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A drop of soul amidst the clay –
Cognitive aspects of Mycenaean archives
and archival texts

A thesis submitted for the degree of Doctor of Philosophy

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Quote from title from Odysseas Elytis, 'The axion esti', The Genesis,
translated by Edmund Keeley and George Savidis from 'To axion esti'

*Alicia always says that things follow not their apparent logic, but instead an inner
logic.*

C. Ruiz Zafon, Labyrinth of the spirits, 91.

*There are as many archetypes as there are typical situations in life. Endless
repetition has engraved these experiences into our psychic constitution, not in the
form of images filled with content, but at first only as **forms without content**,
representing merely the possibility of a certain type of perception and action. When
a situation occurs which corresponds to a given archetype, that archetype becomes
activated and a compulsiveness appears, which, like an instinctual drive, gains its
way against all reason and will.*

C.G. Jung, The archetypes and the collective unconscious, 99.

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Abstract

This thesis is located in the borderlands between cognition, culture and language. It asks the question of how Bronze Age people were thinking and how their cognitive processes were reflected in and enacted through their written texts and the physical reality of their archives. Building upon previous insights about Linear B, the thesis focuses on the aspect of order of and in the tablets. Results from the structural analysis of the texts are connected to insights from cognitive science and Cognitive Linguistics. Our central example is the Mycenaean palace of Pylos in Southern Greece that was destroyed in a fire around 1200 BC. The Linear B texts found in the palace are carrier of written language and material object at the same time. Written on clay, they are our most direct evidence for Mycenaean cognition. Two tablet series, each related to a different area of the Mycenaean culture, were selected as case studies: the Ta series, which describes Mycenaean feasting paraphernalia, and the E series, which treats the topic of landholding. An analysis of the tablets agrees with the long-established knowledge in Mycenology that the texts follow a very rigid structure. The thesis hypothesizes that this structure is reflective of wider cognitive patterns called 'frames'. 'Frames' or 'schemata' according to modern approaches in linguistics are cognitively grounded and intersubjectively shared. The thesis argues that the Linear B texts display a tight intertwining of cognition, written language and material object. The use of pre-structured patterns of knowledge that are reflected in the repetitive character of the texts enabled the Mycenaean scribes to use manifold abbreviations and still convey a vast amount of information. In the Mycenaean Greek texts, linguistic knowledge and world knowledge become inseparable. As such, the ability to form and perceive patterns should be seen as a prerequisite for the implicit nature of the Linear B texts and writing more generally. These patterns of thought extended to the cultural world as transmitted in the archaeological record (e.g. iconography) and the physical space of the archive and archival assemblages of the Mycenaean palaces where tablets were ordered according to similarity and contiguity.

Table of Contents

Acknowledgements.....	2
Abstract	3
1 Introduction	8
2 Setting the scene.....	13
2.1 Linear B and Mycenaean Greek	15
2.2 The archaeological background of the Pylos tablets	21
2.2.1 Pylian political geography	22
2.2.2 The history of the palace.....	24
2.2.3 Tablet archive and deposits in the palace of Pylos	27
2.2.4 The layout and furnishing of the Archives Complex	29
2.2.4.1 Room 7 of the Archives Complex – space for writing	32
2.2.4.2 Room 8 of the Archives Complex – space for reading	33
2.2.5 The tablets from the Archives Complex – distribution and storage	36
2.3 Whose cognition? – The scribes of Pylos	39
2.4 Writing at Pylos	41
2.4.1 Different types of records	42
2.4.2 The writing process	45
3 Frame theory.....	48
3.1 Imagine you were having a party... ..	48
3.2 Historical development of frame theory.....	52
3.2.1 The historical roots of frame theory	52
3.2.2 The classical frame-theorists.....	54
3.2.2.1 Bartlett	54
3.2.2.2 Fillmore.....	55
3.2.2.2.1 Development of Fillmore’s frames.....	55
3.2.2.2.2 Roots in dependency grammar	56
3.2.2.2.3 The ‘scenes and frames’-phase	57
3.2.2.2.4 The height of Fillmore’s frame theory	59
3.2.2.3 Minsky	62
3.2.2.4 Barsalou.....	64
3.2.3 Developments in frame theory	67

3.2.3.1	Schank/Abelson.....	68
3.2.3.2	The Düsseldorf Research Group.....	68
3.2.3.2.1	Busse	69
3.2.3.2.2	Ziem.....	71
3.3	Structural constituents of frames	72
3.3.1	Frame core and frame elements.....	72
3.3.2	Frame elements.....	73
3.3.2.1	Attributes	73
3.3.2.2	Values	73
3.3.2.3	Default values.....	74
3.3.2.4	Salience-structure	74
3.4	Frames as a means of studying culture – aspects to consider.....	75
4	Case study I: The Ta tablets	80
4.1	The context of the Ta tablets	80
4.2	The Ta tablets as a coherent text.....	83
4.3	History of research of the Ta tablets.....	85
4.4	Excursus: The Mycenaean Feast	94
4.4.1	The written evidence for feasting	95
4.4.2	The archaeological evidence for feasting.....	97
4.4.2.1	Vessels connected to feasting.....	99
4.4.2.2	Frescoes with feasting scenes.....	101
4.4.3	The faunal evidence for feasting.....	106
4.4.4	Feasting in Mycenaean Greece	107
4.5	Methods of ordering in the Ta tablets	108
4.5.1	The order of the tablets within the set	108
4.5.2	The order of entries within the tablets	113
4.6	Similarity and contiguity in the Ta tablets.....	114
4.7	Multiple entangled frames in the Ta tablets.....	118
4.8	The order of attributes in the entries - object frames in the Ta tablets.....	121
4.8.1	A frame-theoretical approach to Mycenaean object descriptions	122
4.8.1.1	Frame element I: MATERIAL	124
4.8.1.2	Frame element II: CONSTRUCTIONAL PARTS.....	125
4.8.1.3	Frame element III: TYPE and frame element IV: NUMBER OF LEGS	127
4.8.1.4	Frame element V: WORKMANSHIP and frame element VI: DECORATION	130
4.8.2	The Mycenaean TABLE frame	132

5	Case study II: The E tablets	139
5.1	The land registry of Pylos	139
5.2	Structure of the E tablets	140
5.3	System of land distribution	142
5.4	A short lexicon of Pylian landholding vocabulary	144
5.4.1	Types of land	144
5.4.1.1	<i>ko-to-na</i>	144
5.4.1.2	<i>o-na-to</i>	147
5.4.1.3	<i>ka-ma</i>	148
5.4.1.4	<i>e-to-ni-jo</i>	149
5.4.2	The principal owner of land: <i>te-re-ta</i> and <i>ko-to-no-o-ko</i>	150
5.5	Eb/Ep and Eo/En tablets.....	152
5.5.1	Structure of the Eb/Ep and Eo/En tablets	152
5.5.2	The writing process of the E tablets.....	154
5.5.3	Eb/Ep tablets	155
5.5.4	Eo/En tablets	158
5.5.5	The order of the page-shaped En and Ep tablets.....	162
5.5.5.1	The order of the En tablets	163
5.5.5.2	The order of the Ep tablets	165
5.6	Ea tablets.....	167
5.6.1	Location of the parcels in the Ea tablets	168
5.6.2	Structure of the Ea tablets	169
5.6.3	The writing procedure of the Ea tablets	170
5.6.3.1	Distribution of Ea tablets in the AC.....	171
5.6.3.2	Completeness of the Ea set.....	173
5.6.3.3	Writing the Ea tablets.....	176
5.6.3.3.1	Level I texts.....	178
5.6.3.3.2	Level II texts.....	179
5.6.3.3.3	Level III texts.....	181
5.6.3.4	Summary: the abbreviated character of the Ea tablets	184
5.7	A frame semantic approach to the E series	185
5.7.1	Inner structure of the E tablets	186
5.7.2	The frame of the 'normal' tablets	187
5.7.3	Frame theoretical parallels	189
5.7.4	An exemplary frame as reconstructed from Ep 212.1	193
5.7.4.1	Frame element I: LESSEE	195

5.7.4.2	Frame element II: LEASEHOLD	196
5.7.4.3	Frame element III: LESSOR	199
5.7.4.4	Non-central frame elements	200
5.7.4.4.1	Non-central frame element I: OBLIGATION	201
5.7.4.4.2	Non-central frame element II: PURPOSE	206
5.7.5	Order in the E tablets - schemata as networks	207
5.7.6	The brevity of the Ea tablets	212
6	Discussion.....	215
6.1	What do the Ta tablets reveal about the Mycenaean culture?	217
6.1.1	Pictorial and textual evidence for the Mycenaean feast	221
6.1.2	How the structure of the table entries enables understanding.....	223
6.1.3	The expert knowledge of Hand 2	225
6.1.4	The cognitive basis of the table description	226
6.1.5	Making the Ta texts cohere.....	228
6.2	The E tablets.....	229
6.2.1	The abbreviated nature of the E tablets	230
6.2.2	Structural differences between the Ta and the E tablets	231
6.2.3	The role of the verb in the E tablets.....	232
6.2.4	The entanglement of writing and thinking in the Ea tablets.....	234
6.3	Summary	236
6.4	Future prospects	240
7	Conclusion.....	243
	Bibliography	248
	List of figures	262
	List of tables	264
	Catalogue	265

1 Introduction

Ventris' decipherment of the Linear B script in 1952 and its identification with an early form of Greek excited researchers on Mycenaean Greece. Nevertheless, one could in the subsequent years occasionally perceive a slight disappointment about the character of the texts. All the texts were economic or administrative in nature, they were largely very brief and contained only few 'full' sentences, that is sentences with a verb, a subject and an object. They were extremely repetitive and many were lists with only a few words. No literary and only few more complex texts were found that would do justice to the well-known culture of the Homeric kings and heroes. More than once, researchers lamented the abbreviated and 'laconic' nature of the Mycenaean Greek texts and the restrictions it poses on our understanding of the Mycenaean culture.¹ The present thesis proposes that exactly this 'laconic' character of the Linear B texts is their main strength for a study of Mycenaean cognition. It hypothesizes that the repetitive and abbreviated nature of the texts reflects a conscious choice of the Mycenaean scribes about which types of knowledge need to be mentioned and which could be omitted because they could be inferred from the world and linguistic knowledge of the reader. Implicitness is the principle that governs the formation of the Linear B tablets. A Mycenaean scribe would only provide the reader with written clues from which they could draw upon their world knowledge and infer the missing pieces of information. Reading the Linear B tablets is much more than just giving translations for single words; we also need to reconstruct the tacit knowledge behind the texts. As Oswald Panagl notes: "For unfortunately it is the case that the presuppositions of a scribe in the 13th century B.C. do not coincide with those of a Mycenologist in 1975 A.D." ²

While the abbreviated nature of the Linear B texts was intuitively perceived by researchers from the early times of Mycenology on, its consequences for our knowledge about human cognitive abilities were never discussed. We need to ask for the cognitive prerequisites that allowed the

¹ Chadwick 1968¹, 18; Aravantinos 1984, 41; Killen 1985, 243.

² Panagl 1979, 314.

Mycenaean scribes to run a complex cultural and political system like that of the palace of Pylos with comparatively little written output. More general, we need to ask: How were the Mycenaeans thinking? To answer this question requires a holistic approach that unites insights from archaeology, linguistics and cognitive science alike.

This thesis aims for such a holistic approach. Based on the prevalent knowledge in Mycenology about the brief and repetitive character of the Linear B texts, it will try to explain how despite of or rather because of the rigid structure of the texts a vast amount of information could be transmitted. The tool for the analysis of the tablets will be the cognitive theory of frames that hypothesizes that the meaning of words and human knowledge in general are stored in long term memory in the form of cognitive patterns called frames. When understanding a phrase or in fact any type of sensory input, we fill in possible gaps in the record by accessing this wider background knowledge. To study frames in Mycenaean texts might therefore shed light on the implicit knowledge of the Mycenaeans on their own culture that governed the formation and understanding of the texts.

An application of the theory of frames on a study of Bronze Age Mycenaean texts can contribute to research on ancient and modern cognition alike. Studies on ancient cognition so far are mainly undertaken in the context of cognitive archaeology. Cognitive archaeology, however, focuses mainly on the material record of past societies while the more obvious field of textual sources is largely excluded from the debate. A study of cognitive processes of any at least partially literate society should, however, not be conducted without taking texts into account. According to recent insights in Cognitive Linguistics, language and other areas of cognition do not occupy separate faculties in the human mind and as such are inseparably intertwined. A study of ancient cognition must therefore, if evidence allows, take interest in language as much as material culture, even more as, in artefacts like the Linear B tablets, both represent two sides of the same coin. To study how a Linear B tablet is written involves the study of what is written. To separate both would mean an artificial separation of inherently connected domains of human culture and cognition that cannot be seen to have been separated by the Mycenaean scribes. So far, no study exists that connects

insights into material culture, language and cognition under one common framework. Such an approach is very much afforded through the theory of frames which in its earliest applications was applied to linguistic as well as other sensory input. For a frame theoretical approach to Mycenology (and every other field of study of ancient culture) we can ask what we can learn about how and what the Mycenaeans were thinking by understanding the formation of their textual documents. Which decisions did the Mycenaean scribes make when including certain types of information and excluding others? Which methods of ordering did they employ to make information in the texts more accessible? Through which cognitive principles were information regarded as related? A study of the texts from this perspective will probably align well with our previous knowledge of Linear B, but it will shed a new light on how the process of writing the tablets was actually guided by very fundamental cognitive processes such as categorization, similarity and contiguity, and frames.

The present thesis can be relevant for studies in modern cognition as well. So far, frame theory has never been applied to ancient languages (aside from two studies on the Homeric epics by Minchin and Bakker, which, however, are based on a more general understanding of frames).³ This is mainly due to the fact that research on modern frames is largely based on empirical studies of language users and often on the frame conceptions of the researchers themselves which can be highly subjective and, due to the recursive character of frames, never ending. Such a method is, of course, not possible for ancient cultures where we do not have any speakers of the language left. The study of ancient frames requires therefore a slightly different methodology. The present thesis tries to apply questions of Cognitive Linguistics to the study of an ancient language, where we have

- o No living speakers (and the author is not a native speaker of the language of interest)
- o A limited text corpus
- o A limited genre (economic/administrative texts)

³ Minchin 1992. Bakker 1997.

I suggest in the following that through a careful study of comparable texts from any available corpus, we can reconstruct the implicit knowledge behind the texts, the knowledge, that was not written, but existed only in the minds of the scribes. For this, we do not necessarily need to ask a person. Through structural analysis the patterns of text formation will appear. The rigid structure of the administrative Linear B texts is especially suitable for such an approach as texts within one series are usually very similar in structure, information is repeated all over which is often stressed through the similar design of the tablets, and the texts are largely devoid of aesthetic considerations. The present methodology can be applied to various cultures and various textual genres. Through a reconstruction of ancient frames, we can eventually gain insights into how cultural processes were structured in the minds of long dead people and how frames evolve through various cultures and various epochs.

In the following, I am venturing into the non-written, the aspects of knowledge that did not take shape in concrete signs in the texts. Because I am not a Mycenaean and do not have a Mycenaean at hand to question, it is first necessary to scrutinize in depth the structure of the tablets that will allow for conclusions about their cognitive content and patterns of knowledge. The general structure of the texts and their integration in sets was, of course, of interest to researchers from the beginning of the decipherment as far as it is important to an understanding of the texts. That the Linear B texts follow a rigid pattern was understood early in Mycenological research. Researchers who emphasized the aspect of structure in the Linear B tablets were, for example, Emmett Bennett and Cornelis Ruijgh with their shared interest in the writing procedures of the tablets.⁴ Few researchers, however, have attempted to closely analyse this structure in the context of linguistic fields such as syntax or pragmatics. Of major importance in this area is the work of Oswald Panagl on the textuality, word order and word formation of the Linear B tablets using insights from text linguistics and pragmatics;⁵ a special interest in the structure of the entries can

⁴ Bennett 1956; Ruijgh 1967; Ruijgh 1984.

⁵ Panagl 1973; Panagl 1979; Panagl 2007.

be found in Hurst and Bruschweiler's comparative analysis of object descriptions;⁶ research on linguistic aspects of Linear B such as topics of phonology and dialectology was undertaken by Anna Morpurgo Davies;⁷ with reference to Panagl, Thomas Palaima has studied syntax and anaphora in the feasting tablets of Pylos.⁸ These studies focus on single aspects of the Mycenaean language but are limited in scope due to the elliptic nature of the Linear B texts that does not seem to lend itself naturally to a study of syntax, pragmatics or even cognition. The following thesis is therefore trying to expand on previous research by taking advantage of those aspects of Linear B that are generally regarded as its greatest disadvantages. It asks for the cognitive prerequisites that allowed Linear B as a writing system with its various abbreviations and lacunae to still convey a vast amount of information. It is the question for the cognitive grounding of the formation of the archival texts and their location in the archive. This thesis suggests that the knowledge required to understand the texts took the cognitive form of 'frames' that governed understanding of all cultural processes. According to frame theory, our knowledge of the world and the culture we live in is learned during our upbringing in a certain society and gets stored in long term memory in the form of cognitive patterns called 'frames'. To reconstruct these epistemic patterns will allow us to deepen our understanding of the Mycenaean language, culture and cognition – all three of which become inseparable in this approach.

The first two chapters of the thesis lay the theoretical foundation for my study on cognitive aspects of Linear B. The first chapter will give an overview over the archaeological and historical context of the Linear B tablets at Pylos. It discusses the layout of the palace and the main archival rooms as well as general properties of the written records and the process of writing. The second chapter introduces frame theory, its historical development from the early research in the 1960s to more recent developments as well as its main theoretical assumptions.

⁶ Hurst/Bruschweiler 1979.

⁷ Morpurgo Davies 1985.

⁸ Palaima 2004¹.

The second part of the thesis consists of two case studies. It discusses the frame structure of two Pylian tablet series, the Ta series and the E series. By analysing the structure of the tablets, it is possible to draw inferences about the cognitive patterns underlying two important sectors of the Pylian culture: that of precious feasting paraphernalia in the Ta tablets and that of landholding in the E tablets. I argue that through an understanding of the cognitive patterns of these texts, we gain a more emic perspective on these areas of culture. We learn which aspects of knowledge were needed to be written and which could be inferred by the Mycenaean reader.

The last part of the thesis discusses the results from the previous chapters and integrates them into our knowledge of Mycenaean culture and language.

2 Setting the scene

Phugegwrís had just returned from his inspection tour. It was hot and he was longing for some rest but first he had to fulfil his duty. He had spent several days away from the palace, accompanying the other officials in their tour to collect the regular taxes from the various towns of the kingdom. They had travelled the whole peninsula, even the remote towns on the other side of the mountain ridge that rose like a barrier in the distance. For their current task, six types of items were due and they all needed to be carefully assessed. Most towns had fulfilled their taxes, certain groups of people were exempt, but some were still owing large amounts. It had taken them several days to collect all the contributions and the various types of information accompanying them. Phugegwrís' task was to keep track of the payments and debts for each single town so nothing was overlooked. It was more than he could have remembered in his mind. And, anyway, this information was too important to be left solely to the memory of one person. He had therefore taken notes of the process on a number of small clay nodules. They were easy to carry around and relatively stable. They could be attached to the baskets and bundles with the contributions of the towns so everyone knew what they contained. These containers had already been prepared. Now Phugegwrís would turn towards the next stage of the administrative process. He would collect all the nodules, order

them and transcribe the information onto small, elongated clay tablets. The tablets would give a résumé of the work they had done and would be kept as an assessment of the procedure in the archive. When he entered the archive, he saw his colleague and supervisor sitting on a small stool in the middle of the ante-room, with a clay tablet in his left hand and a stylus in his right. He was so absorbed in his work that he did not even notice the arrival. Phugegwris looked at him for a moment, admiring his diligence. He would need to find some other place to write his tablets. He silently withdrew and closed the door.

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Figure 1 A scribe at work (Illustration from Chadwick 1976, 19. Painted by Henry Hankey).

Somehow like this we might imagine the assembling of the Ma tablets, the taxation records from Pylos that were written by Phugegwris – or, as he is conventionally called today, Hand 2 – several months before the destruction of the palace of Nestor. By this time, Phugegwris has died or fled, but his Ma tablets and the corresponding clay nodule have remained in the palace archive,

baked by the flames that consumed the building and thus preserved to our days. The unintentional burning of the clay tablets that were only meant to be dried in the sun enables us to draw inferences about an area of Mycenaean culture that would have been otherwise lost to us. These tablets are bearers of text and physical objects at the same time. They were formed by the hands of the scribes or their assistants, written on with syllabic and ideographic signs and numbers, handled and sorted and stored in the archive. We must therefore ask: what do we need to *know* to fully understand this medium? For this reason, I will now give a brief overview of the context of the Linear B tablets: the kingdom of Pylos and its geography, the palace of Nestor, its history and layout, the archival complex, its design and storage methods, and the Linear B tablets, their structure and creators.

2.1 Linear B and Mycenaean Greek

Before approaching Phugegwris' hometown and his work place, we must first define what this research centres around: Linear B. What is Linear B? Which language were Phugegwris and his contemporaries in Greece speaking? And how did written words change the administrative procedures of the palace?

