

What light do Linear B texts shed on the production and consumption of craft goods in Mycenaean Greece?

Linear B can tell us many things about Mycenaean palaces and economy, but not everything. The tablets on which Linear B is written have been found almost completely in palatial context, giving us a biased view of Mycenaean economy: every production and consumption not filtered by the palace is not mentioned. It is difficult to think that palaces controlled everything, most probably they controlled in particular all what was felt as key-resource. Certainly the tablets are far to represent the economy in the whole both for the type of records they carry and for the limited number that has reached us. There are also other limits they have, which must be considered briefly to fully understand their value. Linear B tablets were temporary records at the time they were written, they were saved extraordinarily by the last fire that destroyed the palace in which they were conserved, in the burning they became enough fired. This means that we cannot be sure of their correctness and completeness, but also that they refer only to the last year before the final destruction of the archive and consequently of the palace. If it is impossible to find out the economic trend of those years, as Killen argues^[1], it is also difficult to estimate the average economy, since the last year was probably not typical. If the tablets shed light on a fully developed Mycenaean civilisation, they also report one year of probable crisis. Another important issue is the fact that we do not have a complete set of records for a full year, in addition the information about external trade, which took place^[2], is extremely scarce and always indirect. Linear B documents are not clear on the internal society and economy, so that it is unknown who owned the land and finally they are a biased record because they refer to the central authority, the palatial elite, but certainly there was a local economy, made of everyday exchanges, very probably another economy not strictly controlled by the palace, or at least not reported by the saved tablets. An international economy certainly existed but it is almost invisible in the texts, maybe not recorded at all, an example of a parallel, undocumented economy. All this does not mean that we can know little or nothing from tablets, but surely we must be careful in our reading of them. If we cannot know the whole Mycenaean economy from Linear B tablets, at least we can understand some aspects of the palatial economy in good detail.

The economy described in the tablets is closer to the earlier and contemporary Near Eastern civilisations than to the Greek world, and this also means that production and consumption were similar. In particular should be noticed the terminology of Linear B, possibly compared to terminology of Greek, as A. Morpurgo Davies^[3] did. She observed: "the basic administration and organisation of the Mycenaean state had a certain degree of complexity which called for specialised terminology: this seems to have disappeared together with the end of the Mycenaean palaces" (1979: 104). And then she continues: "the terminology of crafts and the other occupational words (...) fits in with this general picture: (...) some [of the terms] at least give the impression of an extreme sophistication and a high degree of specialisation". Even if the recognition of the Linear B terminology is uncertain, this observation should be correct and hopefully one day tested also by archaeology.

Meanwhile, it is possible to deduct that if administration and craft-specialisation were very complex, also the production, and possibly the consumption were affected. Craftsmen worked to produce, and economy suggests that nothing is produced, especially in a specialised and well-organised way, without a request for those goods. Consequently we should assume that also the consumption was more complex of what we could imagine thinking to the situation in later times. The world perceivable through Linear B was fully developed, but being originated from Neolithic times probably reached the time for a major change that produced a new civilisation able to reproduce the same complexity and more only later, in Roman times. It is not a case that Linear B is a homogenous, standardised language even if coming from different areas of Greece, which will use different dialects till Hellenistic times. Morpurgo Davies however also warns that all this complexity was proper of the palace, while in small towns, or in single households, far from the palace, the economy was almost certainly simpler, with people interested in less specialised items.

