessels, which often leave no traces, particularly when made of perishable materials, the storage of large quantities of goods for long terms, as we can see from a multitude of ethnographic parallels, requires exclusively ceramic vessels and built storage facilities.\(^{46}\) It is significant, then, that on such a well-explored and surveyed island as Crete, peripheral storage complexes have not yet been found.

The only case in which the scenario of a redistributive system in a Polanyian sense might be supported would be if the goods collected in the center were redistributed to their final recipients immediately, for instance, at large communal feasts. The large quantities of goods recorded on certain tablets clearly could not have been stored in a building or even transported to the center to be distributed directly, given the difficulty of transport by land. Even in such a case, however, the final recipients would have required the necessary facilities to store the goods during the period from one harvest to another. This picture perfectly matches a hierarchical sociopolitical system in which attainment and consolidation of social status and power were the results of complex competitive processes and in which the politics of self-interest were essential.\(^{47}\)

This possibility, however, is not confirmed by study of the storage technology adopted by the domestic sector of Neopalatial societies. Most of the houses excavated to date present very few or almost no storage vessels.\(^{48}\) Without overlooking the decisive importance of taphonomy in the formation of the archaeological record or the possible use of storage containers made of perishable materials, I believe that this picture of such low storage potential is due to reduced access to sources of wealth, something confirmed by the rest of the contextual framework. Only certain houses boasted a substantial storage potential and therefore greater autarky. The picture that emerges from the study of storage practices indicates strongly stratified societies.

CONCLUSIONS

This discussion challenges the significant role of redistribution in the development of palatial economies in Bronze Age Crete. The scale of storage within palaces suggests that palatial authorities were concerned with the production and accumulation of staples to serve the needs of a limited number of individuals. Stored wealth sustained elite and dependent craftsmen and laborers, financed state enterprises, and provided food for large-scale ceremonial events to project political and social power and reaffirm social status. Political authorities, therefore, developed a complex exchange network for the mobilization of wealth to the elite. This picture perfectly fits a hierarchical sociopolitical system in which attainment and consolidation of social status and power were the results of complex competitive processes and in which the politics of self-interest were well and truly alive.

The excavation record does not support the existence of an economic system based on redistribution wherein wealth was pooled and redistributed to the general community for its subsistence in so-called bad and good years. The adoption of this model is due more to the a priori acceptance of the determinative role allocated to redistribution than to the archaeological data themselves. The abandonment of the redistribution stereotype leads to a reexamination of the archaeological evidence, resulting in the identification of other forms of economic transactions, for example, market exchange, something that has long been rejected out of hand. At the same time, a shift in focus from the economic practices of ruling groups to those of commoners offers a fuller picture of the different scales and different conditions in which the process of mobilization took place, making research in this direction a matter of urgency.

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