Linear B is a writing system that was in use in the Aegean in the later part of the Bronze Age, mainly in the 14th and 13th centuries. The two major find groups of tablets derive from the palaces of Knossos and Pylos, but smaller assemblages of tablets were also found in other sites of the Greek mainland and Crete such as Mycenae, Thebes and Chania. An early archive in the Room of the Chariot Tablets is now dated to LM IIIA1. The Pylos tablets, that are in the focus of the present study, pertain to the late phase of Linear B writing around 1200 BC.⁹ Linear B was adapted from its Cretan predecessor, Linear A. While Linear A remains undeciphered, mainly due to the small number of texts and our ignorance of the language behind the writing system, our knowledge in Linear B has grown since its decipherment in 1952. But for more than fifty years after the discovery of the first Linear B tablets in the palace of Knossos in 1900, the script had been as badly understood

⁹ Driessen 2008, 73.

as Linear A is to us now. The breakthrough was achieved by the young architect Michael Ventris. In his studies of the Linear B texts, he could build on the work of various other scholars, mainly Emmett Bennett and Alice Kober, who had approached the script from its logical and structural side. After years of research, Ventris came to the conclusion that Linear B was encoding a form of ancient Greek; this led to its decipherment in 1952. Mycenaean Greek is an ancient dialect of Greek that was spoken in the eponymous period. The Mycenaean Greek culture is named after the site of Mycenae which is the most prominent albeit, from an emic point of view, not necessarily most important Bronze Age Aegean site on the Greek mainland. In comparison to Classical Greek known since the time of the Homeric epics, it retains various archaic features in grammar as well as phonology. Examples for this would be the Instrumental plural in *-phi* or the presence of sounds called labiovelars, that is palatals with glides (e.g. *-kʷ-*).¹⁰

The Linear B script consists of syllabograms, ideograms and numerals as well as a word divider. The 87 or 88 syllabograms, that are known from Linear B, a selection of which is shown in Figure 2, each stand for a vowel such as /a/, /e/, or an open syllable with a consonant or a labiovelar and a vowel such as /wa/, /mi/, /qe/.¹¹ Signs such as /dwe/ with a double consonant or a consonant and a glide seem to be a reflection of Minoan influence.¹² Because syllabic signs represent open syllables and Greek has a lot of closed syllables or syllables with two consonants that are not represented in Linear B, various rules were applied to the writing of Linear B. Take as an example the word /anthropos/ 'human' which is written *a-to-ro-qo* in Linear B: the consonant cluster -nthr- is written -to-ro- by omitting the nasal and inserting a silent -o- after -t- in order to obtain an open syllable; later Greek -p- is still a labiovelar -q-; the final -s is omitted.¹³ The ambiguous character of the representation of the final sounds of words often poses difficulties in the interpretation of sign

¹⁰ Following a practice from Indo-European Linguistics, I prefer to use the less ambiguous notation *-kʷ-* instead of the common *-w-* to denote the 'gliding' sound in labiovelars. Similar *-j-* instead of *-j-*.

¹¹ Duhoux 1988, 14.

¹² Palaima 2012, 362-364.

¹³ Palaima 2012, 362.

groups for a modern reader. For a Mycenaean, the reading must have been obvious from the context in the same way as a learned reader of Arabic can supplement the vowels.

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Figure 2 Linear B. Simple syllabograms (Palmer 2008, 62, Fig. 2.2a).

Alongside the syllabograms, Linear B uses ideograms. A selection of these is presented in Figure 3. Slightly more than 150 ideograms are known.¹⁴ An ideogram, roughly speaking, is a sign that represents one word. In Linear B, ideograms stand only for concrete items, that is objects, humans,

¹⁴ Palmer 2008, 31.

animals. There are no ideograms for abstract concepts.¹⁵ Linear B ideograms can resemble depictions of objects (such as the deer ideogram *104 or the tripod ideogram *201^{VAS} marked in Figure 3) or they can be more abstract (such as the sheep ideogram *106 as in Figure 3).

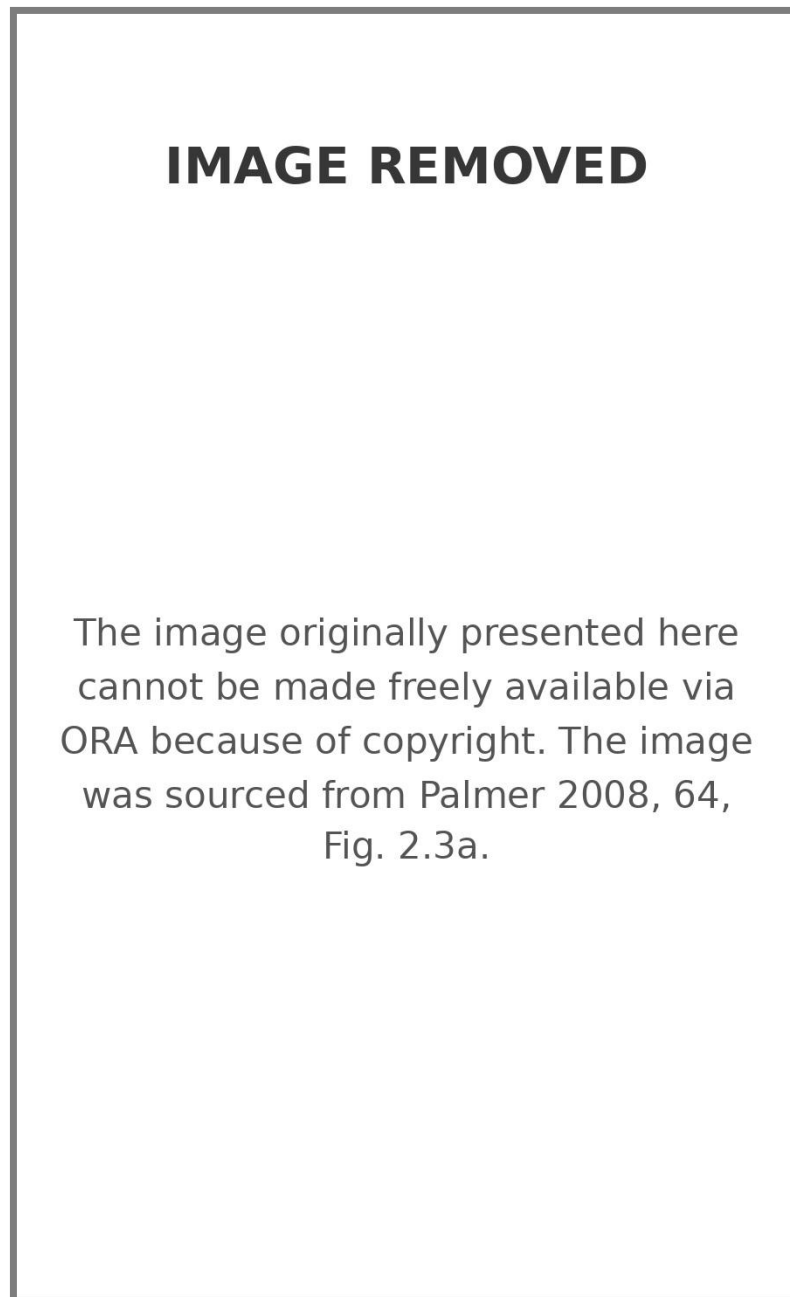


Figure 3 Examples of Linear B ideograms (Palmer 2008, 64, Fig. 2.3a).

¹⁵ Duhoux 1988, 13.

These ideograms are often placed as an apposition at the end of an entry, directly before the quantities. In the longer tablets, the first word in the entry often, but not in every case, corresponds directly to the ideogram by repeating its meaning in syllabographic script as, for example, in the Ta tablets, when the first word of an entry is *ta-ra-nu* and the ideogram at the end depicts a stool. The numerals are normally placed at the very end of the tablet, and together with the ideogram and the first word they form the most important and immediately perceivable information on the tablet. The different words of one entry are usually separated by small, vertical strokes.

For the edited corpora of the tablets, the texts were sorted into series by Emmett Bennett according to their ideograms already before the decipherment.¹⁶ The series is given through a combination of letters, followed by the number of the tablet, for example PY Ta 711 where PY is short for the site Pylos, Ta denotes the series and subseries and 711 the exact tablet. Mycenaean Greek texts are usually presented in their transliterated form. Following the general consensus among researchers in Near Eastern languages, the transliteration is the one-to-one reproduction of the syllabic and ideographic signs (where agreed, the ideographic signs are given Latin names such as MUL, short for MULIER 'woman'). A transliteration is a mere encoding of signs in another writing system; it is not how Mycenaeans would have spoken. Spoken Mycenaean Greek is approached by the transcription, that is the transfer of the transliteration into an interpreted text. A transcription is always an interpretation as we do not know for sure how a Mycenaean would have pronounced a certain word. Mycenologists usually work with the transliteration, but I will add a possible transcription and translation for the sake of convenience.

Figure 4 depicts a full account of an example of a palm-leaf tablet, Ta 641 written by Hand 2. It contains a photograph of the tablet, a sketch, the transliteration, a possible transcription and a translation. Ta 641 is part of the Ta series that will feature prominently in a later part of this thesis. It is a list of vessels with brief descriptions. It is almost complete, with only a slight fracture at the

¹⁶ Bennett 1951, XI.

IMAGE REMOVED

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The image originally presented here cannot be made freely available via ORA because of copyright. The image was sourced from Bennett 1955, 99.

IMAGE REMOVED

The image originally presented here cannot be made freely available via ORA because of copyright. The image was sourced from Bennett/Olivier 1973, 230.

- .a , skeleha , *201^{VAS}[
- .1 tripodē aigeus (??) krēsioūergēs *201^{VAS} 2 tripod (h)emei podei oiūōū(ū)ēs *201^{VAS} 1
tripōs krēsioūergēs apu kekaumenos[
- .2 k^hethoi *203^{VAS} 3 dipas medzo(h)e k^hetrōū(ū)es *202^{VAS} 1 dipa(h)e medzo(h)e
triōū(ū)e(h)e *202^{VAS} 2 dipas meīū(i)ios k^hetrōū(ū)es *202^{VAS} 1 [
- .3 dipas meīū(i)ios triōū(ū)es *202^{VAS} 1 dipas meīū(i)ios anōū(ū)es *202^{VAS} 1
- .1 [two] tripods with goats (??) of Cretan workmanship *201^{VAS} 2 [one] tripod with one foot and a single
handle *201^{VAS} 1 [one] tripod of Cretan workmanship burnt at the legs *201^{VAS} [
- .2 pithoi *203^{VAS} 3 [one] dipas, larger, with four handles *202^{VAS} 1 [two] dipas, larger, with three handles
*202^{VAS} 2 [one] dipas, smaller, with four handles *202^{VAS} 1 [
- .3 [one] dipas, smaller, with three handles *202^{VAS} 1 [one] dipas, smaller, without handles *202^{VAS} 1

Figure 4 Pylos tablet Ta 641: photograph, sketch, transliteration, transcription and translation. (photograph from <https://calibra.classics.cam.ac.uk/Tablet/PY/641> [27.06.2023]; sketch from Bennett 1955, 99; transliteration from Bennett/Olivier 1973, 230).

right-hand side. Hand 2 has drawn two horizontal lines to divide the tablet into three segments. The tablet consists of various entries. Each entry begins with the central noun that denotes the type of vessel and ends with the corresponding ideogram and a numeral. The words in the middle give a description of the vessel. In the first line, the scribe was running out of space. He preferred to squeeze the remaining text above the text rather than continuing the entry in the next line, which is a characteristic feature of Mycenaean writing.

2.2 The archaeological background of the Pylos tablets

Let us now turn to the context of the Linear B tablets of Pylos, which will be the focus of this study. In the following, I will describe the archaeological context of the palace and its surroundings. The site of Pylos – one of the various sites with this name known in antiquity¹⁷ – is located in Messenia, a region in the southwestern part of the Peloponnese peninsula in Greece. Today a town with the name Pylos exists about 17 km south of the archaeological site.¹⁸ Mycenaean Pylos was known from as early as the Homeric epics as the home of old king Nestor and his legendary palace. The literary reference sparked the interest in research and in 1939 a joint expedition under the supervision of K. Kourouniotis from the Greek Archaeological Service and C. W. Blegen from the University of Cincinnati set out to begin excavations in the presumed remains of the palace of Nestor.¹⁹ Already the first day brought to light the remains of large building structures and several Linear B tablets.²⁰ This first segment of the building was later identified to be the main archival room with the tablets still in place.²¹ After a major disruption of the excavation due to the outbreak of World War II, work was taken up again in 1952 under the supervision of C. W. Blegen and M. Rawson.²² In between, K. Kourouniotis had died and S. Marinatos was appointed as his successor. His research focused on

¹⁷ Hence the proverb: “There is a Pylos before Pylos and another Pylos still” (Lang 1987, 339).

¹⁸ Blegen/Rawson 1962, 6.

¹⁹ Blegen 1953, 59.

²⁰ Blegen/Rawson 1962, 4.

²¹ Blegen 1953, 59; Bennett 1964, 241.

²² Blegen/Rawson 1966, 8.

the surroundings of the palace.²³ From this time on, work on the palace was proceeding quickly and various buildings were uncovered during the thirteen campaigns until 1964.²⁴

2.2.1 Pylian political geography

The Mycenaean palace of Pylos is located on the hill of Epáno Englianos with a wide view over the bay of Navarino and the surrounding mountains. Its influence might have extended over an area of 2000 km².²⁵ A settlement was connected to the palace that gradually expanded in size from the Middle Helladic phase onwards. The settlement around the palace is estimated to have stretched over a length of 1km southwest-northeast and 200-300m in width, thus covering an area of 20-30ha.²⁶ Various larger and smaller towns have been under the direct influence of the central palace. Based on the number of settlements mentioned in the Linear B tablets of Pylos, Chadwick gives a minimum of 50,000 people as inhabiting the whole region.²⁷

In the Linear B tablets, these settlements have been carefully recorded and ordered according to their geographical location. The major towns of the kingdoms have been separated by the Mycenaean scribes into two provinces called *de-we-ro-a₃-ko-ra-i-ja*, which means 'this side of Aigaleon' and *pe-ra₃-ko-ra-i-ja*, which translates as 'beyond Aigaleon'.²⁸ In Mycenology, they are now called 'Hither Province' and 'Further Province'. Figure 5 gives a map with the division of the Mycenaean kingdom of Pylos. The separation into provinces was carried out according to a clear geographical marker, the mountain ridge of Aigaleon which separates the peninsula along the north to south axis into two areas.²⁹ Nine major towns or districts are assigned to the Hither Province, seven to the Further Province.³⁰

²³ Blegen 1953, 59; Lolos 2008, 47.

²⁴ Blegen/Rawson 1966, 27.

²⁵ Bennet 1999, 10.

²⁶ Davis/Alcock/Bennet et al. 1997, 428.

²⁷ Chadwick 1976, 68.

²⁸ Chadwick 1961, 127.

²⁹ Chadwick 1961, 140.

³⁰ Chadwick 1961, 127. Chadwick notes that it is not always easy to tell whether a place name denotes a town or the whole district (Chadwick 1977, 36).

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Figure 5 Map of the kingdom of Pylos with the Hither and Further Provinces and the site of the Mycenaean palace marked red (Bennet 1999, 10, Fig. 2.1 [Map by J. Bennet and M. Galaty]).

The different towns of the kingdom appear on the tablets in a relatively fixed order.³¹ Because the order of the towns is largely the same, it was early assumed that it was meaningful. Chadwick suggested that the order reflected the true geographical order of the towns as perceived from the palace of Pylos in the same way as the naming of the Hither and Further Province was undertaken from the perspective of the palace.³² The main point of reference, the capital, of the Hither Province

³¹ The order of the Hither Province is given in Jn 829, Cn 608 and Vn 20 (Chadwick 1976, 41-42). The order of the Further Province is given in Jn 829, On 300 and Vn 493 (Perna 1995, 227).

³² Chadwick 1976, 42.

was Pylos, while the capital of the Further Province might have been Leuktron.³³ The order of information on the tablets, therefore, was based on the perception of the Mycenaeans, it functioned according to a perceived plan of the kingdom.³⁴ The direction used for the plan of the Hither Province seems to have been from north to south.³⁵ The Mycenaeans can be seen to have been very well aware of their orientation in space and the Ma tablets prove that this geographical orientation was also relevant for the sorting of tablets in the archive as can be seen, for example, from the Ma series the distributional pattern of which in the archive suggests that the tablets had been stored in two containers, depending on the province.³⁶

2.2.2 The history of the palace

The palace of Pylos has undergone various architectural changes that will be described in the following with a special emphasis on the Late Bronze Age structure. The ruins of the palace can be assigned to the 13th century BC.³⁷ Its construction falls into the height of the Mycenaean culture in Late Helladic IIIA/Late Helladic IIIB (14th/13th century BC).³⁸ Shelmerdine's modified chronology with the extended period LH IIIA2 is shown in Figure 6.



Figure 6 The chronology of the Aegean Late Bronze Age (Shelmerdine 1997, 540, Table 1).

³³ Bennet 1995, 592.

³⁴ Bennet 1995, 588.

³⁵ Chadwick 1976, 43; Bennet 1995, 591.

³⁶ Firth 2006, 34.

³⁷ Blegen/Rawson 1962, 39.

³⁸ Shelmerdine 1997, 538. The Bronze Age in the Aegean mainland is subdivided into three main stages: Early Helladic, Middle Helladic and Late Helladic, each with various substages. While the relative chronology can be dated according to pottery styles, the absolute chronology is more difficult to achieve and depends on factors such as the equation of Aegean dates with Near Eastern and Egyptian king lists, the eruption of the volcano at Thera or the dating of the shipwreck of Uluburun. I will not go deeper into the problems of chronology of the Aegean Bronze Age, especially with regard to the absolute dates as marked by High and Low chronology. It suffices to say that Shelmerdine remarks that both chronologies overlap in the Late Bronze Age and therefore the overall chronology in the time that interests us here becomes less ambiguous (Shelmerdine 1997, 540).

The palace, as it was excavated in the middle of the 20th century, succeeded an earlier palatial structure that was overbuilt in Late Helladic IIIB and the remnants of which can be detected under the later main building.³⁹ A Late Bronze Age fortification wall was not excavated, but later geomorphological studies in the context of the Pylos Regional Archaeological Project found an elongated anomaly at the northwestern side of the hill that is now interpreted as remains of this fortification wall.⁴⁰ A plan of the palace with the main building, the Southwestern Building and the Northeastern Building is shown in Figure 7. The LH IIIB palace, typical for Mycenaean palaces, is a megaron building with a number of rooms arranged around a central throne room. The middle of the throne room is occupied by a hearth surrounded by four columns.⁴¹ Two further buildings are located at the sides of the main building that both yielded groups of tablets: the Northeastern Building, which is now interpreted as redistributive or processing centre, and the Southwestern Building, most probably a specialized department for the reception of textiles, functioning at the same time as major banqueting area.⁴² In the following, I will only focus on the main archival assemblage of the palace of Pylos, the Archives Complex which, so far, is the only securely identified central archive in the Mycenaean palaces.

Originally, the palace had two main entrances, one in the southeast through the propylon and the second in the northeast through Room 41, opposite the Northeastern Building before the latter was built.⁴³ Both entrances would lead to the central court and the megaron. But during the 13th century, the layout of the palace was altered several times.⁴⁴ The entrance through Room 41 was sealed off and towards the end of the 13th century, the only access was through the main propylon and the adjacent Archives Complex.⁴⁵ The alterations of the palace seemed to have served to

³⁹ Shelmerdine 2008, 81.

⁴⁰ Zangger/Timpson/Yazvenko et al. 1997, 613.

⁴¹ Blegen/Rawson 1962, 7.

⁴² For the Northeastern Building compare Teghey 1984, Bendall 2003 and Shelmerdine 2008. For the Southwestern Building see Shelmerdine 1998-1999.

⁴³ Shelmerdine 2008, 82.

⁴⁴ Shelmerdine 2008, 86.

⁴⁵ Wright 1984, 22.

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Figure 7 Plan of the Palace of Pylos with the Archives Complex marked red (Shelmerdine/Palaima 1984, Fig. 2 [Plan by J.C. Wright]).

control the access from the outside, on the one hand, and to improve the internal processes including storage space in the palace, on the other hand.⁴⁶ Through this, the palace became more secluded and self-sufficient. It would also serve to centre all administrative processes even more to the heart of the palace.⁴⁷ These various alterations that encapsulated the palace are often seen as signs for an increasingly difficult situation, possibly induced through outside forces.⁴⁸ A few Linear B tablets from the palace are interpreted in this direction.⁴⁹ The reasons for the destruction of the

⁴⁶ Shelmerdine 2008, 86.

⁴⁷ Shelmerdine 1987, 564.

⁴⁸ Blegen/Rawson 1962, 41.