As Killen^[4] argues, "whatever of the precise conditions on which land was held, (...) it is still evident that the palaces had a substantial interest in the agricultural production of a wide area surrounding them. This is clear from the large number of records at both Pylos and Knossos" (1985: 250). A lot of Linear B tablets are concerned with food production and redistribution. The tablets record a huge quantity of food, for example the F (2) 852 tablet from Knossos reports 10,000 units of wheat (possibly around 775 tons), while a series of other tablets from the same palace have evidence for 100,000 sheep records. The palatial authorities according to the necessities of wool and food production divided the sheep stock in a rational manner. Both amounts refer to central Crete, and are not dissimilar from the modern production; they show a highly developed and productive agricultural system. Palaces were also directly involved in the consumption functioning as redistributive centres as the central palaces and temples in the ancient Near East. I want to stress that the role of palaces was not to control everything, at least it does not seem they were able to do so, but it is evident that they had a strict control on activities that required craft specialisation; a strong power on the central areas around the palace and some control on key-resources and products. In particular the division of sheep flocks according to food and wool necessities suggests that palaces had control on the exchange^[5] among palaces and almost certainly^[6] outside the Mycenaean territories. It was possible to impose rules and taxes also on the producers of surrounding regions, who were forced to pay and follow the palatial impositions if they wanted to produce more than for the local community. The same land may have been owned by the palace and rented to producers, but there is no certainty of this. "Many of the records (...) [we have from] Pylos, Knossos, Mycenae and Thebes refer to allocation of raw materials to workers, and to the production which occurs as a result of these allocations" (Killen, 1985: 253). This means that thanks to the ownership of the land or to any other form of power and control the palace was able through taxation to have large quantities of raw materials, which were worked by specialised craftsmen repaid with part of these materials (raw or worked). The palatial elite used the remaining materials as exchange goods to obtain luxury goods or any other necessary good not produced in the local territory. It is possible that a part of the remaining goods were stored waiting for an opportunity for gift exchange, while others could have been used by the same elite to display them and reinforce in this way its power and control. All this is proper of a redistributive system and a similar situation was recognised also in Near East. However, even if suspected already before the decipherment of Linear B considering

only the archaeological evidence, this picture of the role of palace, especially in production and consumption^[7], is given almost entirely by Linear B tablets.

Among the various productive activities performed in the palace, Linear B tablets give evidence of textile, perfumed unguent, chariots and furniture production and of bronze and leather working directly^[8]. There is also indirect evidence thanks to trade names of the following further activities: pottery making; bow making; gold working; working with lapis-coloured glass; ship construction; carpentry; house building and probably net making. Ventris and Chadwick^[9] divided the tablets according to their content in six sections, but evidence of production and consumption is present in all these categories. Following their classification it is possible to state what each group has to say. In the first category, "lists of personnel", it has been recognised the presence ratios, at least for the presence of agricultural products^[10] and small quantities, associated to personal names. Ratios to the palatial personnel are not surprising in productive and redistributive centres such as Mycenaean palaces. The lists of personnel show an extremely specialised craftsmanship, and generally class of workers. They were probably trained inside the palace as well employed there. The most interesting thing is that they were repaid with part of the raw materials they worked, and part of the final products. It is evident the importance of food as key-resource, also to obtain all the other craft goods: the productive system of non-food goods was in fact dependent on the capacity of the palace of obtain, work and redistribute food rations. Even if the evidence for the composition of rations in Linear B tablets is almost always limited to food-related products, we can imagine that other products were also involved. In a general study of the perfumed oil industry, which I will present later, it has been noticed that the oil was used also for rations, even if it was a luxury good. Interesting is also the section about "livestock and agricultural produce". Even if brief in detail, these tablets reveal large numbers^[11] of sheep, goats and pigs in the order with a minority of other animals like cattle and horses. The numbers are normally rounded, leading us to think that no real census was made, but instead the number of animals was estimated. This suggests that palace had no direct control on livestock, but instead it profited fixed amounts on an agreed basis. Agricultural products however were much more carefully calculated. Among the products there are olives, olive oil used both for rations and cult offerings and possible wine. The palace did not simply controlled the main agricultural resources, but also worked them to produce and the distribute goods like wine and oil which should be considered as craft goods. All the products mentioned were used apparently for internal use, but it is likely that at least a part was used for exchange. It is impossible for example to understand from Linear B tablets the origin of the mentioned products given as rations: was all produced locally or was something the result of some exchange? Unfortunately the texts are too synthetic on this point, they are really mere temporary records of something well known by the palatial administrators, and consequently no indication is given. In the category "proportional tribute and ritual offerings" Linear B tablets shed light on what the palace received, and on the consumption of products, not necessarily produced in the same palace, even if very probable. Very important for the study of the production and consumption of craft goods are the two last categories: "textiles, vessels and furniture" and metals and military equipment". The point remains, as Ventris and Chadwick pointed out, that "the inventories of (...) [products] do not unfortunately record who made them or how they were acquired, and only seldom contain clues to a possible importation from outside" (1956: 135). And, when a product is mentioned as

local production, was it just worked in the area under palatial control, or also the raw material was present there? Because in the later case a previous exchange is necessary, causing the production of a certain good to be subject to the availability of the raw material. As a result also exchange and consumption of that good could have been episodic.

