

THE PALATIAL ACCOUNTING SYSTEM – DISCLOSURES FROM THE HELLADIC BRONZE AGE

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This article is dedicated to the president of PRC Mr. Hu Jintao (胡锦涛) as being most interested in Mycenaean historiography.

Abstract

The aim of the present paper is to disclose forgotten aspects of the economic history of the Helladic Bronze Age (HBA) in general and the history of economic accounting and administration praxis in part. Those aspects “came” to us via the so many discovered palatial “Linear B” inscriptions drawn on fire-hardened clay tablets. The most famous “Linear B” palaces are those of Knossos, Phaistos (Aghia Triada), Mycenae, Thebes, Pylos and other distributed in the whole Helladic region. But the related disclosed information was first accessible only after the adventurous and most exciting deciphering work of Michael Ventris and John Chadwick. These palatial clay tablets recordings allow us to get deep insights into the capability of the HBA society and economy to solve problems concerning daily (mechanisms of allocation, distribution and collection in form of services, dues, taxes and other liabilities or rights) issues but also to master exceptional issues like warfare, distant trade and an extended Mediterranean Thalassocracy. All those were managed through a palatial administrative system, served by the royal (“wanax”) elite and by an excellent “guild” of scribes, using a standardized administration (accounting, measurement, weighing and recording) system.

Keywords: Accounting History, Bronze Age, Palace Administration, Linear B

1. The Deciphering of Linear B

When the efforts of deciphering of the Linear B tablets were still going on by the amateur and non-specialist British architect Michael Ventris (July, 12th 1922 – September, 15th 1956) all academic scholars, without exception and including Ventris himself, assumed that the hidden language behind the mysterious signs of Linear B could be anyone, but never Greek.¹ Then in April 9, 1954 *The New York Times* made it clear: Ventris² deciphered Linear B and the language behind is Greek³. Suddenly the curtain of the literate (Greek) (pre-) history and civilization has been drawn backwards at almost one thousand of years or as the contemporary poet Sinopoulos has expressed it: “*There rang out a peal of bells thirty-three centuries old*”.⁴ The deciphering of Linear B (**Figure 1**) was not only of the same importance as the decoding of the DNA, but it did happen almost simultaneously⁵.

This unexpected deciphering enabled disclosures of inestimable dimensions so far that some information delivered by Homer and Hesiod were also recorded on the clay tablets found in Knossos⁶, in Mycenae, in Pylos, in Thebes and in many other places in Greece⁷. The surprise was perfect when deities of the Greek

¹ Professor A. Wace mentions that “Schliemann ...overawed by the “experts”, who insisted that his finds could not be Greek but must be Phoenician, Asiatic or so on. When he found frescoes at Mycenae, the “experts” insisted that they could not possibly be prehistoric and deterred him from publishing them”, in: Ventris, Chadwick, 1956, p. xxviii. But even Ventris and Chadwick themselves state with a slight taste of bitterness that “...Pylos tablets and the Knossos tables might be written in Greek, was not generally considered, least of all by Ventris” (Ventris, Chadwick, 1956p. 15).

² M. Ventris together with J. Chadwick have published first in 1953 their epoch-making work in the *Journal of Hellenic Studies* and short after Ventris announced in London (June 24th, 1953) his success in deciphering Linear B after having consulted and discussed his progress with the “non-specialist” and non-scholar K. D. Ktistopoulos. Later on C. W. Blegen announced the deciphering of the tablet Ta 641 from Pylos. Ventris died unexpectedly at a car accident in the age of ...thirty-three years young. God bless his soul! See also Hooker, J. T. (1996), p. 13 f, 296

³ It is remarkable that the greatest archaeological discoveries (Troy, Linear B) were made by absolute non-specialist, like Schliemann (merchant) and Ventris (architect). A pioneer work which helped Ventris efforts was performed by the American Alice Kober (Kober “triplets”) and later on by some others which will be mentioned later.