⁴⁹ Tablets that might bear witness to a moment of crisis are: the An tablets, especially the five so-called *o-ka* tablets that refer to coast guards; Jn 829 and Jo 438, which list attributions of bronze and gold; and Tn 316, a list of offerings and sacrifices. For a discussion of the Linear B tablets in a situation of crisis compare Palmer 1956, Chadwick 1976, especially 175-177, Baumbach 1983. For arguments against a reflection of a moment of catastrophe: Hooker 1982, Palaima 1995. Shelmerdine and de Fidio further argue against an attack from

palace are unknown but around 1200 it fell victim to a disastrous fire and burned down to its foundations. There is some debate around the exact date of destruction, both the year and the season. The season is dated according to the tablets found. Chadwick interprets the month given in Tn 316 as the last month of the polity. It is called *po-ro-wi-to-jo*, which probably translates as 'month of sailing'. He therefore dates the event to the start of sailing season in spring.⁵⁰ Palaima notes that *po-ro-wi-to-jo* could also be dated to July-August and if Tn 316 is not one of the very last tablets, the date might have been a totally different one.⁵¹ The problem of the rough year of destruction is an archaeological one. The question is: was the palace destroyed in LH IIIB1 or more towards the transition to LH IIIC? The dating depends on the dating of the pottery in the palace.⁵² Popham dates the pottery to early Late Helladic IIIB.⁵³ Shelmerdine, however, remarks that he has left out of consideration the much larger amount of undecorated pottery that dates mostly to LH IIIB2.⁵⁴ It is therefore now assumed that the palace was destroyed around the transition from LH IIIB2 to LH IIIC Early.⁵⁵ The site was largely abandoned and left to be excavated three-thousand years afterwards.

2.2.3 Tablet archive and deposits in the palace of Pylos

It is thanks to this fire that the approximately 1,100 tablets in the palace have been preserved.⁵⁶ The tablets were never deliberately baked, but rather laid out in the sun to dry. They would have long dissolved but the violent fire baked them and made them durable. Almost all tablets belong to the very last phase of the palace and were found in the destruction stratum.⁵⁷ The tablets show different phases of burning, depending on their position in the stratum, from reddish-brown to

the sea and instead see the destruction of the palace of Pylos as the peak of an economic decline of the Mycenaean kingdoms due to over-centralization and over-specialization (Shelmerdine 1987, 567; De Fidio 1987¹, 135-136).

⁵⁰ Chadwick 1976, 192.

⁵¹ Palaima 1995, 630-631.

⁵² Mountjoy 1997, 109.

⁵³ Popham 1991, 322.

⁵⁴ Shelmerdine 1997, 581, fn. 277.

⁵⁵ Driessen 2008, 73.

⁵⁶ Olivier 1984, 13.

⁵⁷ Palaima 1988, 172; Palaima 2003, 162-163. Tablets that might be of an earlier date in LH IIIA are: Ua 994, Ae 995, Xa 1419-1420, Xn 1449 (Shelmerdine 1997, 560; Driessen 2008, 73).

grey-black colour. As it appears from the tablets, the records were not stored for more than one year. Palaima estimates that the tablets in the main archive all belong to the last five months of the palace of Pylos at most.⁵⁸ This can be deduced from the content of the tablets that refer only to a certain season and that never give an absolute date but only relative references such as ‘this year’ or ‘last year’. This would only make sense if the year was obvious to the scribes because all the tablets referred to the current year. The main archive consisting of only two small rooms would also have been too small to house records that span more than a few months or a year.⁵⁹ All the tablets are economic or administrative records. We do not have any forms of literature, religious texts in the narrow sense or even personal notes.

In his discussion of the Mycenaean archives, Olivier distinguishes between four different kinds of archival assemblages in the Mycenaean palaces: deposit, specialised bureau, non-specialized bureau and archive.⁶⁰ The specialised and non-specialised bureaus are only attested at Knossos. At Pylos, various deposits and one proper archive are known. Deposits are smaller assemblages of shorter tablets that are usually directly connected with the procedures of a certain workshop or storeroom and written by one or very few scribes. An archive, on the other hand, is a larger assemblage of tablets that contains documents from various origins and on diverse topics, usually written by numerous scribes, but often under the supervision of a major scribe or archivist.⁶¹ Several deposits were found at Pylos, the largest of which is located in the Northeastern Building.

Leaving the Northeastern Building and the various smaller deposits aside, our focus here is on the Archives Complex at Pylos (marked red in the plan of Figure 7; AC hereafter). The AC is the only tablet assemblage in Pylos and Knossos that fulfils the criteria for an archive for sure.⁶² It is an enclosed two-room-set at the entrance of the palace that hosted circa 80% of the clay tablets in

⁵⁸ Palaima 2003, 169.

⁵⁹ Palaima/Wright 1985, 258.

⁶⁰ Olivier 1967¹, 125-131.

⁶¹ Olivier 1984, 15-16.

⁶² Driessen suggests that the Northern Entrance Passage at Knossos might have functioned as a central archive, although not to the extent of the Archives Complex at Pylos (Driessen 1999, 222). Texts in this area cover a variety of topics and were written by at least eighteen hands (Chadwick 1968², 491).

Pylos.⁶³ Palaima counts 767 tablets as having been found in the AC.⁶⁴ Not only its sheer number of tablets makes the AC stand out among the other Mycenaean archival assemblages. The diversity and artistry of the tablets are remarkable as well. Thus, the AC contains a considerable number of longer texts, summaries, texts of special importance and labels compared to the rest of Pylos and even to Knossos.⁶⁵ This attests to the relevance of the administrative procedures that are documented in the AC in contrast to the smaller deposits because the processing of these types of texts required an extra amount of knowledge about the various operations in the palace and its surroundings. The AC also stands out because it was an enclosed set of rooms with a specially designed architecture that suited the function as an archive. Thus, the archaeological and the philological evidence of the archive and its tablets is of central interest for our purposes.

2.2.4 The layout and furnishing of the Archives Complex

I will now describe the AC in further detail. The Archives Complex was located at the main (and, towards the end of the 13th century, only) entrance to the palace. A visitor would approach the palace from the southeast. They would take the perspective of Figure 8. To the right, they would see the Northeastern Building and to the left, the Southwestern Building. Before them would rise the high, two-storey façade of the main building.

The entrance to the palace would be immediately in front of them, slightly left to the middle axis of the main building. Two propyla, connected through a large doorway and with a central column each, would guide their way into the ceremonial heart of the palace. Crossing the central court and an ante-room, they would finally reach the megaron with its large hearth and the four columns. But already at the very entrance, an interested visitor would have found the administrative heart of the palace, the Archives Complex. These two very small rooms (numbered Rooms 7 and 8) were located, one after the other, directly adjacent to the left of the propylon. They are interconnected

⁶³ Olivier 1984, 14.

⁶⁴ Palaima 2003, 181.

⁶⁵ Olivier 1984, 13; Palaima 1988, 172, 177-179.

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Figure 8 View at the palace: to the right the propylon with its two central columns and to the left the Archives Complex with the bench in Room 8. In the background the court and megaron (Blegen/Rawson 1966, Fig. 9).

through a doorway at the northeastern side of the wall between Rooms 7 and 8.⁶⁶ How one would access these rooms, was long debated. This is mainly due to the unfortunate fact that part of the northeastern partitioning wall between Room 8 and the propylon has been robbed of its stones sometime around 1800. The looters took out the original stones and filled up the remains with what they found.⁶⁷ The resulting trench is termed ‘the Chasm’ now and it presents the main problem when one wants to approximate the find-spots of the tablets because the tablets found in this trench are known to have been displaced from their original position that cannot be reconstructed.⁶⁸ Because we do not have the partitioning wall between Room 8 and Propylon 2 left, we do not know for sure whether there had existed a door between these rooms, additionally to the doorway that has been excavated between Room 7 and Propylon 1. The two possible reconstructions of the room are shown in Figure 9.

⁶⁶ Blegen/Rawson 1966, 95.

⁶⁷ The terminus post quem of 1797 for this is known through the find of a coin from Lodovico Manin, the last doge of Venice (Blegen/Rawson 1966, 96).

⁶⁸ Bennett 1964, 250.

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The image originally presented here cannot be made freely available via ORA because of copyright. The image was sourced from Palaima 1988, 185.

Figure 9 The Archives Complex: possible reconstruction with one or two doors (Palaima 1988, 185)

Palaima and Wright suggested that there must have been a second door in Room 8.⁶⁹ This would mean that, instead of going through the propylon, one could also have sneaked through the Archives Complex. To prevent this, a sentry stand was positioned to the left of Propylon 1, between both doors in the propylon and from the propylon to Room 7 of the AC.⁷⁰ The other sentry stands in the palace were all positioned at the right side of the door.⁷¹ Whether the outer entrance through Room 7 had always existed or was added later as Palaima and Wright suggest, cannot be said for sure.⁷²

The two rooms of the Archives Complex apparently served different functions. Room 7 was used to receive tablets from other areas of the palace, to prepare them for sorting and possibly (for only one or two persons) to work on the tablets.

The function of Room 8 was to store the tablets for the duration of one year and probably also to consult them.⁷³

⁶⁹ Palaima/Wright 1985, 256.

⁷⁰ Wright 1984, 22; Palaima/Wright 1985, 261.

⁷¹ Blegen/Rawson 1966, 93.

⁷² Palaima/Wright 1985, 260.

⁷³ Palaima 2003, 177.

2.2.4.1 *Room 7 of the Archives Complex – space for writing*

Room 7 (called ‘office of the tax collector’ by Blegen) was about 4x4m in size and had a floor of tamped clay.⁷⁴ Blegen describes two layers of deposit at a height of 0.60m: a red stratum that was composed of the disintegrated red brick from the upper storey and a mixture of stones, potsherds and plaster from the walls, and a layer of ploughed earth on top (ca 0.15-0.20m deep).⁷⁵ More than three hundred tablets and tablet fragments were scattered in six or seven groups in the northeastern part of the room.⁷⁶ Palaima suggests that they might have been originally stored in shelves along the walls awaiting processing.⁷⁷ The close association of a number of corresponding tablets (that is, tablets that can be referred back to one series such as the Ea series) at the northeastern wall of the room suggests that they had not fallen from above, but rather been stored in a basket on the floor or on the lowest shelf. A cluster of labels in grid square 52 might be derived from a number of storage baskets that had been placed next to the doorway between both archival rooms.⁷⁸ A number of other objects was found in the room: among these were detected a large pithos in the south corner, the content of which is unclear (Blegen suggested olive oil, Pluta – more convincing in this context – assumes water for the handling of the tablets; fragments of the pithos in Room 7 are shown in Figure 10; the reconstructed pithos is given in Figure 11).⁷⁹

Furthermore, the excavators found a spearhead and a badly damaged bronze sword close to the doorway between the archival rooms. What their purpose was is unknown. Several burnt animal bones were distributed in the western corner. Near the northwest wall, eleven diminutive kylikes were excavated. Blegen interprets them as “remains of sacrifices and dedicatory vessels”.⁸⁰ Stocker and Davis suggest that “all of the artifacts in Room 7 [...] are remnants of animal sacrifice and ritual

⁷⁴ Blegen/Rawson 1966, 92.

⁷⁵ Blegen/Rawson 1966, 94.

⁷⁶ Blegen/Rawson 1966, 93.

⁷⁷ Palaima 2003, 180.

⁷⁸ Pluta 1996-1997, 247.

⁷⁹ Blegen/Rawson 1966, 92; Pluta 1996-1997, 246.

⁸⁰ Blegen/Rawson 1966, 93.

dining”.⁸¹ The sword might have been used for the slaughter of sacrificial animals and the miniature kylikes, which were too small for drinking, for ritual libations.⁸² These rituals would not have taken place in the archives room. Stocker and Davis therefore assume that the items were brought to the archive as some form of physical proof for the conduction of these ceremonies.⁸³ No fixed furniture apart from the pithos was found in Room 7.

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Figure 10 Archives Room 7: sherds of the broken pithos (Blegen/Rawson 1966, Fig. 77).

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Figure 11 Archives Room 7: the reconstructed pithos (Blegen/Rawson 1966, Fig. 381).

2.2.4.2 Room 8 of the Archives Complex – space for reading

Room 8 is narrower than room 7 with a length of 4m and a width of circa 2.90m.⁸⁴ The floor was covered with the same two layers of red debris and earth as Room 7.⁸⁵ Room 8, which served as main archival storage, was furnished with a fixed brick and clay bench around three sides in the southeast, the southwest and the northwest. The bench was between 0.30m and 0.40m high and between 0.45m and 0.75m deep.⁸⁶ Apparently, this bench was used to lay out tablets for drying,

⁸¹ Stocker/Davis 2004, 190.

⁸² Stocker/Davis 2004, 190.

⁸³ Stocker/Davis 2004, 193.

⁸⁴ Blegen/Rawson 1966, 95.

⁸⁵ Blegen/Rawson 1966, 98.

⁸⁶ Blegen/Rawson 1966, 96.

storage or reading. It could also be used for sitting on it when consulting one of the tablets. Pluta calculates that 532 of 736 tablets in the Archives Complex were stored in Room 8 at the time of the destruction of the palace.⁸⁷ The tablets are dispersed over wide areas of the archive. For this reason and from conducting experiments, Bennett inferred that there had been shelves along the walls from which the tablets fell when the walls collapsed during the fire.⁸⁸ No traces of postholes or charred wood are found, however, so we do not know any more about this.⁸⁹ From the plan of distribution, it can be inferred that a majority of tablets was stored on or above the northwestern end of the bench. Figure 12 displays an assemblage of tablets from this area.

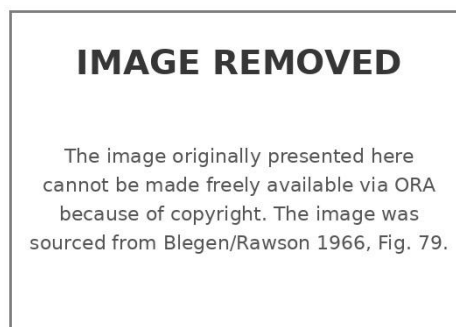


Figure 12 Archives Room 8: clay tablets near Northwestern bench (Blegen/Rawson 1966, Fig. 79).

Figure 13 shows the distribution and the main concentrations of tablets in the archive. From this bench, they had spilled straight towards the southwest into the room, probably intermixing with tablets stored along the opposite wall, next to the doorway between the two rooms. It is difficult from the pure distributional maps to deduce which tablet series have spilled from which side, especially with the tablets mixing in the middle of the room. A further analysis of the excavation diaries might shed more light on this and would be worth a study in the future. Several tablets and tablet fragments were also found lying on the bench, especially in the western and southern corner. There is a conspicuous gap of tablets in the southwestern part of the bench. This might be a hazard

⁸⁷ Pluta 1996-1997, 248.

⁸⁸ Bennett 1957, 30.

⁸⁹ Blegen/Rawson 1966, 97.

of preservation. But maybe this part of the bench was kept clear for sitting on it. Unfortunately, we do not have any evidence of windows for these rooms.

IMAGE REMOVED

The image originally presented here cannot be made freely available via ORA because of copyright. The image was sourced from Plan from Palaima 2011, 61, Fig. 12.15; find spots from Bennett/Olivier 1976; plotting by the author.

Figure 13 Detailed plan of the Archives Complex with distribution of tablets. Plan is superimposed with a grid in metre and decimetre squares. Tablet fragments marked red were dislocated in the Chasm (Plotting by the author. Plan from Palaima 2011, 61, Fig. 12.15. Find spots according to Bennett/Olivier 1976).

2.2.5 The tablets from the Archives Complex – distribution and storage

Very much care was taken during excavation on the documentation of the AC. Through this, we now have a detailed record of the fittings of the rooms and the find spots of the tablets that allow for inferences about the order of the archive. The tablets have been widely scattered throughout the archive in various groups shortly before or during the destruction of the palace.⁹⁰ Their distribution has been noted in all detail in the excavation notebooks.⁹¹ The find-spots of all the fragments are listed in *Pylos Tablets Transcribed II*. From this, it is possible to enter the position of each fragment into a map of the Archives Complex. Emmett Bennett superimposed the plan of the archive with a grid that would allow for an exact plotting of the find spots.⁹² The origin of the grid is placed by Bennett in the northwestern corner of Room 8.⁹³ In 1996, Kevin Pluta attempted a full mapping of all the tablets and tablet fragments in the archive. In his publication of the preliminary results, he compared his plotting of the fragments with the description of the find-spots in MacDonald's excavation notebooks and noted that the original grid as found in *Pylos Tablets Transcribed II* was positioned wrongly over the map of the Archives Complex.⁹⁴ It turned out that grid squares 00-01-10-11 should be positioned exactly in the western corner of the bench. In PTT II, they were dislocated about half a metre to the north-northwest. Pluta corrected this by shifting the grid slightly to the southeast.⁹⁵ For a comparison between the original and the revised grid compare Figure 14. This grid divides the archival rooms of the Archives Complex in meter squares each of which can further be divided into decimetre squares.

The fragments are numbered with a four-digit number. The first two numbers refer to the meter square and the last two numbers to the decimetre square.⁹⁶ The first number in each set, that is the first and the third number of the four-digit code, mark the position of the fragment on the x-

⁹⁰ Firth 2017, 63.

⁹¹ Pluta 1996-1997, 231.

⁹² Bennett 1964, 248.

⁹³ Bennett 1964, 247.

⁹⁴ Pluta 1996-1997, 233.

⁹⁵ Pluta 1996-1997, 236.

⁹⁶ Firth 2017, 57.

IMAGE REMOVED

The image originally presented here cannot be made freely available via ORA because of copyright. The image was sourced from Pluta 1996-1997, 233, Fig. 2.

IMAGE REMOVED

The image originally presented here cannot be made freely available via ORA because of copyright. The image was sourced from Pluta 1996-1997, 239, Fig. 7.

Figure 14 Pluta's plan of the Archives Complex with distribution of tablets. Above: the original grid. Below: the revised grid (Pluta 1996-1997, 233, Fig. 2 and 239, Fig. 7).

coordinate, while the second and fourth number relate to the y-coordinate.⁹⁷ Each fragment is now assigned its appropriate position within these ten-by-ten centimetre squares by moving through the grid in the relevant directions. Tablets that were recovered from the Chasm and thus from a disturbed context were marked with an x.⁹⁸ A plotting of the tablet fragments must therefore bear in mind to superimpose the grid correctly over the map. R. Firth in 2017 published an updated and revised list of the find-spots for every fragment in the Archives Complex.⁹⁹

It is generally agreed that the records were stored in the archive according to some proper and efficient order, a similar order that is also reflected in the structure of the texts and the ordering of the series.¹⁰⁰ The modern classification system agrees surprisingly well with the classification of their own texts by the Mycenaean scribes as we can infer it from the texts themselves and from their find-places in the archival rooms. Thus, the texts in the archive were foremost ordered according to their main content as noted in the form of an ideogram and grouped into series. Various physical methods of ordering were used to emphasize the classificatory grouping of the tablets. Tablets were stored in the corresponding groups in the archive by either tying them together with a string or by placing them in wicker baskets or by keeping them in wooden boxes with bronze hinges.¹⁰¹ The perishable materials are, of course, lost to us, but we have evidence of the bronze hinges and imprints of wickerwork on clay labels.¹⁰² These clay labels were used to mark the general content of a basket. Firth's analysis of the distribution of the Ma tablets and Palaima's study of the contiguities of the Sh tablets show how within the different containers, be it wooden boxes or wicker baskets, tablets were not placed randomly, but rather to a well-defined system of order that facilitated their reading.¹⁰³

⁹⁷ Pluta 1996-1997, 233.

⁹⁸ Firth 2017, 58.

⁹⁹ Firth 2017.

¹⁰⁰ Bennett 1955, V; Bennett 1964, 241; Blegen/Rawson 1966, 97; Nosch 2008, 595.

¹⁰¹ Blegen/Rawson 1966, 97.

¹⁰² Blegen/Rawson 1966, 97-98.

¹⁰³ Palaima 1996, 387; Firth 2017, 65.

2.3 Whose cognition? – The scribes of Pylos

When asking about the cognitive aspects of Linear B, one needs to first ask: whose cognition? As far as we know, Linear B as a writing system was never used by a wider public. Aside from the few and very limited painted inscriptions on storage vessels, the tablets that were preserved can all be assigned to a relatively small number of people in the context of the palace. These persons are not easy to grasp as – in contrast to the situation in the Ancient Near East – we do not have any signatures or individual seal impressions in the records. We also do not know the Mycenaean word for ‘scribe’, if there existed one.¹⁰⁴ There are, however, ways of approaching these persons and of giving them a sense of individuality by using methods of palaeography. In this context, the scribes are called with the more neutral term ‘hands’. Palaima has conducted this research for Pylos, parallel to Olivier’s earlier studies of the scribal hands at Knossos and drawing on Bennett’s earlier work. They found that each scribe had their own characteristic handwriting and style. This can be seen from various characteristics: from the way the strokes of the single signs were drawn to the choice of signs for certain ambiguous sounds or questions of grammar and formula. Palaima identified twenty-five main scribal hands at Pylos and six secondary hands. He estimates that at least thirty-two scribes were actively writing tablets in the palace shortly before its destruction.¹⁰⁵ Knossos, in comparison had forty-one main hands and twenty-five secondary hands.¹⁰⁶ Not each of these scribes was equally responsible for each area of the palace economy. Nor did each of the scribes have the same output of tablets. Some scribes wrote only a small number of tablets on a single subject. These are called ‘fully specialized’. Scribes who wrote on a single subject but several aspects of it are termed ‘semi-specialized’. Other scribes wrote on several different topics; these were ‘non-specialized’.¹⁰⁷ Shelmerdine notices that there are more non-specialized scribes at Pylos than at Knossos.¹⁰⁸ This touches one of the central questions around Mycenaean scribes: whether

¹⁰⁴ Palaima 2003, 153.

