

carefully. I find it very difficult to see a temple, because it is not isolated but thoroughly integrated within the palace. Since it gives access not only to the interior, but to the second storey as well, I think it did function as a propylon.

I. Beyer: I believe there is a libation channel at the entrance, which can be explained better with the idea of the temple. I hope that we can examine this on the spot. As regards the lack of isolation, I was envisaging a palace-temple, not a Greek temple.

Hägg & Marinatos (eds) 1987

The Economic Role of the First Palaces

by
Keith Branigan

Abstract

The economic functions of the palaces as they were first built are of crucial significance for any discussion of early state formation in Crete. The publication of D. Levi's excavations at Phaistos, together with a careful use of Evans' reports on the earliest palace levels at Knossos, allow us to examine the economic functions of the first palaces; these functions which the later palaces appear to fulfil might be expected to be the following: as producers, as consumers, as regulators of internal exchange, as regulators of external exchange, and as depositories. The evidence from Phaistos, and the supporting evidence from Knossos, suggests that the palaces, from the first, were involved in production, consumption and storage, and that they also played a role in the regulation of local exchange. Initially these functions seem to have operated at a relatively low level of intensity, but within a few decades the storage function appears to have taken on added significance. Possibly over a rather longer time span there is also increasing evidence for the regulation of exchange. In contrast, craft production within the palaces appears to remain at a low level of intensity throughout the First Palace period. As for external exchange, there is as yet little evidence for palace involvement in general and insufficient evidence to support the view that the first palaces regulated overseas trade.

The study of Minoan palaces has recently seen a welcome shift of emphasis, on the one hand from their destruction to their beginnings, and on the other from their architectural form to their social and economic functions. The genesis and the functions of the palaces are of course closely inter-related topics. Most discussions of the origins of the Minoan palatial system (or of the emergence of an early state in Crete soon after 2000 BC) emphasise the enormous difference between the scale and complexity of the economic organisation of the palaces and that of Early Minoan settlements such as Vasiliki and Myrtos. But the picture that is painted of palatial economies draws heavily on the evidence of the palaces as they were in MM III—LM I—that is, some 150–400 years after the palaces were founded. Clearly, the economic functions of the palaces as they were first built are of crucial significance in any discussion of early state formation in Crete. The publication of Professor Levi's excavations at Phaistos, together with a careful use of Evans' reports on the earliest palace levels at Knossos, allow us to examine the economic functions of the first palaces, at least in outline.¹

There are five economic functions which the later palaces appear to fulfil. These are:
as producers (places of manufacture and craft activity)
as consumers (places consuming not only local food produce but also manufactured goods)

as regulators of internal exchange (places administering and organising local exchange)
as regulators of external trade (places administering and organising inter-state and overseas exchange)
as depositories (places where surpluses and accumulations of agricultural and/or other produce was stored)

In trying to understand the beginnings of the palaces, a crucial question must be to what extent, if any, the palaces fulfilled these functions from the time of their inception. In attempting to answer the question, I shall look in some detail at the earliest phase of occupation at Phaistos (palace phase I) and at the MM IA/B palace occupation at Knossos. Additionally, I shall comment briefly on the immediately following phases (II and III at Phaistos and MM II at Knossos).

PHAISTOS

The remains of the phase I palace at Phaistos can be divided up, according to access and proximity, into six 'functional' areas or units, as shown in Fig. 1. The possible functions of these areas are indicated by the material found in them during excavation, which thanks to Professor Levi's published catalogue, can be identified and studied. The majority of this material was pottery—almost 1000 vases were recorded in phase I levels in the palace building. Table 1 shows the frequency of pottery in each room and compares it to the relative size of the room. Where the quantity of pottery and the size of the room shows a disparity greater than x2, some comment is appended in the right-hand column. Three areas with high concentrations of pottery are rooms IL, LIII—LV corridor, and LXI, LXIII, LXV. It is suggested that the greatest concentration (over 25 % of all vessels) in room IL is indicative that this room served as the main pottery store. Amongst 250 vases found in this room, all the principal 13 types are well represented and it may be further suggested, therefore, that this is a general rather than a specialised store. In corridor LIII—LV on the other hand, 17 % of the total sample was found to include almost 60 % of all the cups from the phase

¹ Normal bibliographical references in the text are inappropriate in this particular paper. The evidence from Phaistos is presented in D. Levi, *Festós e la civiltà minoica* I, i—ii, Rome 1976; particular importance attaches to the finds catalogue, pp. 809–855. The evidence from Knossos is brought together in A. Evans, *PM* I—IV, London 1921–35, but important details are also to be found in the interim reports in *BSA* 6–11, 1899–1905.

Fig. 1. The first palace at Phaistos. Large letters A—F indicate the architectural units into which the structure is divided. Roman numerals indicate the excavator's Room numbers. The fractions in each room show the room's size as a % of whole structure, and the amount of pottery vessels found in it as a % of total corpus from the first palace. Thus, Room II is 10 % of palace area and contained 26 % of its pottery.

Table 1. Differential pottery distribution in first palace at Phaistos.