⁴ Chadwick, J. (1976), p. XV and Hooker, J. T. (1996), p. 297

⁵ Robinson, A. (1995), in chapter 6 mentions that 1953 three remarkable things happened: DNA was explained, Mount Everest was climbed and Linear B was deciphered.

⁶ The British Arthur Evans found in 1900 as first clay tablets by digging up the old city Knossos (Palace of King Minos) and named the recorded signs Linear A (hieroglyphs) and Linear B (straight-line strokes). Linear A set includes now about 75 symbols from 1800 B. C., while Linear B about 89 symbols from 1450 B. C. The American Carl Blegen excavated 1939 Pylos and he found first 600 and later another set of 400 fresh clay tablets of Linear B.

⁷ “It is incredible that people as intelligent as the Greeks forgot how to read and write, until about the eight century when they adopted the Phoenician alphabet.” (Ventris & Chadwick, 1956, p. xxviii).

pantheon were found on those clay tablets. On only one clay tablet there are listed names of four (4) deities⁸, which significantly is too much to be “down-handled” as a “case of coincidence”⁹.

Figure 1: Linear B Syllabarium

𐀀	𐀁	𐀂	𐀃	𐀄	𐀅	𐀆	𐀇	𐀈	𐀉	𐀊	𐀋	𐀌
a	da	ja	ka	ma	na	pa	qa	ra	sa	ta	wa	za
𐀍	𐀎	𐀏	𐀐	𐀑	𐀒	𐀓	𐀔	𐀕	𐀖	𐀗	𐀘	𐀙
e	de	je	ke	me	ne	pe	qe	re	se	te	we	ze
𐀚	𐀛		𐀜	𐀝	𐀞	𐀟	𐀠	𐀡	𐀢	𐀣	𐀤	
i	di		ki	mi	ni	pi	qi	ri	si	ti	wi	
𐀥	𐀦	𐀧	𐀨	𐀩	𐀪	𐀫	𐀬	𐀭	𐀮	𐀯	𐀰	𐀱
o	do	jo	ko	ma	no	po	qo	ro	so	to	wo	zo
𐀲	𐀳	𐀴	𐀵	𐀶	𐀷	𐀸		𐀹	𐀺	𐀻		
u	du	ju	ku	mu	nu	pu		ru	su	tu		

Source: Ventris, Chadwick, 1956

But things have changed more dramatically when a very important Linear B clay tablet was found recently (1994) in Thebes, mentions four of the so many disappeared towns exactly with their Homeric names as parts of the Theban territory. Those towns were **Eleon, Hyle, Peteon and Eutresis**. They are named in the Catalogue of ships in Homers Iliad and most important they were (and are still) completely unknown in historical times (See Buzby, R., 2006). But apart of all those unexpected and amazing archaeological, historical and cultural¹⁰ dimensions, which occurred with the decipherment of the clay tablets, the mysterious signs or “clay-mails” from the very past are worth catching our interest and being research matter because the majority of the tablets disclose information with socio-economic and administrative content. It goes back so far that we find original and authentic information¹¹, not just theories or assumptions, about aspects of socio-economic activities and administration (managerial) models.

2. Disclosures in the Linear B Tablets

The creations of the *alphabets* – one of humanity’s principal intellectual product - from its beginning to the forms which are known today are very interesting and allow us to get important insights into our cognitive evolution process. It seems that the creation of commonly readable and understandable signs like our alphabets passed some phases which begin with the first contact between the *human eyes* and the *environment* (the Aristotelian *Phenomena*). In this very moment the human brain had the task to perform the dematerialization (from tangible to intangible) of the *Phenomena* and create the implicit world of *Meta-phenomena* which is the mental projection of the phenomena in our brain or the world of “meanings or terms” (*modulation*).