Among the products present in Linear B tablets there are the vessels. Ventris and Chadwick recognised around fourteen types, each one indicated by a symbol and the equivalent in words. The names are very similar to those of the Greek vessels, but it does not seem to be a perfect correspondence between Greek and Mycenaean vessels. Even if it is difficult to associate to each symbol a type of vessel from the archaeological record, it is interesting to notice that in most cases the vessels counted are in metal. This was understood by the presence of the word "bronze", or the name of others metals, near the symbol of the vessels. In addition, the number of the vessels usually does not exceed three pieces. The vessels counted then are prestige goods, limited in quantity and used only by a minority. This is the best case where it is possible to compare the archaeological evidence with the Linear B texts, and it is evident that the tablets record prestige goods, or in tendency important products, while the current objects tend to be ignored, even in the case of the most common evidence we have from Mycenaean times: pottery. The same therefore should be thought for all the other goods, such as the textiles. This is another example of the special economy seen through the tablets: not the everyday economy of common people, nor, at least directly, foreign trade, but the internal economy of the palace and possibly the economy of exchange among palaces. Morpurgo Davies, as well other scholars, thinks that "the information provided by the Linear B tablets is limited and most of our questions remain unanswered (...) [so that] the archaeological evidence must take priority over the evidence of the texts" (1979: 87). This is also my opinion, but it should be noticed that there is a convergence between Linear B tablets and archaeological evidence. Apart cloths and other perishable goods, for which no direct evidence has been preserved, metal vessels for example are found rarely today because they were recycled in antiquity. The actual situation of knowledge for pottery is therefore as follows: pottery vessels are known thanks to archaeology; metal vessels are better known through Linear B tablets. The texts are precious because they give us the names and consequently the testimony of many objects, often in their context. This is the case of all the many objects that were listed by Ventris and Chadwick in connection with furniture. Probably some object was produced "industrially", in large quantities, but we do not know which; nor we can say if many of the objects that were present in the palaces were also used in household contexts. However all the quoted objects help us in the understanding of the highly specialised craftsmanship and of the luxury consumption inside in the palace.

Some studies have been attempted on single industries put in evidence in Linear B tablets; one of the most in-depth and interesting are those on perfumed oil. According to C. W. Shelmerdine^[12], "the amount of space at Pylos devoted to the manufacture and storage of perfumed oil, and the role of palace administrators in collecting and allocating raw material to perfumers, indicate the importance of the industry" (1985: 63). In this case the tablets permit to track with precision the quantities of oil both in production and consumption. It is still valid to say that this was not a common good; even if we have a detailed record this is useful to understand how things worked at that time, but certainly there were goods more important than

perfumed oil, as the simple olive oil for example. Perfumed oil was a luxury good however, since there was an entire scribal department that detailed every stage of the production from the collection of raw materials to the storage of the finished product. This good appears to be important for religious purposes, but it was used also outside the religious sphere, giving us a picture of a society highly developed, able to produce goods in quantity and distribute them for different purposes. The palatial administration and organisation was able to collect all the necessary raw materials, to form and employ specialised craftsmen to manufacture the final product and then to store and distribute it for the consumption, even to different people, for different purposes. It is likely that almost nothing of what was produced remained in the storerooms. Shelmerdine inferred that " the oil department [in Pylos] operated, then, in a very systematic way. Each time a transfer of oil was to take place, the scribe responsible for that type of oil would be dispatched to the storeroom where it was kept to record the transaction" (1985: 115-6). As example of the specialisation, not only in the production but also in recording, the studies on the "hands" that wrote the various tablets showed that for each type of oil^[13] there was a scribe, and generally each scribe tracked and recorded only few types of products, perhaps acting as supervisor of the department. This organisation can be applied to every department of every palace, with few differences, even if each palace was probably more specialised in some products, as it is the case of Pylos with perfumed oil.