¹⁰⁵ Palaima 1988, 172.

¹⁰⁶ Olivier 1984, 14.

¹⁰⁷ Shelmerdine 1999, 565.

¹⁰⁸ Shelmerdine 1999, 565.

they were professional scribes like in the Ancient Near East or whether they were palace officials who could write. It is generally assumed that the latter was true. This was already stated early in research by Bennett and Chadwick.¹⁰⁹ Reasons for that are that there is no name attested for scribes, that we do not have signatures and that no reference is made to scribes in the ration tablets that refer to palace workers.¹¹⁰ It is therefore more probable that they were palace officials themselves. Palaima suggests that they could also have been record-makers that supported palace officials in their work.¹¹¹ The different degrees of specialization among the scribes further suggest that certain scribes (such as Hand 1 and 2 at Pylos) might have had a different role in the palatial economy than their more specialized colleagues.

From the minimum number of thirty-two scribes at the Palace of Pylos, Hands 1 and 2 stand out due to their exceptionally high number of diverse and important records. Various interconnections can be found between these scribes. They both write various texts on the Hither and Further Province. Hand 1 wrote on a variety of topics of major importance such as landholding, people and livestock. He can be seen to write several final documents of major importance, that is compilations such as the landholding En and Ep tablets or totals such as the Ed tablets. He also wrote five filing labels that were used to mark the content of tablet containers, more than any other one scribe, which means that he was involved in the organization of the archive.¹¹² Finally, he interferes with the texts of other scribes by correcting them.¹¹³ For this reason, Hand 1 is generally regarded as 'master scribe' or even 'archivist'.¹¹⁴ In contrast to the other scribes who moved around the palace or the surrounding area, he seems to have worked mainly in the Archives Complex.¹¹⁵ His name might have been *a-ko-so-ta*, a name that is mentioned several times as responsible in important

¹⁰⁹ Bennett 1960, 27; Chadwick 1976, 24.

¹¹⁰ Palaima 2011, 122.

¹¹¹ Palaima 2003, 177; Palaima 2011, 122.

¹¹² Palaima 1988, 51.

¹¹³ Palaima 1988, 58.

¹¹⁴ Palaima 1980, 226.

¹¹⁵ Palaima 1988, 189.

documents.¹¹⁶ Hand 2 seems to have been his assistant and was probably trained to become his successor.¹¹⁷ Their two handwritings and the shaping of their tablets display similar characteristics.¹¹⁸ Hand 2 is the writer of several major tablets listing valuables.¹¹⁹ Hand 2's work on valuable items and commodities, among others the Ta series, can be seen to be very careful and neat.¹²⁰ Kyriakidis shows how he would have had access to most rooms of the palace.¹²¹ As access to certain rooms, especially on the upper storey would have been restricted, this would be a sign for his high authority and influence. His name was probably *pu₂-ke-qi-ri* which Lejeune reads as *Φυγέβρις.¹²²

2.4 Writing at Pylos

The process of writing the Linear B tablets was a very elaborate one. It evolved over several stages from the gathering of information to the shaping of the clay, the actual writing and finally the storage of the tablets. At the latest one year later, they would have been taken out of the archive again, reduced to a pulp, reshaped and rewritten.¹²³

Four types of records inscribed with Linear B are preserved to us (see Figure 15):

- Inscribed Stirrup Jars
- Sealings and labels
- Palm-leaf clay tablets
- Page-shaped clay tablets

Inscriptions on the coarse ware stirrup jars depict an early stage of Linear B administration, comparable to the short inscriptions on sealings. As none of the 180 known exemplars was found

¹¹⁶ Palaima 2011, 123.

¹¹⁷ Palaima 1988, 189.

¹¹⁸ Palaima 1988, 66.

¹¹⁹ Kyriakidis 1996-1997, 220.

¹²⁰ Palaima 2011, 100.

¹²¹ Kyriakidis 1996-1997, 216.

¹²² Lejeune 1972, 152-153, fn. 63; Bennet 2001, 31.

¹²³ For the possibility that tablets could be reshaped cf. Bennet 2001, 27.

at Pylos and as their outer appearance and function assigns them a special status, I have excluded them for this purpose.¹²⁴ I will instead focus on the clay inscriptions, especially on the clay tablets as they represent the most extensive textual evidence. Different forms of clay were used for different stages of the information gathering process. Three main stages of writing were known: nodules, palm leaf-shaped tablets and page-shaped tablets. In reality, however, these stages were fluid and various intermediate stages were known. Occasionally, a fourth, final stage is assumed where detailed texts were written on perishable material.¹²⁵



Figure 15 Different types of Linear B documents.

The first stage of writing could take the form of clay sealings or short clay tablets.¹²⁶ Circa 147 sealings were found in the palace of Pylos.¹²⁷ They could bear a seal impression or a short inscription. These small lumps of clay were lightweight, relatively stable and did not require a lot of material or skill so they could easily be moved around within the palace, but also around the wider region of the Pylian kingdom as carrier of information and marker of authority.¹²⁸ At a later stage, probably in the palace, this information could have been transcribed on tablets.¹²⁹

¹²⁴ Van Alfen 2008, 235-236. They are of interest because they are evidence of writing undertaken outside the palace and from people who are not to be identified with the scribes of the palace, although they might have been supervised by the palatial officials. How conscious the writers of the jars were of their writing, is not always easy to determine. The inscriptions consist only of personal names and toponyms. At least some of the inscriptions seem to have been done by illiterate people who were merely copying single names (Palaima 1992, 63-64). The parallel existence of one-word and three-word inscriptions seems, however, to imply a conscious abbreviation of longer formulae into shorter ones similarly to the use of abbreviated formulae in the Linear B texts, e.g. the Cn series (Van Alfen 1996-1997, 260-261).

¹²⁵ Olivier 1997, 314; Driessen 1999, 226. Naturally, none of these is preserved which is why the assumption of texts on perishable material is largely an argumentum ex silentio.

¹²⁶ Most of the Pylian sealings were found in the Northeastern Building and the Wine Magazine (Palaima 1987, 261; Palaima 2003, 182). Kyriakidis notes that most of the inscribed sealings of the palace can be attributed to known scribal hands (Kyriakidis 1996-1997, 202). For a discussion of sealings cf. Aravantinos 1984; Palaima 1987; Olivier 1997; Flouda 2000.

¹²⁷ Palaima 1987, 257.

¹²⁸ Olivier 1997, 315; Palaima 2011, 106-108.

¹²⁹ Olivier 1997, 315; Palaima 2000¹, 221-222.

Another category of clay nodules were labels. Labels were attached to wicker baskets to mark their content. The imprint of the baskets can still be seen on these labels.¹³⁰ Labels bear very short texts, often only one word and a number and would relate in content to a set of tablets. The labels are listed under the abbreviation Wa in the Pylos tablets. All Wa labels come from the Archives Complex.¹³¹ Twelve labels were found in Room 7 of the Archives Complex, nine of these in grid 5214 close to the doorway between the rooms.¹³² Because of their close association, it is assumed that several transport baskets with attached clay labels were placed here awaiting processing.¹³³

A higher category of information records were clay tablets. Two shapes of tablets are known: smaller, elongated tablets, called palm-leaf shape, that were probably used for medium stages of administration, and large, page-shaped tablets that were the preferred medium for longer compilations and copies of shorter tablets. However, this division is not always done very consistently and there are examples for intermediate tablets such as the Eo series that consisted of palm leaf-shaped tablets, but with more than two or three entries. Later stages of administration could also be done on larger palm-leaf tablets. Tablets would have been used to note short texts, more extensive than the sealings and labels but still highly elliptic. In many cases, the tablets were grouped together to form so-called 'sets'. 'Set' is defined by Chadwick as "a sub-division of a series, meaning a group of tablets intended by the authors to be kept together and read as a single document".¹³⁴ Tablets of a set would share aspects of at least two of these: content, formula, find-spot and scribal hand.¹³⁵ Several of the tablets could be read like small note cards to form one coherent text. This is true especially for the palm leaf-shaped tablets but also for some of the page-shaped ones such as the *o-ka* tablets about the guarding of the coast. The five tablets of the *o-ka* series are to be read as one consecutive text. Because the tablets form one coherent text, there is

¹³⁰ Palaima 2011, 107.

¹³¹ Palaima 1988, 67, fn. 84.

¹³² Palaima 1988, 183.

¹³³ Palaima/Wright 1985, 260.

¹³⁴ Chadwick 1976, 22.

¹³⁵ Chadwick 1968², 490.

usually one proper order that was known to the scribe. Evidence for this comes from transcribed tablets such as the Ep and En tablets, on the one hand, and from the rare example of tablets that merged in the fire to actually form one long text as depicted in the Pp series from Knossos in Figure 16.¹³⁶

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The image originally presented here cannot be made freely available via ORA because of copyright. The image was sourced from Chadwick 1976, 22, Fig. 13.

Figure 16 The Knossos Pp series in its original order as it emerged from the fire (Chadwick 1976, 22, Fig. 13).

¹³⁶ Chadwick 1976, 22-23.

The order of the texts is, however, never marked directly on the tablets. It must be reconstructed through careful study of the logic of the tablets, but must have been clear to the Mycenaean scribe.¹³⁷ The archaeological context of each single tablet is therefore important for its understanding. Palaima remarks how in most working rooms the context of the tablets would have been obvious because they all referred to the work done there, “so a quick glance at the ideograms and entries on any of the tablets in a bunch would have immediately informed a scribal worker of its contents”.¹³⁸ In the Archives Complex, with its variety of subjects, the situation was more difficult. Scribes found methods to order the tablets in the archive. Probably sets of tablets were sorted into the archive together, their togetherness marked by a common container and a label with a heading that referred to the whole set. Although the texts on the tablets are longer than the inscriptions on the labels because they refer to a later stage of administration, they by no means give the full extent of information available to the scribe. With regard to the brief tablets in the Northeastern Building, Palaima notices that the reason for their brevity must be sought in the wider contextual knowledge of the scribes which allowed them to understand the full meaning of even short notes.¹³⁹

2.4.2 The writing process

The Archives Complex contained most of the longer and higher order texts at Pylos.¹⁴⁰ Due to the small size of the two rooms, it is assumed that the actual gathering of information and writing of tablets by the majority of the scribes took place outside of these rooms. How can we imagine the writing process of these tablets? Each of the scribes was responsible for one or few areas of the palatial economy. At regular points in the year and probably also at certain special occasions, the need for information in one of these areas would come up. For example, one might need to count the contributions of items to the palace that were due on a regular base from the towns of the two

¹³⁷ Chadwick 1968¹, 12.

¹³⁸ Palaima 1988, 179.

¹³⁹ Palaima 2003, 187.

¹⁴⁰ Palaima 2003, 187.

provinces. A scribe would be sent on a tour through the kingdom to collect the information or maybe to accompany someone who would collect the actual items. Alternatively, the items could have been sent to the palace and recorded on arrival. If the information was relatively simple, a sealing or a label might be sufficient. Short texts that contained only the single words could easily fit a small lump of clay. They would be easy to transport back to the palace. For more complex information, a scribe would either need a lot of sealings or he would prefer to use a small tablet. However, these tablets are more heavy and more fragile than sealings, so it is questionable whether they would have been transported over longer distances. It is very probable that information of an early administrative stage was conveyed orally or with the aid of simple mnemonic devices.

To form one of the elongated, palm-leaf tablets that were used for short ad hoc notes, a scribe would need a larger piece of clay. He would roll it out and then flatten it with his hand and maybe fold it to produce a thicker tablet.¹⁴¹ It is usually supposed that the scribes made their own tablets with the text already in mind so they could coordinate the size of the text and the tablet.¹⁴² Sjöquist and Åström in their study of fingerprints on the tablets from Knossos remark that apparently children were involved in the process of making the tablets, maybe to assist their parents.¹⁴³ Tablets needed to be relatively fresh because after a few hours they would start to harden and writing would become increasingly difficult.¹⁴⁴ If tablets were written outside the AC is difficult to judge. Tablet series such as Ta or Sh are most probably written with the described objects in front of the scribe's eye in the storeroom or workroom so he could note down exactly what he saw.¹⁴⁵ When the tablets reached the AC, the 'archivist' Hand 1, maybe occasionally assisted by Hand 2, would take care of them. He was responsible for the organization and order of the tablets in the archive.¹⁴⁶ He would sort the tablets into categories, depending on whether they would be kept as they were

¹⁴¹ Palaima 2011, 105.

¹⁴² Ventris/Chadwick 1973, 111.

¹⁴³ Sjöquist/Åström 1991, 28.

¹⁴⁴ Chadwick 1976, 18.

¹⁴⁵ Palaima 1996, 388; Palaima 2003, 188.

¹⁴⁶ Palaima/Wright 1985, 258.

or whether he would transcribe them onto longer, page-shaped compilations. He would also make very careful use of the various methods of ordering of text that the Mycenaean scribes had established. Like his colleagues, he would draw lines to mark each entry of text. Related entries could be sorted into paragraphs and separated from other pieces of text. The size of a sign was important, too. Hand 43, for example, in the Ea tablets writes the name of the landholder in each entry in larger letters to mark its importance for the text.¹⁴⁷ Signs can also be drawn extra carefully.¹⁴⁸ And, occasionally, when a scribe got bored or distracted, he would even inscribe a small doodle at the back of this tablet. Examples for this are depicted in Figure 17.¹⁴⁹

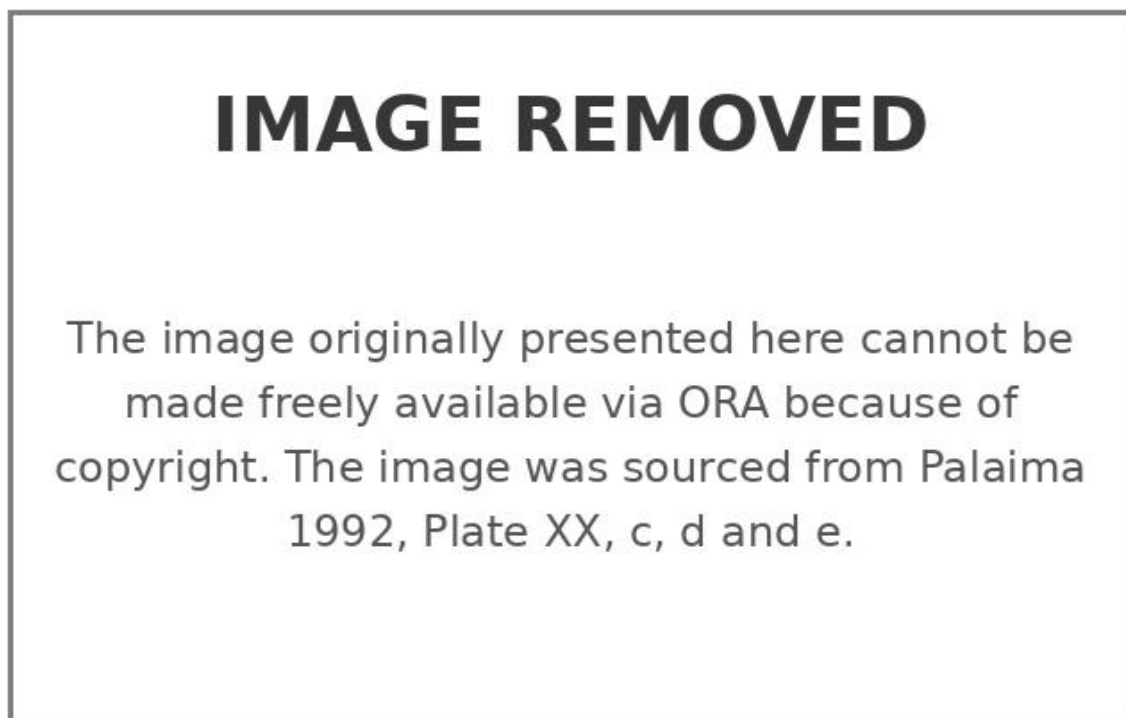


Figure 17 Examples for doodles on Linear B tablets: drawing of a standing figure on Oe 106 verso from Mycenae, drawing of a pig's head on Un 1320 verso from Pylos, the so-called 'Gem Engraver's Sketches' from unclear context at Knossos (Palaima 1992, Plate XX, c, d, e).

¹⁴⁷ Palaima 1988, 26.

¹⁴⁸ Palaima 1988, 26.

¹⁴⁹ Chadwick 1976, 25. Palaima notices that, interestingly, some of the doodles on the verso of the tablets apparently were inspired by the content and the context of the text on the recto. Thus, PY Un 1320 from the Northeastern Workshop records most probably livestock and has a drawing of a pig's head on the verso. PY An 724 is a list of rowers and has a sketch of a ship on its verso. This would mean that the overall topic of the tablets occupied the scribe's mind to such an extent that they would translate it into a picture. Script and picture would form a tight bond. (Palaima 1992, 65)

Hand 1 would also go through each of the texts and, if necessary, add corrections. He probably sat on some kind of stool in the middle of the room, sorting the tablets in baskets around him in his very own, long-established system. When the tablets were ready for archiving, he would sort them in wicker baskets or wooden boxes, depending on their content and the system of order he had devised. He would place the boxes in the shelf of Room 8 where they could await consultation for one year.

3 Frame theory

The previous chapter has introduced the archaeological context of the Mycenaean palace of Pylos and its Linear B tablets that will be the focal point of this thesis. We have seen how clay tablets were written by the scribes and stored in the main archival rooms at the entrance of the palace. The following chapter will have a very different approach. It introduces a modern theory of cognition that was widely applied in research of cognitive science, linguistics, and anthropology. Frame theory investigates the human ability to understand patterns. This ability was central to the writing and understanding of the Linear B tablets.

3.1 Imagine you were having a party...

Imagine it is your birthday and you are planning a party. If you are the organized type of person you might want to write a list with things you need such as the following:

30th Birthday

- ☐ Location
- ☐ Guest list
- ☐ Food and Drink
- ☐ Decoration
- ☐ Entertainment

Each of the entries could be further specified with a number of items in a separate list. It will probably not cost you a lot of effort to write such a list with the general elements of a party. This is because you are not making them up spontaneously. Rather, you revert to your pre-structured knowledge of what makes a good party. This knowledge is partly linguistic in that it is entailed in the meaning of a word. A party can only be called a party if it fulfils certain semantic criteria. The minimum definition of party would probably be ‘a social gathering’. The Oxford English Dictionary defines party as “a social gathering, esp. of invited guests at a person’s house, typically involving eating, drinking, and entertainment and often held to celebrate a particular occasion”.¹⁵⁰ This is already a quite extensive definition but the knowledge of what makes a good party lies far beyond this purely semantic explanation. Take as an example the element ‘food and drink at a birthday party’. A semantic definition does not specify these. But in reality, you would clearly know what kind of food and drink is appropriate for what kind of party. A children’s birthday party would require different types of food and drink than a grown up’s party which again would require different food and drink than a party at Downing Street. These different elements also interact with each other in complex ways. Serving caviar as hors d’oeuvre is less likely to be correlated with lemonade than with champagne.

But how can a person upon hearing the word ‘party’ automatically know what this event should entail and how to appropriately react to it? This knowledge lies beyond the pure lexical definition of the word. It is learned through the experience of living in a certain society. Each member of this society will intuitively know this and even if you are not an expert in hosting parties you will have at least a vague idea of what it is that makes up a party. One could say that this knowledge is linguistic as well as cultural. But it reaches even deeper: to know what a party entails, is cognitively anchored in the form of a frame. The different elements of a party that you wrote on your list and their multiple interactions and mutual constraints are correlated in cognition. This explains how

¹⁵⁰ Oxford English Dictionary, s.v. “party, n., sense III.13.a” [September 2023].
<<https://doi.org/10.1093/OED/4772592988>>

you can create a full picture of an event in your mind by being given only few pieces of information. Because the frame of 'party' is cognitively present you can fill in the remaining aspects through accessing the default values. Minsky uses the example of a child's birthday party to illustrate this.¹⁵¹

Take the following short text

"Mary was invited to Jack's party. She wondered if he would like a kite."¹⁵²

We are only given the information that it is a party and that Jack might like a kite. Nowhere is it stated that Jack is a child. Nowhere is it stated that the kite would be a gift. Nowhere is it stated that it is a birthday party. But we nevertheless do not have difficulties to understand the text. In order to make it coherent we draw upon our world knowledge. A reader expects that the second part of the text is correlated with the first part. A party might occasionally require a gift. The donor will try to find a gift that the giftee will like. The only thing suitable as a gift in the text is the kite. The kite could be the gift. A kite is a gift typical for a child. Then Jack must be a child. Then the party is probably a child's birthday party. Even the understanding of this short text requires multiple assumptions and draws heavily upon our world knowledge organized in frames. As Fillmore states:

"There is nothing in the text that directly evokes the idea of a birthday party, but a typical interpreter quickly and easily invokes just that frame in order to make the text cohere. The kind of event that fits a child's birthday party frame in this culture contains 'slots' for certain expected participants, props, and subevents. We expect such an event to have a celebrant, a host, a number of partygoers, and gifts, and other items such as balloons, cakes, candles, and the birthday song. The interpreter makes the parts of the text cohere by the cognitive process of filling in as many of the slots as possible on the basis of what he has just learned – here with Mary as a partygoer, Jack as the celebrant, and the kite as Mary's potential gift

¹⁵¹ Minsky 1974, 243.