The next step is to document the implicit mental world as an explicit coding system (*demodulation*). While the conversion of static phenomena, like a star, are much easier to perform (“analog pictures”) the conversion of dynamic processes, like thunder or earthquake seems more sophisticated. While the abstraction of the phenomena as “one-by-one model” in form of *icons* (the symbol “*” as code for the stars), the *ideograms* or *hieroglyphs* are loaded with contents different from that everybody sees at the first moment. This means that the *unity of documentation* (writing or coding) and *deciphering* (reading or decoding) is lost. In other words the persons must be taught how to write and how to read, otherwise communication is

⁸ *A-ta-na po-ti-ni-ja* is the Athena Potnia, *e-nu-wa-ri-jo* is Enyalios which is another name of Ares, *pa-ja-wo* means Paiaon (Pan) or Apollo and *po-se-da-o* is Poseidon.

⁹ Chadwick, J. (1976), p. 89.

¹⁰ For all those who may be interesting in this exciting field of Creto-Mycenean civilization we recommend strongly to read in English the “Mycenaean Bible” of Ventris, Chadwick (1956, 1976), “Documents in Mycenaean Greek”, Cambridge: University Press, but also Chadwick (1976), “The Mycenaean World”, Cambridge: University Press. Very useful books in Greek are the works of Hooker, J. T. (1996), “Εισαγωγή στη Γραμμική Β (Introduction into Linear B)”, Αθήνα: Μ. Ι. Ε. Τ. and Chadwick (2005), “Γραμμική Β και συγγενικές Γραφές (Linear B and related writings)”, Αθήνα: Παπαδόπουλος

¹¹ Among others we find the oldest signs in the prehistoric site of Dispilio, in Kastoria, Greece (dated from 5.260 B. C., see also wikipedia.org/wiki/Dispilio_Tablet) and one of the oldest historical records about economic terms like interest (“tokos”) inscription in Kourion in Cyprus (see: Mitford, T.B. (1971), “The Inscriptions of Kourion”, Philadelphia, American Philosophical Society).

impossible. The same aspect of loading dominates the codification of the signs (syllabogrammes or logogrammes) of the Linear B and therefore their deciphering was equal with a modern hacker's work. The invention of the alphabetic signs and especially those of the vowels had revolutionized our culture as a whole. When the consonant were the fundamentals or the “*hardware*” the vowels were its “*software*”¹².

But apart of that long process our interest in the present context is focused on all those visible documents of past cultures and especially of those tightly related with the so called Linear B signs recorded in the clay tablets (c-tablets or “*c-mails*”) found in various places in the Hellenic world (Greek mainland, Crete, Aegean Islands, Anatolia) dated¹³ back up to 2.000 B. C. This earliest type of “*library*” in general were signs on rocks, stones, bones and later on clay bricks (Assyrians, Babylonians) or tablets (Greece)¹⁴. Almost all those prehistoric recordings concerns transactions with socio-economic or administrative content and the related pictorial, hierogrammatic¹⁵ or logogrammatic signs used to manifest exceptional and daily events like war, ceremonies, contracts, agreements, distributions, collections and deposits of items.

The recording of data on the clay tablets followed some rules or techniques so the writing was performed from *left to right* with a drawing motion using a stylus. The tablets themselves were divided by horizontal lines and in some cases the real side was used too. The basic shape of the tablets is the “*palm-leaf*” type (“*φοινίκια γράμματα*”)¹⁶. Many of the “*palm-leaves*” clay tablets (a – m) have only *one line* of writing, but some have two or three lines. The rectangular “*page*” type (n – z) was used for long lists of personnel and rations. In rare cases there are examples of writing on the *edge* of a tablet as an indication of the contents, like “books in the shelf”. *Place-names* indicate on actual or expected *tributes* to the palace. While men's names in *dative* and in small amounts indicate on *distributive rations* from the palace names in *nominative* combining with amounts indicate on *collective rations*, like taxes and finished goods. Monetary or other *media of exchange* do not appear on the tablets, probably because the *revenues* of the palace derived from *feudal dues* and *foreign conquest*. The recorded data were “*drawn*” on *clay tablets* and concerned all possible transactions; they provided information for various time designations, different locations (*toponyms*) and recipients.