Linear B texts have answered a lot of questions about craft production and consumption, but still many other questions wait for an answer from archaeology. If on one hand they reveal the mechanisms of production and consumption, which archaeology could have not disclosed in such detail, on the other hand they focus only on strategic and luxury products leaving obscure for most part the life and economy of all the people outside the palace. Pottery and the household economy can be still known only through the archaeological evidence for example, as we have seen. And they are not a secondary argument for us. The most interesting thing that the tablets reveal is, in my opinion, the complexity and development of the palace. It was a unitary system, able to produce according to consumption, and to track everything like only a modern multinational firm could do. The control of agricultural products is important not only because a part of this is worked to obtain products like oil and wine, but also because is the basis to maintain the "army" of craftsmen, the control on the territory. In addition agricultural products were probably the first good to exchange and then obtain all the necessary raw materials. But even of the palace, Linear B tablets do not tell us a lot. In consequence of this, archaeological evidence still remains our first source of information for Mycenaean times, even if what palace really were and the level of development of Mycenaean civilisation would have remained a mystery without those fires that burnt Linear B tablets.

BIBLIOGRAPHY

Finley, M. I. 1957. The Mycenaean tablets and economic history. *Economic History Review*, 10:128-41.

Foster, E. D. H. 1995. *The manufacture and trade of Mycenaean perfumed oil*. Ph.D. dissertation, Ann Arbor: U.M.I.

Halstead, P. 1992. The Mycenaean palatial economy: making the most of the gaps in the evidence. *Proceedings of Cambridge Philological Society*, 38: 57-86.

Killen, J. T. 1984. The *textile* industries at Pylos and Knossos. In T. G. Palaima and C. W. Shelmerdine (eds.) *Pylos Comes Alive*: 49-63.

Killen, J. T. 1985. The Linear B tablets and the Mycenaean economy. In A. Morpurgo Davies & Y. Duhoux (eds.) *Linear B: a 1984 Survey*: 241-305.

Killen, J. T. 1993. Records of sheep and goats at Mycenaean Knossos and Pylos. *Bulletin on Sumerian Agriculture*, 7: 209-18.

Morpurgo Davies, A. 1979. Terminology of power and terminology of work in Greek and Linear B. In E. Risch and H. Mühlestein (eds.), *Colloquium mycenaenum*: 87-108.

Morris, H. J. 1986. *An Economic Model of the Late Mycenaean Kingdom of Pylos*. Ph.D. dissertation, University of Minnesota, University Microfilms, Ann Arbor.

Shelmerdine, C. W. 1985. *The perfume industry of Mycenaean Pylos*. Göteborg: Åström.

Ventris, M. and Chadwick, J. 1956. *Documents in Mycenaean Greek*. Cambridge.

Notes:

^[1] Killen, J.T. 1985. Page 243.

^[2] The wide diffusion of Mycenaean pottery in the entire Mediterranean basin is proof of exchange with the neighbouring societies. There is no reason to think that trade was mediated.

^[3] A. Morpurgo Davies. 1979. *Terminology of power and terminology of work in Greek and Linear B*.

^[4] Killen, J.T. 1985. Page 250.

^[5] It does not exist any evidence of either a market or money in the Mycenaean world; consequently the palaces or another central authority governed the exchanges. Of course palaces, for similarities with those in Near East and for both archaeological and Linear B tablets evidence, appear to be the most probable central authority involved in exchanges, probably gift-exchanges.

^[6] This is not evident from Linear B texts.

^[7] The palace controlled the territory in many ways: maybe with a proper ownership, certainly imposing its system to production and consumption (it was impossible for single alternative economies based on households or little towns to oppose any serious resistance), and certainly, as Linear B tablets show, using military power and religion.

^[8] According to Killen, 1985: 272.

^[9] Michael Ventris and John Chadwick. 1956. *Documents in Mycenaean Greek*. Cambridge.

^[10] Especially wheat and figs.

^[11] Not far from modern production, as we have seen.

^[12] *The perfume industry of Mycenaean Pylos*, 1985.

^[13] Simple olive oil, aromatic oil, perfumed oil as minimum.

© **Andrea Vianello – Sheffield, 2000**

<http://www.bronzeage.org.uk/>