¹⁵² Fillmore 2006, 615.

for Jack – and populates the other slots with default values that characterize the typical child’s birthday party.”¹⁵³

By intuitively filling up the not mentioned pieces of information using our knowledge from frames we are able to gain a fairly accurate picture of the situation.

Returning to our party planning: you have written the list with the most important elements. Now you might want to add a heading. This heading could be very specific such as “Mary’s 30th birthday party”. But you could also abbreviate this to “30th birthday” or you do not add a heading at all. The interesting thing is that this would not significantly impede your understanding of the text. Even without heading, someone else who reads this text might nevertheless conclude that it refers to a party because a constellation of ‘location, guest list, food and drink, decoration and entertainment’ can easily be matched with the cognitive frame elements of ‘party’ and therefore with the frame itself. Because these words appear in a list, the text is assumed to be coherent and a reader would automatically try to make sense of it. As Fillmore demonstrates, even a short sentence like “We never open our presents until the morning” can evoke a wider frame. The word ‘Christmas’ is not mentioned and yet people who grew up in a certain culture can invoke this frame. Fillmore explains:

“A frame is invoked when the interpreter, in trying to make sense of a text segment, is able to assign it an interpretation by situating its content in a pattern that is known independently of the text. A frame is evoked by the text if some linguistic form or pattern is conventionally associated with the frame in question”¹⁵⁴

By comparing this constellation of words to the wider cultural knowledge he would be able to link it to a cognitive frame.

To sum up, by living in a certain society we build up complex cultural systems in our heads. These systems are cognitively structured in the form of frames. A frame consists of different slots with

¹⁵³ Fillmore 2006, 615.

¹⁵⁴ Fillmore 1985, 232.

different values. A frame can be evoked not only by the relevant word but also by associated words or even only a linguistic pattern. In this way, texts are written with the expectation that a reader will be able to make sense of them by accessing a common frame (although this process does not need to be conscious).

3.2 Historical development of frame theory

In the present chapter, I will give an overview over the development and definition of frames. Starting from Bartlett's schema concept, I will move on to Fillmore, Minsky and Barsalou, the main frame theorists of linguistics and cognitive science respectively. I will then discuss briefly the developments in frame theory, the work on scripts by Schank and Abelson and Epistemological Semantics by Busse and Ziem. Finally, I will give a summary of the main theoretical assumptions of frame theory that will play an important role in this thesis. It becomes evident that at this early stage, despite seeming to be such an inherently linguistic theory, frame theory was very much undertaken by cognitive scientists. This is further evidence for the multiple areas of application of this theory and for its usefulness for a broad variety of questions.

3.2.1 The historical roots of frame theory

Frame theory is historically rooted in Cognitive Linguistics. Cognitive Linguistics developed as successor and opponent to approaches current in linguistics in the middle of the 20th century. The dominant linguistic theories of this period were Noam Chomsky's generative grammar and formal semantics.¹⁵⁵ From the 1970s on, researchers were increasingly discontent with the disembodied and over-formulaic character of current linguistics that disregarded the many irregularities of language use and its place in life.¹⁵⁶ Early proponents of the new Cognitive Linguistics (with a capital C to contrast it with the early cognitive linguistics advocated by Chomsky) were Fillmore (frame semantics), Langacker (Cognitive Grammar) and Lakoff (metaphorical categorization).¹⁵⁷ Lakoff

¹⁵⁵ Both remain until today two of the most influential linguistic theories.

¹⁵⁶ Bernárdez 1999, 15.

¹⁵⁷ Nerlich/Clarke 2007, 591. Seminal works were Fillmore 1982, Langacker 1987, Lakoff 1987.

summarizes the main aspects of Cognitive Linguistics in two general principles: the Generalization Commitment and the Cognitive Commitment. The Generalization Commitment states that all different subfields of linguistics (like syntax, semantics, pragmatics) should be seen as working according to the same general principles instead of being autonomous. This was innovative as until then syntax and semantics were treated separately. The Cognitive Commitment should interrelate linguistics with other fields of cognitive studies.¹⁵⁸ The main point of disagreement between Chomsky's cognitive linguistics and later Cognitive Linguistics regards the relationship between language and other areas of cognition. While generative grammar imagined language to be a separate entity in the brain, distinct in functioning from other cognitive abilities, a so-called 'language faculty', Cognitive Linguistics emphasizes the common nature of language and cognition.¹⁵⁹ Language would work according to the same principles as every other form of cognition. In the reverse conclusion, an analysis of language would also shed light on general cognitive principles.¹⁶⁰ Linguistics moved into the immediate centre of attention in cognitive studies. A main interest of Cognitive Linguistics was semantics. With regard to the meaning of phrases, linguists started to notice that some words were connected not through a simple pattern given by previous semantics, but because they were sharing a common human experience. A well-known example, brought forward by Schank and Abelson, are the words customer and waiter, that are connected by the common experience of 'going to a restaurant', that again connects them to other words like 'eat' or 'bill'.¹⁶¹ These mental relations could not be explained by traditional semantics. There must be more to understanding a phrase than what had previously been assumed. Questions like these were approached by frame theory.

In order to acknowledge the variability and flexibility of human language, especially in language understanding, a number of concepts were introduced in the course of several decades by scholars

¹⁵⁸ Lakoff 1990, 40.

¹⁵⁹ Croft 2004¹, 1-2.

¹⁶⁰ Ziem 2008, 43.

¹⁶¹ Schank/Abelson 1977, 42-46; Croft 2004², 7.

of different disciplines. Names for these were: schema, frame, script, scene, scenario or cognitive model. Despite differences between the single concepts, they all shared important ideas, agreeing on the general complexity of the human mind. The most productive of these were schema and frame.

The initial interest in frames developed in different fields at the same time with a predominance of artificial intelligence (Minsky 1975, Minston 1975, Metzing 1979) and linguistics (Fillmore 1975¹), mainly in the United States. In artificial intelligence, researchers encountered the same problem as linguists when trying to teach machines to understand a text: the knowledge of classical semantics was just not enough. Understanding a text is more than just understanding the dictionary meaning of each single word. The knowledge of language must involve more than what was until then integrated into semantics.¹⁶² In due course, frame theory spread also to Europe and within US developed in close collaboration with other fields of Cognitive Linguistics.¹⁶³

3.2.2 The classical frame-theorists

The following classical frame theorists are introduced in their chronological order, starting from the early psychological research on schemata from the 1930s.

3.2.2.1 *Bartlett*

The origins of frame theory reach back to Bartlett's schema theory published in "A study in remembering" in 1932, where he examined with empirical methods the process of remembering. In his experiments, he came to the conclusion that "every human cognitive reaction – perceiving, imaging, remembering, thinking and reasoning – [is] an effort after meaning".¹⁶⁴ Meaning is therefore a principle inherent to our cognition.¹⁶⁵ For the cognitive processes in remembering he chose the term 'schema' in lack of better alternatives, that he attributed to Head (1920).¹⁶⁶ Schema

¹⁶² Ziem 2008, 17.

¹⁶³ Ziem 2008, 19.

¹⁶⁴ Bartlett 1932, 44.

¹⁶⁵ Busse 2012, 312.

¹⁶⁶ Head 1920, 605-6; Bartlett 1932, 201.

for him is “an active organisation of past reactions, or past experiences, which must always be supposed to be operating in any well-adapted organic response”.¹⁶⁷ In remembering, we re-activate these past experiences, which take the form of schemata.¹⁶⁸

The recalling of schemata through new impressions according to Bartlett is the normal case in remembering.¹⁶⁹ In cognitive science and linguistics this process is called ‘schematization’. This would mean that it is enough to get a small ‘hint’ when perceiving or understanding something in order to build the bigger picture with the help of our memory in the form of schemata. Humans are able to make sense of even the tiniest piece of information – be it in language or other forms of cognition. Bartlett further explains that in schemata a detail “‘leads on’ to some other detail”.¹⁷⁰ Details in schemata build whole webs of relations, that form the basis for what we understand as knowledge.¹⁷¹ These webs do not look the same in every human. Different people can form different schemata and different relations.¹⁷²

3.2.2.2 *Fillmore*

Thirty years passed after Bartlett’s introduction of the schema concept in psychology until the linguist Charles J. Fillmore resumed work on this theory. He modified and adapted the schema concept to linguistics and called it ‘frame’. From then on, schema and frame existed in parallel. The following paragraphs will concentrate on Fillmore’s understanding of frames.

3.2.2.2.1 Development of Fillmore’s frames

Frame theory is rooted deeply in Fillmore’s own linguistic research which developed over more than two decades from the late 1960s until the 1990s. The core of his papers about frame theory was published between 1968 and 1985. In 1982, his theory was built to its fullest extent. Fillmore distanced himself from the prevailing formal semantics in stressing the importance of the factor of

¹⁶⁷ Bartlett 1932, 201.

¹⁶⁸ Bartlett 1932, 213.

¹⁶⁹ Bartlett 1932, 195.

¹⁷⁰ Bartlett 1932, 237.

¹⁷¹ Busse 2012, 324.

¹⁷² Busse 2012, 325.

experience for linguistic understanding.¹⁷³ He compared texts that were analysed with the methods of frame semantics with a set of tools. To understand a text, you do not only need to understand its form and its material, but also how the tools for assembling this text were used, by whom they were used and maybe even why. Thus, understanding a text is a much more creative process than just assembling fragments of meaning to a larger meaning.¹⁷⁴ You need to understand everything that is around the text:

“A person’s knowledge of meaning cannot be exhaustively described as his knowledge of the meaning of words.”¹⁷⁵

One of the central theoretical implications of frame theory is not to distinguish between linguistic and encyclopaedic (world) knowledge. To understand a text means to refer to knowledge about the world as well. This was an important insight for both linguistics and artificial intelligence.¹⁷⁶ The base for Fillmore’s linguistic theory is the strong correlation between linguistic and general cognitive processes.¹⁷⁷ Due to his linguistic background, he focuses mainly on language, but it is his conviction that the insights gained in language understanding can be used in cognitive sciences. This should set the tone for an overview over the development of frame semantics according to Fillmore.

3.2.2.2.2 Roots in dependency grammar

The origins of Fillmore’s frame theory can be found in his 1968 article “The case for case”. Rooted in Chomsky’s generative grammar, this first article can be seen to resemble theories from dependency grammar and valency theory.¹⁷⁸ Dependency grammar was most prevalent in the middle of the 20th century and until now is one of the most influential linguistic theories. It tries to analyse the structure of phrases or sentences in hierarchical linguistic trees. The structure of the

¹⁷³ Fillmore 1982, 373.

¹⁷⁴ Fillmore 1982, 374.

¹⁷⁵ Fillmore 1975², 149.

¹⁷⁶ Konerding 1993, 28.

¹⁷⁷ Busse 2012, 108.

¹⁷⁸ Ziem 2008, 16.

tree follows a 'reigning' word on which all other members of the phrase depend. This type of linguistic analysis made it possible to detect relations between different parts of a phrase. It was first introduced by Lucien Tesnière in the 1950s. Tesnière compared the structure of sentences with a little theatre play, where the verb was taking the central stage with the other members of the phrase being the actors and circumstances.¹⁷⁹ This metaphor was the starting point for Fillmore's argumentation and the development of his later theory. In the centre of his thinking was – as in Tesnière – the verb.¹⁸⁰ A verb has a semantic valency, that means it presides over a fixed number of other words, each in different cases, that can be understood fully only in connection with the central verb. To Fillmore, the cases that the nouns can take are not simply grammatical phenomena, but represent deeper 'judgements' that people can make, probably even on a universal level. In this first paper, he gives a concrete list of cases that can appear: Agentive, Instrumental, Dative, Factitive, Locative, Objective.¹⁸¹ Later in his research, this group of verb plus nouns in different roles will form the core of his frame theory.¹⁸² Although his theory will evolve much further, it will always be the verb that takes central stage in his frames.

3.2.2.2.3 The 'scenes and frames'-phase

As mentioned before, a number of other concepts, similar to frames and yet slightly distinct, became popular in the 1970s and 1980s. One of these other concepts was 'scene'. Towards the end of the 1970s, Fillmore had a short 'scenes-and-frames'-phase. His definition of scenes, however, remained rather vague:

"I thought of each case frame as characterizing a small abstract 'scene' or 'situation', so that to understand the semantic structure of the verb it was necessary to understand the properties of such schematized scenes."¹⁸³

¹⁷⁹ Tesnière 1965, 97.

¹⁸⁰ Fillmore 1982, 376.

¹⁸¹ Fillmore 1968, 24-25.

¹⁸² Busse 2012, 232.

¹⁸³ Fillmore 1982, 377.

It is a very general term that includes all kinds of cognitive scenarios that are governed by wider distinctly human properties and that humans learn throughout their life. To him, scenes are “not only visual scenes, but familiar kinds of interpersonal transactions, standard scenarios, familiar layouts, institutional structures, enactive experiences, body image”.¹⁸⁴ Frames, on the other hand, are “any system of linguistic choices”.¹⁸⁵ In the mind of people, when a language is learned, scenes and frames are very tightly intertwined via association networks, so they can activate each other.¹⁸⁶ Both concepts are necessary for a full communicative act.¹⁸⁷

As an example for ‘scene’, Fillmore discusses the ‘COMMERCIAL ACT’ scene. A commercial act, as we know it from our daily experience, includes the following elements: a BUYER, a SELLER, the GOODS, the MONEY.¹⁸⁸ A buyer gives money to a seller and in return gets certain goods. This is roughly how a scene would look like which contains all of these elements. We experience scenes like this and by that we learn and remember. However, when we utter a sentence, we usually take a certain perspective of the scene.¹⁸⁹ For example, in the sentence “John bought an apple”, the verb ‘buy’ takes central place and we focus on the action of buying, on the buyer and the good. The word ‘buy’ evokes a frame, a concrete “[structure] in which the scene is presented or remembered”.¹⁹⁰ But, although it is not mentioned explicitly, we *know* that there must also be a seller and money involved. This information is evoked by the verb ‘buy’, because we know that a scene where someone buys something needs to also have a seller and money (or some exchangeable good). This is what first brought Fillmore to understanding frames in the sense of verb valency. ‘Buy’ is the verb and the other nouns depend in a certain manner on it. But we can only understand each word, if we know the full scene.¹⁹¹

¹⁸⁴ Fillmore 1977, 63.

¹⁸⁵ Fillmore 1977, 63.

¹⁸⁶ Fillmore 1977, 64.

¹⁸⁷ Fillmore 1977, 66.

¹⁸⁸ Fillmore 1982, 378.

¹⁸⁹ Fillmore 1977, 58.

¹⁹⁰ Fillmore 1982, 378.

¹⁹¹ Fillmore 1982, 378.

The difference between frames and scenes (which he later gave up on) lies in the aspect of concrete language. While scenes are more general cognitive schemata, frames are the translation of prototypical scene knowledge into linguistic structures.¹⁹² While the distinction between frames and scenes made sense at an early stage of Fillmore's frame theory, it could not be maintained at a later point. Of all the researchers in frames during the 1960s/1970s, Fillmore was the only 'genuine linguist'. It seems, that during this phase of his theory development, frames still were something inherently linguistic. They were the linguistic equivalent to the more 'cognitive' scenes. However, he already seems to feel that both were so tightly intertwined that they became almost inseparable. If one sees frames as a concept of a higher order, as distinctly cognitive and not only bound to language, the difficulties that Fillmore encountered at this stage dissolve.

3.2.2.2.4 The height of Fillmore's frame theory

"By the term 'frame' I have in mind any system of concepts related in such a way that to understand any one of them you have to understand the whole structure in which it fits; when one of the things in such a structure is introduced into a text, or into a conversation, all of the others are automatically made available"¹⁹³

In this definition of 'frame', at which Fillmore arrived in the early 1980s, words do not have an existence on their own. Rather, they are interconnected in a tight web of meaning. In order to be able to understand a word, one needs to understand larger parts of its background. For Fillmore, it is a "background of knowledge and experience".¹⁹⁴ Learning words is tightly bound to learning their frame which again is tied to our experiences as humans with bodies and minds. The background knowledge can be seen as an essential part of the culture.¹⁹⁵ This background gets activated automatically in understanding. That means, we cannot see a word as an isolated fragment that needs to be added to other words in order to produce phrase meaning. When we understand a

¹⁹² Ziem 2008, 223.

¹⁹³ Fillmore 1982, 373.

¹⁹⁴ Fillmore 1982, 374.

¹⁹⁵ Fillmore 1982, 379.

phrase, our cognitive structure allows us to automatically understand much more than what was traditionally regarded the meaning of the words. A semanticist therefore needs to ask not “What is the meaning of this form?”, but “What do I need to know in order to use this form appropriately and to understand other people when they use it?”.¹⁹⁶ Fillmore mentions as an example the word ‘orphan’. Orphan can be very simply defined as ‘a child whose parents are no longer living’. However, we would not usually call a 20-year-old an orphan. This has to do with our cultural conception of orphans. It is normal that at some point in life people need to live on without their parents. But children up to a young age need the protection of their parents and only in exceptional circumstances need to live without them. The knowledge that the definition of orphan is only valid up to a certain (rather blurry) age is not part of the narrow definition, but of the wider frame that we learn.¹⁹⁷

Words in Fillmore’s sense are indices of cognitive categories. They serve only as a pointer towards a wider scheme. Frames can come into being because there is a category in this world that people in certain cultures regard as important and necessary – a motivating context. When speaking or writing, these frames come to our mind and we select a word in the belief that it will be intuitively connected to the same frame by the listener or reader.¹⁹⁸ Fillmore calls this “the word ‘evokes’ the frame”.¹⁹⁹ By (consciously or subconsciously) picking the right frame as a listener or reader, we are able to build up an “‘envisionment’ of the ‘world’ of the text”.²⁰⁰ It enables us to take a certain perspective and to bestow a certain history on the text. Relatively short or simple texts or even single words can therefore prepare the ground for a much wider understanding where we ‘feed’ the text with information that we retrieve from our world knowledge. This is facilitated when both, sender and recipient, share a common cultural background and maybe even a certain social group because then one could expect the frames to be similar. Understanding in frame theory works like

¹⁹⁶ Fillmore 1971, 274.

¹⁹⁷ Fillmore 1982, 380.

¹⁹⁸ Fillmore 1982, 381-382.

¹⁹⁹ Fillmore 1982, 378.

²⁰⁰ Fillmore 1982, 383.

this. Such an understanding seems easily comprehensible for word categories like nouns and verbs. However, Fillmore stresses that even ‘small’ categories like modal particles or even grammatical structures must be seen to work in frames. Understanding a linguistic text to Fillmore is “giving it a maximally rich interpretation”.²⁰¹ When interpreting a text, we need to know for each sign “Why does the language have the category which the form represents?” and “Why did the speaker select this form in this context?”.²⁰² Every word needs to be questioned, background information needs to be retrieved. Cognitively, this is done by searching for abstract frames that fit the situation and that are stored in long-term memory.

Fillmore is advocating what he calls ‘U-semantics’ (understanding semantics) in contrast to ‘T-semantics’ (truth semantics). For this approach, context is of central importance. Linguistics should not ask in a formalistic way whether a notion is true or false, but how it has to be interpreted in a given context.²⁰³ Frames are able to provide information about how certain words are used in a certain context. Fillmore states that in this kind of semantics

“it is assumed that linguistically encoded categories (not just words and fixed phrases, but also various kinds of grammatical features and syntactic patterns) presuppose particular structured understandings of cultural institutions, beliefs about the world, shared experiences, standard or familiar ways of doing things and ways of seeing things”.²⁰⁴

Language and culture, in this sense, are tightly intertwined and inseparable entities.

The development of Fillmore’s frame theory took place over almost fifteen years. Starting from a consideration of the valency structure of verbs in sentences, he moved on to regarding words as the centre of a semantic frame and a cognitive scene. Finally, he distanced himself from the valency theory in a narrow sense and also refrained from the concept of scene in order to focus on his

²⁰¹ Fillmore 1985, 234.

²⁰² Fillmore 1985, 234.

²⁰³ Fillmore 1985, 231.

²⁰⁴ Fillmore 1985, 231.

theory of frames. However, verbs always kept a central place in his research. His condensed phrase “words evoke frames” became the motto of his theory and influenced many researchers in this field after him.

3.2.2.3 *Minsky*

The second influential researcher on frame semantics in the 1970s was Marvin Minsky. His work is largely contemporary to Fillmore and the latter learned about it a few years later. Minsky had a background in cognitive sciences and artificial intelligence. His frame theory is aimed at a more general conception of cognition. In his view, frames serve the purpose of facilitating reaction in new situations:

“When one encounters a new situation (or makes a substantial change in one’s view of the present problem) one selects from memory a substantial structure called a frame”²⁰⁵

Besides the field of language, he stresses the importance of the application of frame theory also in other fields of cognitive sciences, particularly vision. This is in line with recent, non-modularistic research where no boundary can be drawn between linguistic and other cognitive processes.²⁰⁶ The starting point for his research was the question of how the human mind processed information so quickly and efficiently in all of its subfields. This could not be explained through hitherto existing theories. According to him, the mind must be structured and interconnected to a high degree.²⁰⁷ He came to the conclusion that this structure took the form of frames. These frames get remembered and play a central role in all cognitive processes.²⁰⁸ The starting point of his discussion in his influential paper “A framework for representing knowledge” (1974) is vision.²⁰⁹ When seeing a certain scene, we take up different viewpoints when constantly moving. Each of these viewpoints is represented by a frame.²¹⁰ When moving quickly, we have to adapt a large number of different

²⁰⁵ Minsky 1974, 212.