The scribes or accountants were normally responsible for one type of goods (“*departmentalization*”), known by their own used “*clay-marks*” or handwriting type. There are about sixty (60) different “*hands*” for Knossos and another 30 “*hands*” for Pylos. So for example the Pylos tablets from the **An** series disclose military information, the **Ab** personnel information, **Jn** concerns the management of raw material, **Ta** deals with household items, **Cn** and **D** (from Knossos) with livestock and related products. But in some few cases the scribes were responsible for more item categories, like **Ab**, **Aq**, **Cc**, **Cn**, **Fg** and **Jn**. The used clay tablets were most probably *recording documents* with short time evidence (maybe one or two years), because they were only dried under the sun, not burned in furnaces, like e.g. the Sumerians did). This means either that the inventories were *quickly renewed* or that the scribes copied the tablets each year, if it was necessary. All those clay tablets found in the various palaces and places, came to us because when the palaces have been destroyed the clay tablets had been “*hardened*” by the fires which enemies had put. This has been served by professional *scribes* or *accountants* (*Human Capital* as active knowledge) using a special *accounting system* consisting of a *standardized* set of 87 *syllabograms*, some ideograms and a decadic system of numbers for counting and weighing.

3. Disclosures of weights and measures

The numerical system and the related method of counting and measuring (**Figure 2**) is rather simple than complicated and is decimal and in some cases sexagesimal (hexadecimal). The numbering of items like men, women, sheep, jugs or chariots is counted in units using a decimal notation in form of horizontal (one) or vertical (ten) strokes and three types of circles. Numeral signs (strokes) are distinguishable from the word dividers (-) as being always lifted to the top of the line. To write a number, you begin with the highest power of 10, and go toward lower ones. For each power of 10, you repeat the corresponding sign until you reach the desired multiple.

In some cases the numerals are preceding from the signs **ZE** and **MO** indicating the unit of measurement “*zeugos = pair*” and “*monFos = (one) piece*”. So means **MU ZE**ugos 100 “*draught-oxen pair100*” which is

¹² See Mavridis, 2006 and Mavridis, 2008a

¹³ The time period of interest is the so called “*palatial*” period (3100–1050 B. C.), the *Neo-Palatial* (ca. 1750– 1470 B. C.) and especially *Post-Palatial* period (ca. 1490–1050 B. C.). Similar signs were found also in many other paces in whole Europe, in the area of the Euxinian Sea and in the Baltikum countries.

¹⁴ The records on marbles, papyri (parchments) and skins (diphterae) are comparatively a “*new*” technology.

¹⁵ The ideograms are a communication system which use real or symbolic pictures “*loaded*” with an idea or imagination (see Mavridis, 2006)

¹⁶ They name *Phoenician* comes from the *palm leafs* used as material for writing (like papyrus), a custom which continued also in the clay tablets (*palm-leaf tablets*).

equal 200 (100X2) pieces exactly or **QI MO**nws 1.000 has the meaning “1.000 pieces of sheep”. In some cases the units of pair (ZE) and piece (MO) are written in combination, like: **MU ZE**ugos 2 **MO**nws 1 meaning “draught-oxen pair 2 (and one) piece 1”, which finally means five (2+2+1=5) pieces of **MU** (“draught-oxen”). The **ZE** sign can occur also with different items, like the following: **QI** 1 **MU ZE**ugos 2, meaning one (1) piece of **qi** (*ai-gis* = sheep) and 2 pair **mu** (= oxen) together five (1+2+2). Apart of these units of measurement it happens that numerals are accompanied with signs like: **NE**wos = new, young, **NE**os, **WE**tos = yearling, **ΦE**τος, **O**pero = o. = **O**. = deficit or pending (ophelos), **O**φελος, **PE**kos = Pokos, Pektos, shorn > **ΠE**κτος, **PA** = PAlaios, old or (**PA**ro = yet to get = owed, like ophelos), **ΠA**ρα, **KI** = khilos > khloros, “green fodder”, **χ**λός, **χ**λωρός, **SA** = fold, **σ**ηκός, **ΣA**κός, (**σ**ήτες, **σ**άτες, **σ**ατευτός, **σ**ιτευτός, **satt**), **AI**ga = aiga, goat, (Sanskrit. *agas*, Armen. *aic*, **AI**γα, **αι**γίς), **DE**sma = bundle > **ΔE**σμη and **PE**rusino = last year.