Room	% of total area	% of pottery corpus	Comments
IL	10.3	25.6	general pottery store?
ILXXXVII—XXVIII	15.5	12.1	liquid storage vessels? (31 % all pithoi, 14 % all amphorae, 17 % stamnoi)
LVI, LVII	9.5	1.7	entrance area
LVI	2.1	4.0	—
LIII	8.8	2.4	tools etc., few jars suggest workshop
LIII/LV	3.9	17.0	59 % all cups—pottery store under stairs
LIV	2.5	2.0	—
LVI	5.2	4.8	—
LXII	3.5	2.6	—
LXVIII	14.4	7.6	mainly large pithoi
LIX	12.0	5.0	commodity storage
LX	6.2	2.5	entrance area
LX, LXI, LXIII	4.1	12.3	passageway
LXIV			special pottery store (28 % all bridge-spouted jars; 31 % all jugs; 22 % all dishes)
LXIV	5.6	0.4	storage for perishables? or stairwell to upper floor?

I palace; this area seems to have been given over to specialised storage, probably in a cupboard beneath a flight of stairs. Finally, the little suite of rooms numbered LXI, LXIII, and LXV contained high quantities of pottery, and it was notable that in 4 % of the phase I space, there were particular concentrations of specific vessels in this suite—between 20 % and 30 % of all bridge-spouted jars, handled jugs, and low flared dishes, were found here. These three small rooms seem to have been further specialised pottery stores.

Two areas stand out as other types of storage space. Room LVIII has a low density of pottery, but that is because it is occupied by eight large storage pitboi—that is, it is a magazine probably for storing food products of some kind—olive oil or grain are the most likely candidates. Further liquid stores may have been in rooms XXVII–XXVIII which housed almost a third of all the pitboi found in the phase I palace, and (together with room IL in the same unit) over 40 % of all the stamnoi. One further storage area might be postulated—room LXIV. This room, representing over 5 % of the excavated room-space of the first palace, contained less than 0.5 % of the pottery and other finds. In other words, it was conspicuously empty. One wonders if organic materials had been stored here; alternatively it may have been a stairwell. Three of our six 'units' then appear to be stores—unit A comprising a general pottery store and storage for liquids, unit D storage for either olive oil or grain, and unit F storage for pottery, and in particular certain specialised shapes. In addition, the under-stairs store in corridor LIII—LV was a special cup store, and room LXIV may also have provided storage for dry perishable goods.

Unit B, comprising rooms LI—LV, and LXII, stands out as a different area. Excluding the under-stairs cupboard storing cups, it contains a below average density of pottery. But

almost two thirds of all the stone products found in the first phase palace were found in this area—90 items out of a total of 145. Some of these were finished products—21 stone vases, and 17 stone inlays—but others were tools, such as 11 polishers or spatulae, and a stone mortar, and some were pieces of raw material such as obsidian and steatite. Other tools from the unit included three bone awls and a bronze chisel. One could make out a good case that this represents a lapidaries workshop. Other stone items which relate to other crafts, such as 14 stone loomweights and a potter's wheel, may also have been products of the workshop—where they were found. It is possible that the tiny room LI served as some sort of 'office' for the workshop, for the room yielded eight clay sealings; three further sealings were recovered within the unit.

Units C and E were essentially entrance ways and communication passages, as is confirmed by the low levels of finds made in them (9 % of pottery, 3.5 % of other finds, in 24 % of the area).

This analysis of the fragmentary remains of the first palace at Phaistos suggests that it already served as a place of storage for craft products and almost certainly for agricultural produce too. It also appears to have a role as a producer—of stone products, possibly of woven wool, and possibly of pottery too (two fragmentary wheels were found in the first phase palace). Its role as a consumer cannot be demonstrated, but it can be reasonably assumed, for example, that some of the pottery vessels stored here were for use within the palace. Finally, the twelve sealings found within the first phase remains suggest that the palace may already have had a role as the regulator of local exchange. In contrast, the first phase palace reveals no evidence for external (overseas) exchange, let alone the regulation or control of it.

In the two succeeding phases of the first palace at Phaistos we find clear evidence that the palace is exercising control of local exchange, and that it has greatly increased its capacity to store surpluses. In phase II the *koulouras* are built in the west court—representing storage for in excess of 1500 cwt of grain (a year's supply for perhaps 300 people). In phase III further magazines are built for pithoi, at least trebling the space provided for the pithoi magazines of the first phase. To this phase too, belongs the great cache of sealings and tablets in room/magazine 25—a true archive indicative of the regulation of local exchange at least.