²⁰⁶ Ziem 2008, 25.

²⁰⁷ Minsky 1974, 211.

²⁰⁸ Minsky 1974, 212.

²⁰⁹ Minsky 1974, 240, 245.

²¹⁰ Minsky 1974, 212.

scenes to a whole picture. Minsky sees frames as a possibility to facilitate this rapid process. By connecting pre-set frames to whole frame systems, that is ordered structures of multiple frames, it is possible for a person to build up a complex picture in comparatively little time. According to Minsky, this might have been an evolutionary stimulus for the development of frames.²¹¹ He now transfers this knowledge to other forms of cognition. In language, the visual pictures can be compared to single words. Instead of connecting a large number of visual inputs, we now use signs and words to build up a coherent text.²¹²

Minsky refers to frames as “a data-structure for representing a stereotyped situation”.²¹³ The data-structure metaphor is a reflection of his cognitive science background. The stereotyped situation resembles Fillmore’s prototypical scene. A frame to him involves much more than only the meaning of a word. It also contains processual or functional information like how to use the frame or how to actually process it. A frame has a certain structure with a top level and a lower level. The top level is rather rigid and contains information that is always true. The lower levels are organized in ‘slots’ or ‘terminals’. They can and need to be flexibly filled with information depending on experience and the situation.²¹⁴ This information is called ‘assignment’. According to Minsky, one can find out a frame’s terminals by asking questions about the frame.²¹⁵ If there is no concrete information available, the terminals are filled with ‘default’ assignments.²¹⁶ This is also how they are stored in long-term memory.²¹⁷ If relevant information from a situation is perceived, it can substitute the default assignments in the frame.²¹⁸

To Minsky, a frame is also “a network of nodes and relations”.²¹⁹ In the way that different nodes (that is, information in the terminals) are structured in a network within a frame, frames, too, are

²¹¹ Minsky 1974, 224.

²¹² Minsky 1974, 240.

²¹³ Minsky 1974, 212.

²¹⁴ Minsky 1974, 212.

²¹⁵ Minsky 1974, 246.

²¹⁶ Minsky 1974, 212.

²¹⁷ Minsky 1974, 228.

²¹⁸ Minsky 1974, 213.

²¹⁹ Minsky 1974, 212.

organized in related webs, called frame systems. Frames are related more closely when they share a number of terminals. By way of connecting these different terminals, different viewpoints can be connected.²²⁰ Perceiving or understanding, according to Minsky, is a matching process connected to an information retrieval network. When perceiving a visual input or reading a word, a frame gets proposed. Then one tries to match the assignments to the terminals. If they fit, the frame gets accepted. If they do not match, a new frame is searched.²²¹ People will have certain expectations and these guide the choice of frames.²²² This is also not consistent among all members of a culture. The choice of a frame depends very much on previous knowledge. Therefore, experts can be expected to have more frames for their area of expertise.²²³

3.2.2.4 Barsalou

Frame theory was further developed by the cognitive scientist Lawrence Barsalou in the 1990s. In his fundamental paper “Frames, Concepts, and Conceptual Fields”, he especially brings into focus the inner structure of frames. In contrast to Fillmore, who through all his preoccupation with frames emphasized the important role of verbs, Barsalou concentrates mainly on nouns, although he fully acknowledges the usefulness of a frame conception for all parts of speech.²²⁴ According to him, a frame can even represent conceptual combinations, that is phrases or sentences or texts.²²⁵ He sees frames as a very basic category:

“Frames provide the fundamental representation of knowledge in human cognition”²²⁶

In his discussion of frames, Barsalou uses his own terminology, that is occasionally difficult to follow. A frame consists of a category, that is represented in an exemplar in the real world, and a number of concepts. It seems that a category for him is the frame core, that is the word/phrase/sentence

²²⁰ Minsky 1974, 212.

²²¹ Minsky 1974, 213.

²²² Minsky 1974, 212.

²²³ Minsky 1974, 224.

²²⁴ Barsalou 1992, 31; Busse 2012, 365.

²²⁵ Barsalou 1992, 21.

²²⁶ Barsalou 1992, 21.

that evokes the frame.²²⁷ ‘Concepts’ are all kinds of information attached to the frame core including that of definition, prototype and function of the core.²²⁸ Concepts are a more general term and they can appear as attributes or values.²²⁹ Attributes and values describe the properties of a frame core.

Concepts in his idea consist of attribute-value sets, structural invariants and constraints.²³⁰ Barsalou defines an attribute as “a concept that describes an aspect of at least some category members”.²³¹ Values are defined as “subordinate concepts of an attribute”.²³² Because values are subordinate, they have the same properties as the referring attribute.²³³ ‘Exemplars’, which are concrete categories in the world, have properties that can be seen to be structured in attribute-value-sets. For example, a frog (as an exemplar in the world and a category in the mind) has the attribute COLOUR with the value GREEN (or any other possible frog-colour). It further has the attribute LOCOMOTION with the values SWIM and HOP.²³⁴ Attributes and values differ from object to object or from being to being and also for more abstract entities. Events, for example, at the same structural level do not usually have the attribute COLOUR, but rather LOCATION, TIME or GOAL.²³⁵ People intuitively know this because they grew up in a world that exhibits these characteristics, they learned it, they have experience.²³⁶ This hierarchy does not end here. If an attribute MATERIAL, for example, has the value WOOD, then WOOD can in turn be a frame with the attribute TYPE and the value OAK. This is potentially endless. Because of that, one of the most important characteristics of frames is their recursivity.²³⁷ With frames being recursive, building frames in frames in frames, it

²²⁷ Busse 2017, 24.

²²⁸ Barsalou 1992, 31.

²²⁹ Barsalou 1992, 30; Busse 2017, 24.

²³⁰ Barsalou 1992, 29.

²³¹ Barsalou 1992, 30.

²³² Barsalou 1992, 31.

²³³ Barsalou 1992, 31.

²³⁴ Barsalou 1992, 25.

²³⁵ Barsalou 1992, 31.

²³⁶ Barsalou 1992, 34.

²³⁷ Barsalou 1992, 43.

becomes clear why Barsalou stresses their dynamical character. Which aspect of a frame is taken up depends on context and perspective.²³⁸

Barsalou goes on to say that not all attributes of a frame appear with the same probability. Often frames have attributes that are so closely tied to them, that without them understanding would barely be possible. Barsalou calls these attributes 'core attributes' and the fact of their co-occurrence 'attribute systematicity'. For example, in the previously mentioned commercial frame, the core attributes in a certain culture would be BUYER, SELLER, MERCHANDISE and PAYMENT. Without any of these, the frame would not be complete. We learn these core attributes in our daily life. When engaging in social activities we learn what is necessary to complete a certain scene, like going to the supermarket. Barsalou expresses this in the way that psychological co-occurrence leads to associative strength which again leads to integration in memory of a frame.²³⁹ For him, the core attributes belong to what should be called the "core of a frame".²⁴⁰

Frames are stored in memory not as isolated entities, but in some form of relational network. Stable relations between attributes within a frame are called 'structural invariants'. These get established when certain attributes reappear within different exemplars of one concept.²⁴¹ The appearance of values within attributes is also not coincidental. Some values correlate positively or negatively or restrict each other – in general words, they are interrelated and not independent from each other. This is called 'constraint'. Structural invariants are similar to constraints, but on a higher level, that between attributes. The knowledge of the interrelations between attributes and attributes and values and values is part of our 'implicit knowledge' that is not covered by traditional semantics.²⁴²

Barsalou also discusses the value of frames in organizing exemplars in the world. According to him, exemplars can be sorted according to similarity. Judgement of similarity between exemplars

²³⁸ Barsalou 1992, 21.

²³⁹ Barsalou 1992, 34-35.

²⁴⁰ Barsalou 1992, 30.

²⁴¹ Barsalou 1992, 35.

²⁴² Busse 2012, 376.

depends on the attributes of the frame. The more values recur on the same attributes, the closer two exemplars are. This also affects their storage in memory. The more attributes exemplars share, the closer they get stored in memory.²⁴³ People learn how to sort things. By comparing various exemplars, they get to know their attributes and values and from this can abstract a prototype.²⁴⁴ This experiential process of learning does not proceed equally among all individuals of a social group. As Barsalou stresses, there will always be novices and experts. Novices in horses, for example, have not yet seen as many horses as an expert, they might know only certain breeds, only certain heights, only certain colours. Their prototype and their frame of a horse will be much less detailed and probably all in all very different from that of a horse expert. This again effects the learning process because someone who has more attributes available is able to classify new exemplars to a much higher degree. Barsalou calls this “‘deeper’ processing of exemplars, [...] producing better memory.”²⁴⁵

This structure of frames seems complicated and constructed, but it is actually very intuitive, which is the main strength of frame theory. Objects in the world or beings or entities have certain properties and these properties have properties and the more we consciously or subconsciously know about the properties, the more we are able to express them, the more we understand – the more experienced we become. To uncover and disentangle these interlaced frames enables us to learn more about the architecture of our cognition and the process of understanding.

3.2.3 Developments in frame theory

I will now briefly present two further approaches in frame theory: Schank and Abelson’s ‘scripts’ and Busse and Ziem’s more recent epistemological frame theory.

²⁴³ Barsalou 1992, 45.

²⁴⁴ Barsalou 1992, 47, 64.

²⁴⁵ Barsalou 1992, 65.

3.2.3.1 Schank/Abelson

A special case of frames are Schank and Abelson's 'scripts'. Scripts are basically frames that describe a sequence of events. Events have a largely standardized character, as do many properties of our culture. This standardization is learned and guides our behaviour and our understanding of stories. Scripts have roles or arguments similar to the arguments in Fillmore's scenes.²⁴⁶ As an example for a frequent script Schank and Abelson refer to the RESTAURANT script. Going to a restaurant involves many small steps like getting there, waiting to be seated or taking a seat, being given the menu, reading the menu, ordering, eating and so on. An account of a dinner in a restaurant may now include all these pieces of information or – more frequently – only a section of it. But even with the most minimal information like "He had dinner at a restaurant" we will be able to recall the whole script and even surrounding information like what the restaurant looked like.²⁴⁷ This is because we have the restaurant script stored in our memory. A script header will evoke the whole script and we will recall all its different parts.²⁴⁸ This concept is of course very close to the classical frame conception; it is basically one type of the classical frames as Fillmore expresses them.²⁴⁹ This knowledge of scripts needs to be imagined to be at least culture specific.²⁵⁰ Frames, therefore, do not only form the basis of verbal or noun expression but also of larger cultural sequences.

3.2.3.2 The Düsseldorf Research Group

We will now turn to what is known as epistemological semantics. Following its establishment in the 1970s, frame theory was widely adopted in the US as well as in Europe. In recent years, it found an especially fruitful ground in Germany, mainly at the university of Düsseldorf with Busse and Ziem. In their epistemological semantics they conflate the borders between the cognitive and the epistemic and introduce a frame theory that acknowledges both. According to Busse, both terms,

²⁴⁶ Schank/Abelson 1977, 41.

²⁴⁷ Schank/Abelson 1977, 44, 48.

²⁴⁸ Schank/Abelson 1977, 46.

²⁴⁹ Fillmore 1982, 392.

²⁵⁰ Busse 2012, 356.

‘kognitiv’ and ‘epistemisch’, are tightly intertwined with the term ‘cognitive’ reflecting the act of cognition and the term ‘epistemic’ the knowledge gained from previous acts of cognition.²⁵¹

3.2.3.2.1 Busse

Busse calls frames ‘Wissensrahmen’ (knowledge frames) in German and therefore stresses the epistemological aspects of frame theory and especially the possibility for frames to extend not only to linguistic structures but to wider cognitive structures, too.²⁵²

His starting point is the observation that daily language use encompasses much more than what can be explained by traditional componential semantics. For the meaning of each linguistic structure to exhaust its full potential, we need to activate multiple layers of knowledge, many of which are not covered by traditional semantics.²⁵³ In order to be able to understand someone, we need to have the same cognitive prerequisites to retrieve and connect this knowledge.²⁵⁴ To understand a phrase is more than to understand its literal meaning; we need to understand why this phrase is used in this context, how it relates to other words and to the world depicted in this part of language, how it is able to tie bonds between communicating people. This wider knowledge is what is usually termed ‘world knowledge’ which in traditional accounts is separated from linguistic knowledge.²⁵⁵ To Busse, a strict separation of these two is counter-intuitive and must be avoided, because understanding language cannot work without experience and an understanding of the world.

The conception of language used to be one of definite explicitness with implicit information not being seen as part of.²⁵⁶ This means, it was assumed that the main goal of language to be successful in communication would be to be as explicit as possible, to give as much information as one could. Frame semantics, on the other hand, acknowledges the prevalent implicitness of all human

²⁵¹ Busse 2012, 23.

²⁵² Busse 2012, 522.

²⁵³ Busse 2012, 535.

²⁵⁴ Ziem 2008, 152.

²⁵⁵ Busse 2010, 308.

²⁵⁶ Busse 2012, 647.

communication. The knowledge that is needed to understand a phrase is tacit.²⁵⁷ We do not need many words to say a lot.

In his research, Busse connects the cognitive concept of frames to a wider context of epistemology and especially semantic discourse analysis based on Foucault's notion of the *épistémè*.²⁵⁸ Semantic discourse analysis can be used to disentangle inter-textual and trans-textual relations of a certain text corpus.²⁵⁹ The base for his 'interpretive/explicative semantics' is the knowledge relevant for understanding ('*verstehensrelevantes Wissen*').²⁶⁰ Relevant for understanding is not only linguistic knowledge, but also world knowledge as a whole. Through this, understanding semantics becomes an essential part of wider cultural studies.²⁶¹ The study of knowledge relevant for understanding would in Busse's sense result in what he calls "semantic epistemology" or – the other way round – "epistemological semantics".²⁶² Cognitive frames serve as structural base for such a semantic epistemology.²⁶³

Central to Busse's frame conception is the process of understanding sentences and whole texts. This approach is mirrored by text linguistics. Frames do not only refer to single words but can extend across whole phrases or sentences. For text analysis, an understanding of frames is therefore vital.²⁶⁴ This knowledge that leads to the understanding of a phrase or a sentence is not only the knowledge that is inherent in words, in the elements of a frame. It can also be knowledge that is "exterior" to each element but still essential to its meaning such as word position, stress, anaphors or "functional words".²⁶⁵ Words or phrases, in this sense, are always part of wider and all-encompassing epistemic contexts.²⁶⁶

²⁵⁷ Busse 2012, 812.

²⁵⁸ Foucault 1969, 211.

²⁵⁹ Busse 2017, 22.

²⁶⁰ Busse 2010, 308; Busse 2012, 525.

²⁶¹ Busse 2012, 145.

²⁶² Busse 2012, 535.

²⁶³ Busse 2012, 535.

²⁶⁴ Busse 2018, 70.

²⁶⁵ Busse 2010, 310.

²⁶⁶ Busse 2010, 319.

3.2.3.2.2 Ziem

Ziem distinguishes between schemata and frames. Schemata are a more general term for cognitive structures, while frames refer to the more concrete semantic structures.²⁶⁷ According to him, the building and retrieving of prototypical schemata in all cognitive processes, be it the recognition of objects or the understanding of a text, is an essential part of cognitive economy and the prerequisite of basic cognitive abilities such as categorization.²⁶⁸ Frames or schemata are therefore very basic categories of cognition.

Ziem defines frames as ‘konzeptuelle Wissenseinheiten’ (conceptual units of knowledge), a cognitive structure that is retrieved from memory during the process of understanding.²⁶⁹ According to Ziem’s holistic and anti-modular approach, linguistic and world knowledge conflate in frame theory. A study of language should include not only traditional linguistic questions, but also cognitive and epistemological aspects.²⁷⁰ This leads naturally to a theory of semantic epistemology.²⁷¹

Ziem emphasizes that frame theory reaches to the heart of epistemology, of what we know about knowledge. The subconscious parts of knowledge, subconscious because they are ubiquitous and naturally given, in particular, are of interest to this field of study – most difficult in their revelation. This is what connects frame theory to Foucault’s discourse theory.²⁷² According to him, frame theory can be used as an “epistemological tool” to detect the cognitive bases of different elements of language: word, text, discourse.²⁷³

²⁶⁷ Ziem 2008, 257.

²⁶⁸ Ziem 2008, 256, 260, 263.

²⁶⁹ Ziem 2008, 2.

²⁷⁰ Ziem 2008, 150.

²⁷¹ Ziem 2008, 121.

²⁷² Ziem 2008, 440.

²⁷³ Ziem 2008, 439.

3.3 Structural constituents of frames

I have presented an overview of the development of frame theory, starting from Bartlett, continuing with Fillmore, Minsky and Barsalou, and ending with Schank/Abelson, Busse and Ziem. I will now summarize what we can learn from the various researchers on frame theory about the nature of frames.

3.3.1 Frame core and frame elements

A frame consists of a frame core and the frame elements (called slots and fillers). A frame core is basically the most central word of a frame, the word that evokes the frame. A frame core needs to be epistemically filled with information in the form of frame elements. Fillmore uses the word 'element' in his early research on case structure to describe the words that depend on the central verb and take the form of different cases.²⁷⁴ It continued to be used, but in a rather loose fashion, as a very general term to denote the parts of a frame that can be distinguished from the frame core and that structure the frame. This is what makes the frame complete and identifiable with an object in the real world.²⁷⁵ There are three types of frame elements (or structural constituents as Ziem calls them): slots (called 'terminals' by Minsky and 'attributes' by Barsalou), fillers (called 'assignments' by Minsky and 'values' by Barsalou) and default values.²⁷⁶ Frame elements can take concrete shape by being explicitly mentioned in a text (this is called instantiated), but they can also exist in a more subtle form by being implicit to the frame (this is called zero-instantiation).²⁷⁷ Zero-instantiated frame elements are usually assumed to always be connected to a frame. Take the example of 'a small, brown bird'. 'Bird' would be the category that is represented by a frame. The word 'bird' evokes this frame; it is the frame core. In this case, it has two instantiated attributes

²⁷⁴ Fillmore 1968, 21.

²⁷⁵ Busse 2018, 78.

²⁷⁶ Ziem 2008, 266. The differences in terminology need not concern us further at this point. It is only important to be aware that especially the early frame researchers have chosen different words for largely the same concept, mainly due to their different scientific backgrounds and their different approaches. Attribute, for example, lends itself easily to the description of noun frames that Barsalou attempted, while slot describes the empty places next to verbs better in Fillmore's research. I will largely retain Barsalou's terminology.

²⁷⁷ Busse 2010, 309-310; Busse 2012, 178.

(SIZE; COLOUR) and values (SMALL; BROWN). One must assume other attributes and values that are not instantiated but can be inferred such as MOTION → FLY. Some of the attributes and values are more salient; they are more 'important' in the description of a certain category. For example, having wings would be regarded as more salient than any colour, because wings are most typical for a bird in comparison to other creatures. They are so salient that one does not need to mention them, because the property HAVING WINGS is included in the word BIRD. These attributes and values define the bird because without them it would not be recognizable as bird.

3.3.2 Frame elements

Frame theory distinguishes different types of frame elements that will be described in the following.

3.3.2.1 Attributes

Generally speaking, frames are organized in attributes (slots) and values (fillers). Attributes refer to a certain epistemic structure that describes the frame. They are abstract entities and therefore depend on the other frame elements.²⁷⁸ Attributes, in this sense, need to be filled. In 'a blue bird', BIRD would be the frame core and COLOR would be the attribute. But the word COLOR does not appear in the phrase directly. It can only be indirectly inferred from the value BLUE. Attributes can be inferred by asking questions about the object that the frame refers to.²⁷⁹

3.3.2.2 Values

In contrast to abstract attributes, values are concrete conceptual entities that get attached to the appropriate attribute.²⁸⁰ Values are therefore subordinate to attributes.²⁸¹ An attribute can be filled with different word structures reaching from comparatively small structures such as grammatical morphemes to words to whole phrases (such as relative clauses).²⁸² Concrete values are directly connected to an exemplar in the world. Perception guides these connections.²⁸³ If no concrete,

²⁷⁸ Busse 2012, 554.

²⁷⁹ Minsky 1974, 246.

²⁸⁰ Busse 2012, 559.

²⁸¹ Barsalou 1992, 31.

²⁸² Ziem 2008, 334.