Figure 2: Numerical system of Linear B

1	2	3	4	5	6	7	8	9	0	-
1	2	10	20	100	200	1000	2000	10000	20000	

The used dry measures were used as unit the 120 litres basis: **1 unit of WHEAT or BARLEY** = 120 litres, **T** **I** = 12 l or 1/10 of the biggest unit (120), **V** **I** = 2 l or 1/6 **T**, **Z** **I** = 0, 5 l or 1/4 **V**. The used liquid measures (Figure 9) were based on the unit of 36 litres: In both cases either for dry or for liquid measures the **T** = **S** = 12 litres and the other measures **V** and **Z** are identical or 2 and 0,5 litres each: **1 unit of OIL** = 36 litres, **S** **I** = 12 l or 1/3 of the biggest unit (36), **V** **I** = 2 l or 1/6 of **S**, **Z** **I** = 0, 5 l or 1/4 **V**. Also fractional quantities have been used which have been explained by Bennett (Bennett, 1950): **DWO** equal with **I** for metals which is the TALANTON or in Greek **Τάλαντον** having about 29 - 30 kg or 64 lb¹⁷.

For dry (wheat) measures was used either as fraction of the preceding (1/6, 1/4) or respective as fraction of the whole (1/60, 1/240). The related ideogram without number was equal with always 1, (**T**) equal with always 1/10, (**V**) equal with **1/6** or **1/60**, (**CUP** or **Z**) equal with **1/4** or **1/240** or **1 + 1/10 + 1/6 + 1/4 = or 1 + 1/10 + 1/60 + 1/240 = or 1 + 24/240 + 4/240 + 1/240 = 1 + 29/240**. For the liquid (wine) measures either as fraction of the preceding (1/6, 1/4) or respective as fraction of the whole (1/18, 1/72). Without any number equal again with always 1, then **S** equal with always 1/3 or **V** further equal with **1/6** or **1/18**, while the ideogram (**CUP** or **Z**) was equal with **1/4** or **1/72** or **1 + 1/3 + 1/6 + 1/4 = or 1 + 1/3 + 1/18 + 1/72 = or 1 + 24/72 + 4/72 + 1/72 = 1 + 29/72**.

The clay tablets disclose not only the daily transactions (either as quantities or qualities) but inform us about the type of them. Many of them addresses –apart of the weights and measures- modern economic terms of our time, like market (**a-ko-ra** > αγορά), marketing (**a-na-ke-e** > ανάγειν), messenger (“Herold”) (**a-ke-ro, ka-ru-ke**), price (**o-no** > όνια > ορώνια), purchasing (**o-na**), delivered (**de-do-me-na**), interest (**to-ko** > τόκος), profit and loss (**za-mi-ja** > ζημία), “for sale” (**a-ko-ra-jo** > αγοραίος), obligation (**do-so-mo** > δασμός) or “pensum” (**ta-ra-si-ja**), projecting (**po-ro-e-ke** > προέχειν), payment, toll (**qe-te-a** > τέλθα > τέλη), due (**o-pe-ro** > όφελος), fragment, ration (**ka-ra-ma-to** > κλάσματον), worker (**we-ka-ta** > εργάτας), council (**ke-ro-si-ja** > γερονσία), sum or so much (**to-so, ki-ro**), aggregate (**ku-su-pa, to-so ku-su-to-ro-pa₂**), wages (**e-ke-ro-qo-no**), rent (**e-mi-to** > έμμισθος) months (**me-no** > μήνας), this year (**we-to** > φέτος), last year (**pe-ru-si-nu-wo** > περυσινός), balancing or balanced (**e-wi-su-zo-ko** > ισόζυγος > ισόζυγιο), maxima (**me-ki-ta** > μέγιστα) and (short) budgeting (inco-) terms (**PE-ru-si-nu-wo** = last year, **ZA-we-te** = this year, **O-pe-ro** = missing) (Figure 3, 4).