KNOSSOS

When we turn to Knossos we have nothing like the detailed information available, albeit from a small area, at Phaistos. Nevertheless, it is possible to find a few clues to the economic roles of the first palace here. Evans excavated the rubble core of the west wall of magazines 3 to 10 and found that the original structure here dated from the close of the MM IA period. These magazines may thus have been built not long after the construction of the first palace. In the case of magazine 12, the west wall was found to overlie deposits with nothing later than early MM IA material, so that this magazine and presumably the others in this unit (numbers 11–16) were part of the original palace structure. In this case

a considerable storage capacity was built into the palace from the start. Clay sealings found in three different locations in late MM IA deposits, most notably beneath the Vat Room, imply the recording and probably, therefore, some degree of regulation of materials entering or leaving the palace. In the deposit under the Vat Room we can see what some of those materials were—gold, obsidian, alabaster, faience beads, stone vases and rock crystal. The first three items, possibly the fourth, would be imported materials from the Aegean and from Egypt. Some involvement with external exchange can therefore be identified, but what the role of the palace was in such exchange cannot be established on such meagre evidence. Neither, at present, can we identify any craft activity within the walls of the first palace.

In the phases immediately following the initial construction of the palace at Knossos, we can detect the same extension of facilities as we can document at Phaistos. Indeed, the *koulouras*, three in the West Court and one in the theatre area, could belong to the initial construction period—especially that in the theatre area which was paved over in MM IIA. These four *koulouras* between them provided storage capacity for 5000 cwt of wheat (a year's supply for 1000 people). Within the palace, the west magazines were further developed, and on the east side of the central court the pithoi magazines were constructed. The evidence of an administrative role is now much clearer, with the hieroglyphic deposit of MM IIB, as well as scattered sealings of earlier phases, closely paralleling in its general content (sealings from packages, tablets and other records) the archive from Phaistos. Craft activity in the MM IB–II periods is still difficult to document, although the 400+ clay loomweights in the 'loomweight basin' surely point to weaving activities within the palace (also documented at Phaistos in the first phase building). It is possible that the faience material including the 'town mosaic' pieces may have come from a faience workshop of MM II date; the deposit seems to include pieces which were not perhaps part of the 'town mosaic', suggesting a collection of faience material rather than a single decayed and dispersed item. One other item which probably points to the existence of a lapidaries workshop in the palace in MM

II is a large block of Giali obsidian, 42 cm. high. Further evidence for a continuing influx of exotic materials is found in the appearance of several items of gold and of ivory, and perhaps more importantly by the User statue; but the general impression is still of a relatively low level of overseas exchange activity.

CONCLUSION

The evidence from Phaistos, and the supporting evidence from Knossos, suggests that the palaces, from the first, were involved in production, consumption and storage, and that they also played a role in the regulation of local exchange. Initially, on present evidence, these functions operated at a relatively low level of intensity, but within a few decades the storage function appears to have taken on added significance with substantial additional capacity provided at both Phaistos and Knossos. Possibly over a rather longer time span there is also increasing evidence, in the form of substantial archives of sealings and tablets, for the regulation of exchange. In contrast, craft production within the palaces appears to remain, on present evidence, at a low level of intensity throughout the First Palace period. As for external exchange, the evidence that the palace was involved in it is scarce at Phaistos and slender at Knossos; certainly there is insufficient evidence to support the view that the first palaces regulated overseas trade. On the basis of this evidence from the first phase palaces at Knossos and Phaistos, an enquiry into the process of state-formation in Crete might further explore the role of the first palaces as places of storage and as centres for the regulation of local exchange, since these are the most clearly documented of their primary economic functions. Even here, however, it should be noted that there is presently no evidence that the first palaces exercised a monopoly of these functions.

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Discussion

L. V. Watrous: How did you determine whether the material at Phaistos had not fallen from above?

K. Branigan: This problem has been in the back of my mind, but most of the material I dealt with was complete and thus could not have fallen from above.

T. Palaima: How does one approach the question whether the storage pithoi in the other areas are for immediate consumption in the palace or for processing and further circulation?

K. Branigan: One always assumes that the consumption is there, unless you don't believe that people lived in the palaces, but I personally don't doubt it.

T. Palaima: I ask this question because of the emphasis some people place on the redistributive system as a main aspect of the palace. Is there any way of determining whether there are things coming in, being processed and then going back out?

K. Branigan: In the first palaces the amount of storage space

A. Zois: All this kind of argumentation cannot have any meaning, because it by-passes the great problems of stratigraphy and chronology of the MM palace of Phaistos. I have shown, I think very clearly, what the real chronology of Phaistos is, in a book-length paper already in 1966 ('Phaistika', *ArchEph* 1965, 27–109, tab. A–B, pl. 3–40) and nobody until now has added anything to my argumentation, neither refuted it (a very hard task needing the writing of a new book!). Before proceeding in statistical and historical evaluations of any kind one has to clear the ground in studying very carefully the real stratigraphy and chronological context of the material one is studying.

K. Branigan: Yes, I am aware of your arguments about the different phases, but we are still dealing with the first generation of the palace and that is the important thing.

A. Zois: I believe that you have to include in your study the material of all three phases of Levi which, in my work, based on the very exhaustive excavation reports, really a marvel of completeness and accuracy (unfortunately not superseded by the too summary final publication). I have shown, building on similar evaluation of the stratigraphy of Prof. N. Platon, as constituting *only one phase* (in the final publication these have been, seemingly, reduced to two: fase IB and II, with possible admixtures of older and younger material . . .).

K. Branigan: I'm sorry, but I don't believe there is only one phase, because there are obvious changes in the architecture taking place.