²⁸³ Ziem 2008, 267.

perceived values are available (as, for example, would occur in reading a text with the word ‘bird’ but no further description of the word), values can be inferred from common knowledge about the world. These inferred values are called ‘default values’ by Minsky and subsequently.²⁸⁴

3.3.2.3 *Default values*

Ziem calls concrete values ‘explicit’ because they are directly mentioned in a text, and default values ‘implicit’ because we need to add them by thinking and drawing upon our world knowledge.²⁸⁵ Implicit values need to be actively inferred.²⁸⁶ The concept of default values is intimately connected to prototypes. Default values take the form of prototypical epistemic structures. In engaging with the world, we learn what properties are typical for a certain entity, either because they occur frequently together or because they are close to an ideal type.²⁸⁷ According to Rice, this is why the cultural components of a schema are usually depicted in the default values.²⁸⁸ Default values are always tied to a frame, they are always present in language use, even when we encounter a concrete exemplar. In this case, default values can get substituted through concrete values that we perceive in an object.²⁸⁹ The process of understanding in this sense is also a process of matching where we compare a concrete exemplar to a prototypical frame.

3.3.2.4 *Salience-structure*

A frame consists of different attributes and these attributes can be filled with different values. But not all attributes and not all values are equally ‘important’ to us in understanding. Some attributes and values occur more often than others and, in this way, form closer ties with a certain frame, because they get cognitively activated more often.²⁹⁰ Some attributes and values are more salient than others. According to Giora, salience is a matter of degree – she calls this “graded salience hypothesis”: salient meaning is activated quicker than less salient meaning and salient meaning is

²⁸⁴ Minsky 1974, 212.

²⁸⁵ Ziem 2008, 325.

²⁸⁶ Ziem 2008, 446.

²⁸⁷ Busse 2018, 79.

²⁸⁸ Rice 1980, 155.

²⁸⁹ Busse 2018, 79.

²⁹⁰ Ziem 2008, 342.

always activated.²⁹¹ Very salient values can lead to default values.²⁹² These values are always true for the frame because they define the frame.²⁹³ The process of consolidation of attributes and values is called 'entrenchment' in cognitive grammar.²⁹⁴ According to Tuggy, "well-entrenched structures, *ceteris paribus*, are more salient than less-entrenched structures, i.e. they occur more energetically".²⁹⁵ Ziem compares the formation of salient structures with a neuronal trail (borrowing a metaphor of Keller) that gets established in the mind by the recurrent use of certain words in a certain contexts.²⁹⁶ Salience, therefore, is an important part of cognitive economy, as ties between salient elements can be processed with less effort and quicker. Busse adds that discursive mechanisms can influence the establishment or reorganization of frame elements by having an impact on their salience.²⁹⁷

3.4 Frames as a means of studying culture – aspects to consider

Fillmore from the beginning emphasized the important interrelations between linguistic theory and the wider cultural context. Understanding what language was about and how it was such an efficient means of communication needed to include a study of the relevant circumstances of language use. The meaning of a word could only be fully grasped by analysing how and why this word was used in a certain context and what linguistic and world knowledge a person needs to understand it. Fillmore's approach to language is therefore called functional.²⁹⁸ Words take the position of signals that refer to a common knowledge that needs to be activated and that contextualizes a phrase.²⁹⁹ This common knowledge takes the form of frames or schemata. A word is always connected to a fragment of culture.³⁰⁰ A functional linguistic perspective lends itself

²⁹¹ Giora 1997, 186.

²⁹² Ziem 2008, 340.

²⁹³ Busse 2012, 587.

²⁹⁴ Ziem 2008, 343.

²⁹⁵ Tuggy 1993, 279.

²⁹⁶ Keller 1994, 67; Ziem 2008, 352-353.

²⁹⁷ Busse 2017, 36.

²⁹⁸ Busse 2012, 78.

²⁹⁹ Busse 2012, 73, 228.

³⁰⁰ Busse 2012, 70.

naturally to a study of culture, be it modern or ancient. This cognitive-functional approach has certain implications for a study on Linear B:

1. We are dealing with a 'dead' language, that is, we do not have any native speakers to ask about the use of certain words.
2. The single words of Linear B do not stand on their own; they are part of texts and sets of texts and need to be analysed in context.
3. The preserved Linear B texts are all administrative and economic, they refer to concrete objects and persons in the world, that is the domain of culture.

Aspect (1) touches the type-token-dichotomy in linguistics. When working with an ancient language, we cannot ask a native speaker about their perception and usage of words, as we would do for a modern language. We have to rely on the available evidence, that is the concrete use of words in a certain context. This is called 'token'. A 'type' is the more abstract pattern of meaning that forms the base for the concrete language use.³⁰¹ When I, for example, refer to a concrete apple tree in the garden, I can point to it and call it 'apple tree'. What I mean is a concrete exemplar. But the word 'apple tree' is also a reflection of a much more abstract concept, that of a generic apple tree. We know what an apple tree looks like, how large it is, what its leaves and blossoms look like and how its fruits feel and taste. Through that knowledge, we can identify an apple tree when we see one (depending, of course, on our botanical knowledge and experience). Each word in a language is in this sense reflective of an abstract category and an abstract category in itself. Bartlett compares this to a stroke in a game of tennis: "When I make a stroke, I do not produce something absolutely new, and I never merely repeat something old."³⁰² This is not only true for physical actions, but also for such abstract entities as memory and words. Words are always the repetition of old knowledge and experience and the setting up of new information. Both categories are of

³⁰¹ This differentiation was introduced by Charles Peirce. He said that a type "does not exist; it only determines things that do exist." A token, on the other hand, is "this or that word on a single line of a single page of a single copy of a book" (Peirce 1933, IV.537).

³⁰² Bartlett 1932, 201-202.

interest for a discussion of frames. Barsalou prefers to analyse concrete token frames, Fillmore and Minsky focus on type frames.³⁰³ In ancient languages, we study first tokens, concrete words in concrete texts, that is single instantiations of frames. From this, we can draw inferences about the general pattern, the type. This is incredibly facilitated through the stereotype and repetitive character of the Linear B texts. When a frame gets repeated again and again with the same elements, I am suggesting that they formed part of the overall type frame.

Aspect (2) refers to the arrangement of words into phrases or sentences or texts. Groups of words can either limit or enhance each other's meaning by emphasizing certain aspects of their meaning.³⁰⁴ In order to understand a text, different frames, evoked by words or grammatical features or word order, need to be compared and set into relation. This is what Fillmore calls 'envisionment' of a text world:

"Put crudely, each word in a text evokes in the interpreter's mind the ingredients of a story, and a big part of the job of interpreting a text involves seeing how the ingredients of each word's story can be made to fit together with those of each other word in the text, in ways dictated by the grammar and the context."³⁰⁵

Not only grammar, but also context is relevant for understanding. This includes the form of a text or the material of its medium. The envisionment for a legal text would be different than for a poem: "Knowing that a text is an obituary, a proposal of marriage, a business contract, or a folktale, provides knowledge about how to interpret particular passages in it, how to expect the text to develop, and how to know when it is finished".³⁰⁶ As Busse stresses, the construction of a text world enables us not only to retrospectively understand the text that has been read, but also to make guesses about how the text will continue, which again facilitates understanding.³⁰⁷ Linguistics

³⁰³ Busse 2012, 615.

³⁰⁴ Busse 2012, 704.

³⁰⁵ Fillmore 1984, 138.

³⁰⁶ Fillmore 1982, 379.

³⁰⁷ Busse 2010, 315.

before Fillmore outsourced many aspects of text understanding such as the question of text coherence to pragmatics.³⁰⁸ Frame semantics tried to integrate these questions in one common framework. The assumption of frames or schemata allows for a study of the more subtle and often tacit aspects of text understanding. It could explain why texts can be fully understood although apparently information is lacking in the written composition. The structure of meaning in our mind enables us to fill up certain information from our knowledge of the world and to bestow coherence upon a text.³⁰⁹ As Wegner phrases it: “Texts are not produced in an epistemic vacuum”.³¹⁰

Aspect (3) connects research on linguistic frames with wider cultural studies. As mentioned before, ‘frame’ is one name for a concept that is widely used across different disciplines. In Cognitive Linguistics, it is called ‘frame’, in cognitive psychology, ‘schema’ and in cognitive anthropology, ‘cultural model’. All these concepts share the general thought that there exist cognitive patterns that guide our behaviour, understanding and living in the world. Cognitive anthropology, the field of study that is probably closest to cognitive archaeology, investigates those patterns that define cultural groups. To Clark, a group of people can be defined as a cultural community when its members possess a shared knowledge that distinguishes them from other groups.³¹¹ Such a knowledge can be specific to customs, to beliefs, to skills or other forms of cultural practice. As Sharifian phrases it: “Cultural groups are formed not just by physical proximity of individuals but by relative participation of individuals in each other’s conceptual world.”³¹² This shared knowledge or expertise, as Clark calls it, takes the form of frames or schemata that are again connected to words.³¹³ Words in this sense are used to categorize cognitive schemata.³¹⁴ Quinn and Holland define cultural models as “presupposed, taken-for-granted models of the world that are widely shared [...] by the members of a society and that play an enormous role in their understanding of

³⁰⁸ Croft 2004², 12.

³⁰⁹ Wegner 1985, 36.

³¹⁰ Wegner 1985, 36.

³¹¹ Clark 1996, 102.

³¹² Sharifian 2003, 189.

³¹³ Croft 2004², 18.

³¹⁴ Busse 2012, 228.

the world and their behaviour in it".³¹⁵ To D'Andrade, it is important that these cultural models or schemata are intersubjectively shared among a social group, that is everyone *knows* about the schema and *knows* that everyone *knows*.³¹⁶ It is a form of organized shared knowledge. What relates cultural models to linguistic frames is the search after meaning and the question of what one needs to know in order to understand a certain utterance or a certain cultural phenomenon. The theory of cultural models was applied to various cultural issues. Rice examined the American story frame.³¹⁷ D'Andrade's research focused on the American understanding of illness and the germ schema.³¹⁸ A review of schemata in cognitive anthropology is given by Casson.³¹⁹ For research on Linear B, one can note that the frames that can be gained from the Mycenaean texts will be linguistic frames, on the one hand. But they will also be cultural frames. The text on the Linear B tablets is the linguistic reflection of wider cultural phenomena. It allows for inferences about the knowledge of the Mycenaeans not only about their language but also about their culture. As Busse states, language (in the form of words, texts, or discourse) should be analysed in the same way as other cultural artefacts because both refer to the same cognitive schemata.³²⁰ Language in that sense cannot be separated from its cultural origins in the same way as culture cannot be distanced from its translation into language.³²¹

For a study of cognitive aspects of Linear B, it is therefore necessary to examine the structure and order of texts as well as their cultural situatedness more closely. When I refer to the structure of the tablets, this can be understood trifold: first, the inner structure of the short entries, that is the syntax of the single sentences. Second, the structure of the longer paragraphs that make up the texts in the longer tablets, that is which methods of grouping were applied in order for the shorter

³¹⁵ Quinn/Holland 1987, 4.

³¹⁶ D'Andrade 1987, 112-113.

³¹⁷ Rice 1980.

³¹⁸ D'Andrade 1995.

³¹⁹ Casson 1983.

³²⁰ Busse 2012, 809.

³²¹ Busse 2012, 810.

entries to form longer passages. Third, the structure of the whole tablets, that is according to which criteria tablets were ordered to form a set or series.

In the following, I will present two case studies that shed light on the patterns that governed the writing and reading of the Linear B texts at Pylos. The first case study refers to the Ta series, a group of tablets listing household equipment and furnishing on the occasion of a major feast in the palace of Pylos. The detailed descriptions of vessels and pieces of furniture allow for inferences about the perception of objects by the Mycenaean scribe. The second case study of the E tablets illuminates an area of Mycenaean culture that is otherwise lost to us, that of Pylian landholding. It is of special interest for the conceptualization of property in the Mycenaean period.

4 Case study I: The Ta tablets

With regard to the Ta tablets, I hypothesize that they are part of a wider Mycenaean cultural and cognitive ‘feast’ frame and present in themselves various sub-frames. This feast frame affected their compilation, design and storage and must have been of relevance in the writing and understanding of the tablets.

In the following chapter, I will first explain the context of the Ta tablets and their research history which allows for conclusions about the purpose of the series. I will then insert a short excursus about the Mycenaean feast which is necessary to understand the wider cultural background for these texts. Finally, I will point out the cognitive aspects of the Ta series, especially how they could be perceived as a coherent text and how the object descriptions refer to wider cognitive frames.

4.1 The context of the Ta tablets

Palaima stated that

“the Ta set provides an excellent example of the need to use a combinatory approach that uses the insights gained by linguistic, archaeological, anthropological, art historical, epigraphical, palaeographical, archival, dialectal, text-pragmatic and general prehistorical

studies of the tablets, their contents, and the archaeological and social setting in which the tablets were written, used and preserved”³²²

The tablets list various items, all belonging to the sphere of furniture/household property, but within this of rather heterogeneous nature: various vessels, hearths and appropriate utensils and furniture that could be used for dining (tables, chairs, footstools) as well as more enigmatic items (such as daggers and presumably hammer axes listed on Ta 716). The complete texts are given in Catalogue 1. Most entries consist of a single noun followed by a more detailed description of that noun and in many cases an ideogram. Several entries can be taken together to form one tablet, with the objects being usually sorted according to their type or function. The items are crafted of precious materials and lavishly decorated. Two of the tripods are described as being damaged: one tripod on Ta 641.1 has only one leg (*e-me , po-de*) and another tripod in the same line is burnt (*a-pu , ke-ka-u-me-no*). It is usually thought that these defective tripods were kept for their ritual value as inherited and/or religious pieces.³²³ Among the Ta tablets, Ta 716 stands out due to the singular nature of its items, their difficult interpretation and its different structure. In comparison to the other tablets of the series, Ta 716 is much shorter listing only three types of items. Each type of item comes in pairs of two. While most of the other words in the set can be interpreted with relative security, the three items mentioned here, of which only the *pa-sa-ro* are described further, are much less securely identifiable. For these reasons, slight objections were raised towards its belonging to the set.³²⁴ However, due to the common hand and find place of the tablet a close affiliation with the other tablets of the set must be assumed.

The following groups of objects are found on the tablets (members of different categories do not appear together on one tablet):

³²² Palaima 2000², 236.

³²³ Tsagarakis 2012, 331.

³²⁴ Ventris/Chadwick 1973, 348, 502.

- Vessels: six *ti-ri-po*, three *qe-to*, six *di-pa*, three *pi-je-ra*₃, two *pa-ko-to*, one *po-ro-e-ke-te-ri-ja*, six *ko-te-ri-ja*, three *qe-ra-na*
- Hearths and appropriate utensils: one *au-te*, two *pu-ra-u-to-ro*, one *qa-ra-to-ro*, two *e-ka-ra*
- Furniture: eleven *to-pe-za*, five/six *to-no*, fifteen/sixteen *ta-ra-nu*
- Enigmatic objects on Ta 716: two *pa-sa-ro*, two *wa-o*, two *qi-si-pe-e*

The Ta tablets are thought to have been assembled at a certain, special occasion shortly before the destruction of the palace of Pylos.³²⁵ The Ta tablets stand out among the Linear B tablets due to their detailed description of objects, only compared to that of the Knossos Sd tablets which refer to chariots. While other tablets contain simple descriptions of persons (Aa), animals (e.g. the colour of oxen in PY Cn 418) or objects (e.g. the colour of textiles in KN Ld 649³²⁶), mostly with one or two most prominent attributes, the Ta tablets are remarkable in giving detailed descriptions of specific objects that serve not only to list these objects but to make them recognizable as individual items. The effort that was taken to record them in detail, extending even to damaged items, is now seen as evidence for their perceived high value, not only materially, but also culturally, similar to the chariots at Knossos. Such a description is, of course, highly interesting for archaeologists and linguists alike. The descriptions of objects with primary and secondary attributes allow for a comparison with excavated physical objects and their stylistic properties as perceived by an archaeologist. They give names to patterns and decorations that we have previously only referred to by modern classifications. Although they do not provide us with a lot of verbal forms, they shed light on cases and word formation used in descriptive texts. Finally, as discussed in this thesis, they give us the possibility to gain insights into an emic classification scheme that was used by the Mycenaean scribes to categorize objects. Which properties were regarded as most important? Which could be neglected? And which were so tightly bound to the nature of an object that they

³²⁵ Palaima 2004², 232.

³²⁶ Aura Jorro 1993, 244.

were automatically inferred? This is closely connected to the question of how an object was perceived by the Mycenaeans (at least by the Mycenaean scribes – there might have been differences in perception among people from different social groups) and how it would have been best described in order to be immediately recognizable by a different person.

I will argue that two major aspects of the Ta tablets suggest the existence of cognitive frames: on the one hand, the general existence of this set of tablets, that is the ability of the Mycenaean scribe (and our own ability) to read these tablets as one continuous text and to make sense of their assemblage. On the other hand, it is their structure, that is the clear hierarchical ordering of information within the tablets. The first part of this chapter will be devoted to the first aspect, the actual compilation of these associated texts and their purpose. In the second part of the chapter, I will focus on the inner structure of the tablets.

4.2 The Ta tablets as a coherent text

First let us rule out that the thirteen tablets were a random and disconnected compilation of texts.

This is basically made impossible by the following characteristics

1. their common hand (Hand 2),
2. similarities in structure,
3. their heading in Ta 711.1 that plausibly refers to the whole set and
4. their common find place within a very tightly clustered assemblage in the eastern corner of Room 7 in the Archives Complex.³²⁷

One can conclude that they were written at the same occasion and meant to be read together, the single tablets forming a coherent text.³²⁸ That the Ta tablets were a coherent set was, of course, never doubted in research but it is necessary to emphasize it because one then needs to ask: why were entries for seemingly heterogeneous objects placed together in one coherent set? And how

³²⁷ Ventris 1955, 109.

³²⁸ Bennett/Olivier 1976, 231.

could an ancient reader perceive them as related (aside from their physical features)? And even more: how could an ancient reader make sense of this list of items and their purpose? To answer this is not as easy as it seems because the purpose of this set of tablets which must have been intuitively available to the Mycenaean scribe, despite our relatively thorough understanding of their content, left researchers puzzled for a long time.

Tablet Ta 641 played a crucial role in the decipherment of Linear B because its entries with their reference to tripods, in word and picture, acted as a physical proof for the correlation of this writing system with the ancient Greek language.³²⁹ After that, research focused on two main problems: an etymological analysis of the words of their entries together with their correlation with the archaeological record and the interpretation of the heading in Ta 711.1 which was hoped to shed light on the purpose of the assemblage of the tablets. For the moment, we will concentrate on the second point. As the tablets could be seen to belong together, they clearly displayed some kind of inventory. It is, however, until now not fully decided for which purpose this inventory was drawn up.

The reason for the long-standing debate regarding this heading and its interpretation was the simple fact that it provided us with a point in time for the assembling of the tablets but with not a single obvious clue about their purpose. The searching for evidence for this purpose pivoted around two key words in the heading: the verb *te-ke* and the noun *da-mo-ko-ro*, both of which and especially their combination was expected to give evidence about the reason for writing the tablets.

The introductory phrase on Ta 711.1 reads

o-wi-de , pu₂-ke-qi-ri , o-te , wa-na-ka , te-ke , au-ke-wa , da-mo-ko-ro

A possible transcription would be

owide , pu₂-ke-qi-ri , hóte , wánaks , théke , au-ke-wa , dāmokóron

³²⁹ Chadwick 1958, 81-82.

The most probable translation is

Thus saw , *pu₂-ke-qi-ri* , when , the king , placed , *au-ke-wa* , as *damokoros*

Although the single words of this phrase are relatively transparent to us, the full meaning of the sentence is more difficult to achieve and was widely debated. It is thought that this introductory sentence dates the occasion on which the tablets were drawn up, subsumes the otherwise slightly heterogeneous tablets under one heading by providing a temporal association and at the same time gives a justification for the assembling of such an inventory. The main research questions connected to the Ta tablets after the decipherment of Linear B have been: what was the occasion at which the tablets were drawn up? And what was the purpose of the items listed? Various Mycenologists, archaeologists and linguists have taken different paths in approaching these questions. I will first present an overview over the history of research in a chronological order with a focus on the occasion of the writing of the tablets as depicted in the introductory phrase of Ta 711.1. For a full review of the historical development of the argument see Del Frio 1990. The arguments regarding the context and purpose of the Ta tablets take two main directions: arguments drawn from language, that is the words in the text and their interpretation, and arguments originating in archaeological considerations. A full account of the tablets must take into consideration both.