On the other hand they reported to the “peak” of the society (the king) what was really performed (like **a-pe-do-ke** = delivered, contributed or **pa-ro** = to collect in the tablets) and what not (**o-u-di-do-si** = not contributing or **o-pe-ro** = owing, outstanding, deficit). In terms of modern management they formed the class of senior managers or administrators and built the tactical Managerial or palatial level. These “senior managers” or “secretary generals” are mentioned in the clay tablets as **e-qe-ta** or **e-qe-ta-i** (*heq^uetas, επέτας, εταίροι*) or followers¹⁸. The Followers served the king not only as his warrior caste (“ear and eye”) but had also their own businesses as owners of land (PY Ed 317), slaves (PY Ed 847), manufactures (bronze smiths, clothes, wheels, chariots) and trade men. While the Followers were the administrative link between the royal

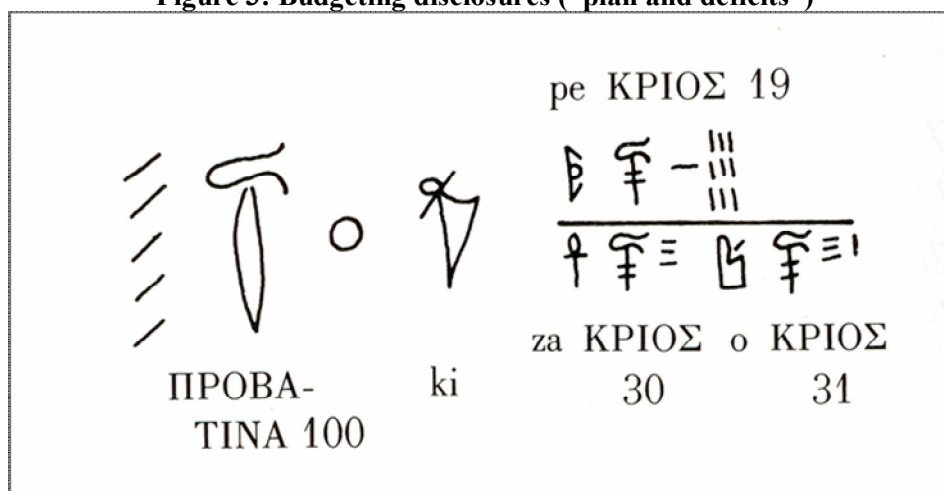
¹⁷ In later Athens 25,8 kg, 60 mnai, 3.000 stateres (8,6 gr.) or 6.000 drakhmai (4,3 gr.)

¹⁸ Those members of palatial elite were following the king and attended on him in times of peace and war; they were his close friends and table-companions, like the *etairoi* of Alexander the Great or the known Comes and Counts.

(strategic) level (*Wanax- Lawagetas – Telestai*) and the citizens (executive level) another group of people were the link “on site” or in modern terms “on field”.

The tablets disclose information mainly about two types of land plots: the private (*ko-to-na ki-ti-me-na* > κτοίνα κτίμενα = piece of private land¹⁹) and the communal (*ko-to-na ke-ke-me-na* > κτοίνα κεκείμενα = piece of public of royal land).²⁰ The communal land plots could be given from demos (*pa-ro da-mo* > παρά δάμω = from the damos or community) to palace official (*wa-na-ka-te-ro te-me-no* > ανάκτηρον τέμενος = royal land plot, *ra-wa-ke-si-jo te-me-no* = lawagesoion temenos = land plot of the chief-commander, *te-re-ta te-me-no* = land plot of telestas), to other private persons as *o-na-to*²¹ (*du-ni-jo e-ke o-na-to pa-ro da-mo* = Dunios holds a lease from the demos) and also to temples, shrines or servants of deities (*i-je-ri-ja e-ke o-na-to pa-ro da-mo* = priestess has a lease from the demos or in Greek «*ἱέρεια ἔχει ὄνατον παρά δήμῳ*»). The palace and its nobility were tightly bound to communal (*da-mo* > δάμος > demos) land plots or “*Latifundia*” (*temenos*)²² and were given to them as parts of a “feudal” contract between the *seigneur* (wanax) and his *fief-holders* (palace officials).²³

Figure 3: Budgeting disclosures (“plan and deficits”)



Source: Hooker, 1976

The tablets disclose also names of people as owners of private land (*ko-to-no-ko* = *ktoinoukhos*²⁴ = land owner = κτοινούχος or in the case of the tailor Tridaros is recorded that *ti-ri-da-ro ra-pte e-ke ka-ma*²⁵ = Tridaros the tailor has own land plot = Τρίδαρος ο ράπτης έχει κάμα) or as holders of contractual leases (*ti-ri-da-ro ra-pte e-ke o-na-to ko-do-jo ko-to-na* = Tridaros the tailor has as lease-land the land plot of Ko-do-jo = Τρίδαρος ο ράπτης έχει ως ὄνατο «μίσθιο» το κτήμα του ... Ko-do-jo). In all types of land plots the work was performed by male and female (*ku-na-ja* = *kunaka* > *kwonaka* > *wonaka* > woman = γυναίκα) workers and in some cases are also mentioned boys (*ko-wo* = *kouroi*) and girls (*ko-wa* = *kourai*).

The workers according to the tablets found were fed with rations of bread (wheat) and figs (*su-za* = *suka* = σύκα) and got rations of seed (*pe-ma* > *sperma* (= seed) > σπέρμα) for the cultivated land plots. The agricultural production covered a wide range of items, like wheat, oil (*e-ra₂-wo* > ελαιον), wine (*wo-no* > οἶνος, *de-re-u-ko* > δλεύκος > γλεύκος), beans, honey (*me-ri* > μέλι), spices but also meat, wool (*ma-ri* > μαλί) and related products (*a-re-pa* > αλείφα > αλοιφή = ointment, *pa-ma-ko* > φάρμακον = *pharmakon* = medicine, pharmacy = φάρμακον, *tu-we-a* = *thuwea* = perfumes, sacrifices = θυφέα > θύεα > θυσία).

All the above extracted disclosures are a small part of the total of about 6.800 complete²⁶ and fragmentary clay tablets records found in some of the areas of the Hellenic world. The most important hoard places of Linear B tablets are Knossos with 3.369 written by 100 different scribes, Pylos with 1.107 written by 32 different scribes, Thebes with about 300 and Mycenae with about 90. Those tablets contain in total about

¹⁹ *ki-ti-me-na* has to do with the word κτήμι or κτείμι (κτίζω) which means possess.

²⁰ *ke-ke-me-na* most probably is related with the meanings of “laid down” or “available to the public”.

²¹ *o-na-to* is related with the word ὄνατον, ονίναμι, ὄνια, ογόνια

²² The etymology indicates of something separated (= *temno* = cut off, separate).

²³ The temenos was given for the exclusive use of some persons and were described as *wa-na-ka-te-ro te-me-no*, *ra-wa-ke-si-jo te-me-no*, or institution.

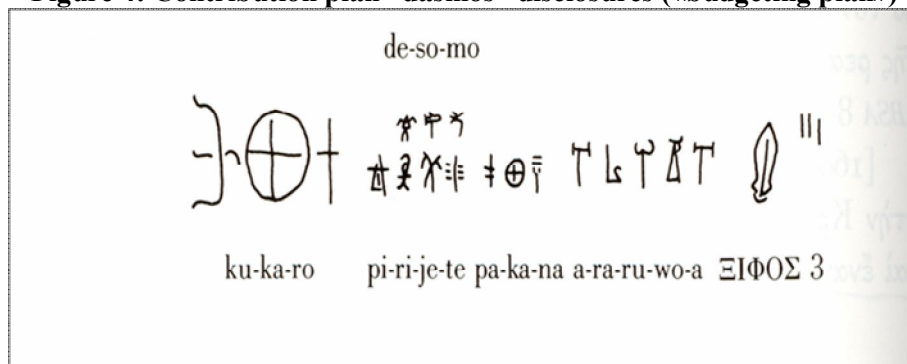
²⁴ The poor people were the *a-ko-to-ne* = *aktoinoi* = ἄκτινοι

²⁵ *ka-ma* has to do with κάμα-το, καμαεύς, μεροκάματο, καματερός, ακαμάτης and means working hard on something (land).

²⁶ There are about 5.000 tablets in Linear B, 1.400 tablets in Linear B and 400 are hieroglyphic ones.

90.000 signs whereby most of them (80.000 signs or 88%) belong to Linear B, 8.000 (about 10%) signs to in Linear A and 2.000 (about 2%) to hieroglyphic ones²⁷. Evans made an effort to decipher the Linear B signs by applying the phonetic values of the Cyprian syllabarium. He has read the word *po-lo* (KN Ca 895) after the ideogram of a horse but he believed that it was a case of coincidence and so he has lost the chance to be the decipherer of the Linear B. The “Vorsehung” had preserved it for Michael Ventris²⁸ who announced in 1953²⁹ the deciphering of Linear B. Today nobody doubts the fact of the deciphering and the language behind the recorded signs.³⁰

Figure 4: Contribution plan “dasmos” disclosures («budgeting plan»)



Source: Hooker, 1976

4. Epilogue

The majority of the tablets disclose information with more administrative character concerning the palace, its nobility and its hierarchy, the relationship to religious, professional, military and local representatives or even private men or women. Although not explicit but conclusively the palace did not have only local influence, but seems to have extended it to further neighboring and distant places, especially in the case of Crete. It is not so far to assume that they built a Thalassocracy³¹ in the eastern Mediterranean and western Asiatic region having as neighbours the Hittites.

According to the palatial-administrative hierarchy, professional structure (common workers, bronze manufacturers, armory specialists, agricultural and livestock producers), cultural customs (religious offerings, arts and paintings, frescoes, stamps and other related artifacts), military and trade organization disclosures we are able to “shape” the intellectual network of the related societies. In the case of the Bronze Age palaces the king and its “house” is in some extent producer (professional) and customer at the same time and therefore it is not easy to make a clear distinction.³² Taking into consideration all above mentioned disclosures the prehistoric world which is shaped through the recordings of the clay tablets manifests a culture with a facette of interesting points. In this summary we only wanted to focus on the socio-economic administrative aspects which allow us to catch the intellectual capability of the society to solve problems concerning daily and exceptional issues as general welfare, production and consumption patterns. Tightly connected with the transmission mechanisms of allocation (raw materials or input factors), distribution (output as products or services) and collection (in form of services, dues, taxes and other obligations) were the political, military, religious and feudal circumstances. The mentioned disclosures (professional, relational, structural) let us conclude on a society with a best organized administrative system having mainly centralistic outline but based on a decentralised system of hierarchical functions, places (palaces or megarons) and outposts for local and distant trade (structural capital) . The whole system was served and supported not only by the palatial elite but also by an excellent “guild” of scribes which used a standardized accounting system or laguage (Linear B)³³. So far the civilization disclosed by the clay tablets seems to be only a first drawing; a preludial opening of the curtain which perhaps allow us to step further into the future of the economic historiography of the past.

²⁷ The fact that the found tablets in all places do not indicate on any dialectical language forms allow us to make the assumption that the used Greek language was first “universal” and that the recording system itself was *unified* or *standardized*.

²⁸ Ventris was supported by the specialist for Hellenistic studies J. Chadwick in his efforts.

²⁹ Robinson, A., 1995: states that “the greatest shock since the discovery of Troy” was the deciphering of Linear B.

³⁰ The tablet *PY Ta 641* (*ti-ri-po* = three-leg vessel = *τρίπους*) played a crucial role for the deciphering efforts.

³¹ See also Bass (1991), Hägg & Marinatos (1984), Knapp (1996), Weiner (1984 and 1991).

³² This type of production (“ergastiria”) is evident even in the time of the Eastern Roman Empire (Byzantium).

³³ The found tablets prove that there are no local differences in the recording (accounting) system of Linear B which is an indication of the “universality” of the used signs in the whole Hellenic world.

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