4.3 History of research of the Ta tablets

The first extensive study on the Ta tablets was published by Ventris in 1955, only three years after the breakthrough in the decipherment of Linear B. Offering a detailed transliteration, translation and analysis of the different tablets, Ventris is also interested in the introductory sentence in Ta 711.1 and its relevance for determining the purpose of the set. At the beginning of the chapter, he states that the entries “appear to list the furnishings of a luxurious reception room”.³³⁰ He compares a passage in the Odyssey (τ, 53-62) which describes the precious furnishings of Penelope’s palace

³³⁰ Ventris 1955, 111.

on Ithaca, a chair and a footstool, decorated with ivory and silver by Ikmalios.³³¹ Ventris assigns the first word of the introductory sentence, *o-wi-de*, a meaning of “the checking of the transaction by the responsible official”.³³² Thus, the rather general meaning of the underlying root **weid-/wid-* for ‘see; know’ receives a more specific denotation in the sense of ‘witness’ (originating from the same root). This root is also reflected in later Greek οἶδα ‘I know’, an old perfect with the meaning of ‘have seen’.³³³ A similar phrase is found in the landholding tablet from Pylos Eq 213.1. There, a certain man named *a-ko-so-ta*, who is very prominent among the Pylos tablets and probably is to be identified with Hand 1, is said to have witnessed a transaction. This process is described with the phrase *o-wi-de a-ko-so-ta* ‘Alksoitas witnessed’. It was then interpreted that the two names *a-ko-so-ta* and *pu₂-ke-qi-ri* both referred to certain officials. A further uncertainty of the introductory sentence lies in the central verb *te-ke*. *te-ke* is clearly recognizable as unaugmented Aorist in the 3rd person singular indicative from the verb τίθημι ‘to put’, thus meaning ‘he put, he appointed’. Despite being a rather general and frequent word (or maybe because of that), its interpretation has long been contested. Ventris marks the start of this debate with his translation as ‘appointed’ in the rough sense of ‘put into a certain position’ with *damokoro* taking the necessary place of the position expressed by a double accusative. He translates Ta 711.1 as

“Thus *Pu₂-ke-qi-ri* made inspection on the occasion when the king appointed Sigewas (?) to be a *damokoros*.”³³⁴

This translation was also retained in Ventris and Chadwick 1956.³³⁵

The next publication embodies the second major stream in interpretation of the Ta tablets, especially their introductory sentence. It was published by Palmer in an article called “A Mycenaean tomb inventory” in 1957. As he informs the reader, this article was based on a communication to

³³¹ Ventris 1955, 111.

³³² Ventris 1955, 114.

³³³ ‘οἶδα’ in Beekes 2010, 1053.

³³⁴ Ventris 1955, 113.

³³⁵ Ventris/Chadwick 1956, 334.

the Seminar of the Classical Institute of the University of London in November 1955.³³⁶ I am including it in this position in the chronology of research on the Ta tablets because Higgins in 1956 refers to Palmer's interpretation.³³⁷ Palmer agrees with the interpretation of *wi-de* but his reading of the introductory sentence is based on a different translation of *te-ke* which Palmer suggests to be 'he buried'. He derives this translation first, from the interpretation of *damokoro* as a personal name instead of a title, more precisely an abbreviated patronymic, that is without the typical ending in *-ios*.³³⁸ The first name of the person referred to would be **85-ke-wa*, an indigenous name, while his second name was Greek.³³⁹ Second, from the context, that is the archaeological evidence regarding grave goods in Mycenaean tombs.³⁴⁰ Because similar objects can be found in tombs, he suggests that the context we are dealing with is a tomb context. In such a context, *τιθημι* would mean 'bury'.³⁴¹ He thus translates Ta 711.1 as

"Inspection carried out by *pu₂-ke-qi-ri* when the king buried *Sa-ke-wa* Damoklos."³⁴²

Palmer interprets that the inventory was drawn up at the occasion of the burial of a certain **85-ke-wa da-mo-ko-ro* who must have been an extremely high standing individual when the king himself conducted his funeral. As will be seen, this interpretation was not without problems.

A different approach was taken by Higgins in 1956. He focused on the archaeological background of the Ta tablets as known from Mycenaean archaeology and under consideration of the findings in the grave of Tutankhamun. With regard to the objects listed, Higgins mentions three aspects that need to be taken into account: their high value, the registering of multiple objects of the same kind,

³³⁶ Palmer 1957, 90, Addenda.

³³⁷ Higgins 1956, 43.

³³⁸ Palmer 1957, 83. Patronymics, the names of the fathers that were very important for the social identification of persons, were formed by adding a suffix *-ios* to the father's name, e.g. the patronymic *ku-ru-me-ni-jo* of a male personal name *ku-ru-me-no* (cf. Aura Jorro 1985, 408).

³³⁹ Palmer 1957, 83. The different transliterations of the second personal name – **85-ke-wa*, **au-ke-wa*, **sa-ke-wa* – are based on different interpretations of the first sign. Certain Linear B signs until now have an insecure phonetic value. These are sometimes given by their numerical attribution in order to avoid confusion. Insecure phonetic values often occur in indigenous words, the etymologies and pronunciation of which we do not fully understand. **85* is now regularly transliterated as */au/* (cf. Palmer 2008, 63).

³⁴⁰ Palmer 1957, 84.

³⁴¹ Palmer 1957, 85.

³⁴² Palmer 1957, 87.

and the damaged status of certain objects.³⁴³ In his survey, he concludes that the entries would list “too much stuff”³⁴⁴ which could never have been taken in by any Mycenaean tomb and not even in the rich Egyptian grave of Tutankhamun. This view, however, seems rather subjective and also depends on whether one would imagine the tomb as furnished room, that is with different pieces of furniture placed in a purposeful order, or as storeroom, that is with more freedom towards the arrangement of the pieces of furniture.³⁴⁵ He therefore takes Ventris’ position in reading the tablets as an inventory drawn up on the occasion of the appointment of the new *damokoro*, done by *pu₂-ke-qi-ri* who took exceptional effort to also list all damages.³⁴⁶

In her 1959 article, Gray takes strong opposition to Palmer’s interpretation as a tomb inventory which led to a fierce debate between both researchers.³⁴⁷ Focusing on the archaeology of the objects registered, she emphasizes the strange mixture of items if interpreted as the content of a storeroom, especially the swords on Ta 716. She, however, comes to the conclusion that the other interpretations are even more difficult. She rules out the explanation given by Ventris and Chadwick to see the items as precious gifts because of the broken tripods which would make a rather unpleasant gift.³⁴⁸ And she argues against Palmer’s interpretation of a tomb inventory. First, because there are no personal ornaments like seals or jewellery that would be expected in a tomb. Second, because – in contrast to the Etruscan tombs that Palmer refers to – Mycenaean tombs do not give the impression of houses of the dead so far.³⁴⁹ A house of the dead would be furnished according to the standards of a certain living social group, i.e. with beds and similar furnishings.

³⁴³ Higgins 1956, 43.

³⁴⁴ Higgins 1956, 43.

³⁴⁵ Compare the tomb of Tutankhamun where various pieces of furniture and precious items were clustered tightly together, very dissimilar to a room of the living.

³⁴⁶ Higgins 1956, 43.

³⁴⁷ Her article was further commented on in Palmer, 1960, which again was commented by her in the following pages in the same volume (Gray 1960).

³⁴⁸ Gray 1959, 54; Ventris/Chadwick 1973, 348.

³⁴⁹ Gray 1959, 54.

Third, because not even the largest known Mycenaean tholoi would have offered that much space to take in so many objects.³⁵⁰

In his 1963 'Interpretation of Mycenaean Greek Texts', Palmer largely holds on to his analysis of the Ta tablets in reading *damokoro* as abbreviated form of the patronymic *damokerewei* and in his interpretation of *te-ke* as 'buried'.³⁵¹ He assumes that the inventory was taken when an old tomb was opened for a new burial.³⁵²

Lejeune, in 1965, considered the interpretation of *te-ke* as well as *damokoro* because they can be seen to be crucial for the interpretation of the introductory sentence and the whole series. The situation is complicated because both phrases mutually depend on each other – one influences the interpretation of the other, even up to the grammatical structure. One could either read the Mycenaean Greek phrase '*te-ke au-ke-wa da-mo-ko-ro*' with a simple accusative in the sense of 'he placed *au-ke-wa*, **the** *damokoros*' or with a double accusative as 'he placed *au-ke-wa* **as** *damokoros*'. A simple accusative would point towards a meaning of *te-ke* as 'buried', while a double accusative would suggest a meaning of 'appointed'. Lejeune shows clearly that there is no case in Classical Greek where *θεῖναι*, the infinitive form of *τίθημι*, on its own is used in the sense of 'to bury'. It can be used in this sense, but only coupled with an object that refers to what is buried (such as *ὀστέα* 'bones') and/or a place where something is buried (such as *εἰς ταφὰς* 'in the burial places').³⁵³ It must be evident from the context that the general word *τίθημι* is used in such a specific meaning, but nothing in the introductory sentence of Ta 711 gives reason to assume such a meaning. This would have been needed to be inferred from the context, that is from the knowledge that **85-ke-wa* has died and was buried by the king. The understanding of the sentence would have then completely relied on the concise knowledge of the reader of the social circumstances. This could theoretically be imagined but, as we will see, does not seem very likely. Lejeune further draws

³⁵⁰ Gray 1959, 55.

³⁵¹ Palmer 1963, 340.

³⁵² Palmer 1963, 360.

³⁵³ Lejeune 1965, 19 and fn. 61.

upon the Pylos tablet On 300 which is a list of fonctionnaires in both Pylian provinces where *da-mo-ko-ro* is mentioned at the end of the list of the Hither Province.³⁵⁴ This would speak for its interpretation as a title, not as a name. This is further reinforced by Lejeune's statement that a patronymic definitely requires the ending in *-ios* which is absent from *da-mo-ko-ro*. As a result of these observations, Lejeune concludes that *te-ke* should be interpreted as 'appointed'.³⁵⁵ According to him, there are two types of inventories in Linear B: regular ones, taken up every year, and special ones, taken at certain occasions (such as Ta 711 and Eq 213).³⁵⁶ The inventory of the Ta tablets would have been written when a new *damokoro*, **85-ke-wa*, was appointed. According to Lejeune, *pu₂-ke-qi-ri* would take up the position originally occupied by **85-ke-wa* (instead of seeing him as a general palace official who wrote down the entries). He would have checked the possessions that previously belonged to his predecessor **85-ke-wa*.³⁵⁷ This last interpretation is not usually accepted in later research where *pu₂-ke-qi-ri*, parallel to *a-ko-so-ta*, is seen as a palace official who has written the Ta documents.

The interpretation of *damokoros* as a title was further supported through new evidence from Knossos. Olivier, in 1967, remarked that in tablets from Knossos and Pylos, the titles of *duma* and *damokoros* were used in parallel. They seemed to be connected to animal husbandry, more specifically cattle.³⁵⁸ This would speak for an interpretation of the introductory phrase in the Ta tablets as referring to the appointment of a new official.

Lindgren in 1968 sums up the different strands of research to date: information about the purpose of the Ta series is largely drawn from 1) the translation of *te-ke*, 2) the interpretation of *damokoros*, and 3) the archaeological record.³⁵⁹ These cannot be seen to be isolated, they depend on each other, and yet it is not always easy to bring them in accordance. Lindgren concentrates on the

³⁵⁴ Lejeune 1965, 21.

³⁵⁵ Lejeune 1965, 19.

³⁵⁶ Lejeune 1965, 17.

³⁵⁷ Lejeune 1965, 19-20.

³⁵⁸ Olivier 1967², 119-120.

³⁵⁹ Lindgren 1968, 64.

meaning of τίθημι and states the obvious, but very relevant, fact that τίθημι is a very frequent and unspecific verb the interpretation of which is largely governed by context. She agrees with Lejeune in that τίθημι cannot be used in the sense of 'bury' unless there is clear evidence in the context to do so. It can therefore not be seen as a terminus technicus for 'bury' in Mycenaean.³⁶⁰ Although one might argue that this information can be inferred from the context, that is from the knowledge of *85-ke-wa's identity and his death, she regards this as highly improbable. For reasons of clarity, the scribe would more probably have used a more specific word, that for sure existed but that is not transmitted to us, in order to make this important reference, on which the context and the categorization of the whole set depends, more transparent.³⁶¹ If τίθημι does not have the meaning of 'bury' on its own (and it is improbable, that it did so in Mycenaean, but lost it in all later Greek references), there is no gain in using such a general word for such a specific meaning. In contrast to other examples of the Linear B tablets, where information could be omitted, this was done because one could save the effort of writing without losing the understanding. In this case, it is a question of substituting one word for the other and there is no gain in writing a more general word in contrast to using a more specific word. With regard to the archaeology of the objects, Lindgren quite neutrally states that the items listed could be used in a palace as well as in a tomb and there was no advantage in locating them in a grave.³⁶² She therefore sees no need, neither linguistically nor archaeologically, to place the Ta tablets in a grave context.

In 1971, Hiller came up with a new interpretation of the purpose of the Ta series from an archaeological point of view. He agrees with his predecessors that the introductory sentence and the occasion mentioned there serve to date the writing of the whole inventory.³⁶³ In his opinion, the different items represent a cult inventory.³⁶⁴ In this sense, the different vessels could be seen

³⁶⁰ Lindgren 1968, 65-66.

³⁶¹ Lindgren 1968, 67.

³⁶² Lindgren 1968, 72.

³⁶³ Hiller 1971, 72.

³⁶⁴ Hiller 1971, 74.

as being used for libation.³⁶⁵ The tables would be seen as sacrificial tables or even for a theoxenia (that is, the ritual holding of a feast for the gods that included the arrangement of different pieces of furniture, such as klinai and tables and the offering of food and drink).³⁶⁶ The axes and knives could have been instruments for offerings.³⁶⁷ And also the damaged tripods would have had sacral character.³⁶⁸ Hiller concludes that the various items listed in the Ta tablets belonged to a storage room used for storing sacral items, that is a cult inventory.³⁶⁹

Gallavotti in 1972 agrees with the now communis opinio that *damokoros* refers to a title, not a personal name.³⁷⁰ According to him, the objects listed were the fittings of a room that was prepared for a certain ceremony.³⁷¹

Killen, in 1998, brought up a new interpretation. In his opinion the objects were part of the palace's banqueting fitments. The appointment of a new official would have been the right time for a major feast where guests would have been entertained by the use of the registered objects.³⁷²

Speciale in 1999 agrees with this interpretation. According to her, this major feast would have been accompanied by a large sacrifice.³⁷³ Part of the furnishing would have been used for such a sacrifice. For this purpose, she compares the shape of the tables as mentioned in the texts that refer to tables with six and nine legs (although the translation of the respective words *we-pe-za* and *e-ne-wo-pe-za* is not fully secure) to the depiction of tables on sealings. Tables with six or nine legs are found on seals depicting sacrifices, two examples of which are shown in Figures 18 and 19.³⁷⁴ If they were special sacrificial tables or reflections of general tables is, however, unclear. She further interprets

³⁶⁵ Hiller 1971, 74.

³⁶⁶ Hiller 1971, 77-78; Jameson 2014, 145-146.

³⁶⁷ Hiller 1971, 82.

³⁶⁸ Hiller 1971, 80.

³⁶⁹ Hiller 1971, 86.

³⁷⁰ Gallavotti 1972, 25.

³⁷¹ Gallavotti 1972, 24.

³⁷² Killen 1998, 421.

³⁷³ Speciale 1999, 292.

³⁷⁴ Speciale 1999, 292.

the enigmatic tablet Ta 716 with its knives and axes, as referring to the different implements used for sacrificing an animal.³⁷⁵



Figure 18 Seal with depiction of sacrificial table with three legs (CMS I 080).



Figure 19 Seal with depiction of sacrificial table and dagger (CMS XI 052).

In his 2000 review of the research on the Ta tablets, Palaima mentions the close spatial association of the Ta tablets with Un 718 in Room 7 of the Archives Complex. Un 718 refers to items that can be used for a banquet such as wine, cheese and grain along with animals for sacrifice (See Catalogue 5). He agrees with Killen and Speciale in seeing the items on Ta being used for a banquet. He further mentions, with regard to the scribal process of the Ta tablets, that they look as if the need had arisen to register a large number of objects in a way that would make them immediately recognizable. He imagines that this information was noted by Hand 2 while an official inspected the objects.³⁷⁶

To summarize: In the seventy years of research on the Ta tablets, four main suggestions towards their purpose as deduced from their heading and the collocation of items have been made:

1. Precious furnishings of a room (Ventris, Higgins, possibly Gray, Lejeune, possibly Lindgren)
2. Grave goods in the tomb of a high standing individual (Palmer)
3. Ritual context (Hiller, Gallavotti, Speciale)
4. Banqueting equipment (Killen, Speciale, Palaima)

³⁷⁵ Speciale 1999, 295.

³⁷⁶ Palaima 2000², 237.

Palmer's suggestion of the objects being part of the furnishing of a tomb is virtually excluded by all other researchers. The other possible interpretations developed from more generic suggestions as contents of a room to a more specific intended use for banqueting. It is now agreed that the inventory was taken up at the occasion of the appointment of a new *damokoros*. When it comes to their further interpretation, it is not necessary to draw clear boundaries between the remaining three suggestions or to decide for one of them. One can imagine the pieces of furniture, the chairs, the tables and the footstools, to have been arranged in a certain space (be it within the palace or in a court, but more probably within the palace, maybe in the *megaron*). Whether this was a temporary arrangement or a more permanent is difficult to decide from the written evidence alone. But, as the heading refers to a certain occasion, it is more probable that the furniture and the vessels were taken out of a storeroom for their intended use. The purpose of the Ta series would then have been to record all items that went out of a storeroom to be used at a certain occasion and to make sure they would be returned in their appropriate condition. This aligns well with the other two suggestions, the ritual context and the banquet. It is questionable whether these two activities can actually be separated in Mycenaean culture. The iconographic, epigraphic as well as faunal evidence of the palace of Pylos suggest that feasting and ritual sacrifice were highly entangled in Mycenaean culture.³⁷⁷ These two possible interpretations are therefore not mutually exclusive. Taking into account these different arguments, it is now regarded as highly probable that the Ta tablets are an inventory of the furnishing for a space used for banqueting and the equipment for a sacrifice connected to a feast.

4.4 Excursus: The Mycenaean Feast

Now that we know that the Ta tablets with a high probability refer to the equipment needed for a major feast and with the idea in mind that this cultural concept takes the form of a cognitive frame,

³⁷⁷ Wright 2004, 161; Halstead/Isaakidou 2004, 147; Bendall 2004, 105.

let us briefly reconstruct what we know about feasting in the palace of Pylos. We have three possible sources of evidence for the Mycenaean feast:

- Epigraphical sources: Linear B tablets about foodstuff and sacrificial animals, offerings, rations and furnishings;³⁷⁸
- Archaeological evidence: mostly from wall paintings and the excavation of vessels or pieces of furniture in the palace or in tombs as well as architectural remains of banqueting areas in the palaces;³⁷⁹
- Faunal remains: burnt bones that are thought to have belonged to sacrificial animals.³⁸⁰

Without attempting to present a full study of the Mycenaean feast, I will give a short overview of each of these categories with a special emphasis on aspects relevant for the study of the Ta tablets.

4.4.1 The written evidence for feasting

What is to be counted as referring to banqueting and feasting in the Linear B tablets is often difficult to answer. As we have seen from the history of research on the Ta tablets and their interpretation as cult inventory or banqueting inventory likewise, it is difficult if not impossible to draw a strict boundary between cultic and feasting activities. It is probable that both areas were highly entangled and that cultic activities such as offerings or sacrifices were part of or related to banquets on certain occasions.³⁸¹ The tablets do not give us a simple heading which states when one tablet is about banqueting. Rather, we have to make various deductions in order to gain a full understanding of the Mycenaean feast in the Linear B tablets. Three types of Linear B tablets are known to refer to feasting: contributions of foodstuff and animals for sacrifice and consumption, rations to cult

³⁷⁸ Bendall 2008, 77-78.

³⁷⁹ Wright 2004, 137, 145.

³⁸⁰ Stocker/Davis 2004, 183.

³⁸¹ Cf. for example for the nature of Un 2 as provisions for a festival with religious connotations (Killen 2004, 159).

personnel and banqueting furnishing and paraphernalia.³⁸² Additionally, one might add the tablets listing offerings of various items on the occasion of certain religious festivals.³⁸³

Contributions of animals were often recorded in the first stage of administration on sealings as documented in Thebes. The sealings from Thebes were first discussed by Piteros, Olivier, and Melena in 1990.³⁸⁴ During excavation, small, three-sided sealings were found (classified as Wu and originally attached to a string) registering animals for consumption and sacrifice.³⁸⁵ These sealings might be compared to similar exemplars from the Northeast Workshop at Pylos (eg Wr 1325) which listed animals together with the word *o-pa*.³⁸⁶ The word *o-pa* is a general term widely attested in the Mycenaean archives. Killen argues that it had the general meaning of ‘finishing’ which in a livestock context would refer to the ‘fattening’ of animals in order to prepare them for sacrifice at the occasion of a state banquet.³⁸⁷ In an early stage of administration, the sealings would have recorded the arrival of and procedure with animals prepared for sacrifice. In the next stage, tablets would have been drawn up to summarize the single entries of the sealings. Tablets at Pylos referring to contributions of foodstuff and animals can be found among the following series: Cn, Ua, Un, Vn.³⁸⁸ Examples for tablets referring to animals for sacrifice at Pylos are Un 2 and Un 138 (see Catalogue 5).³⁸⁹ These tablets list a variety of foodstuff such as grain, olives and figs as well as various animals such as cattle, sheep, goat and pig. Un 2 gives a location (*pakijane*) and an occasion ‘on the initiation of the king’ (*mu-jo-me-no , e-pi , wa-na-ka-te*).³⁹⁰

At the occasion of major religious festivals, rations of barley, olives, figs and flour were given out to the participants of the feasts. These are documented in the Fn tablets of Pylos and probably the Av

³⁸² Palaima 2004², 218.

³⁸³ Bendall 2008, 77-78.

³⁸⁴ Olivier/Melena/Piteros 1990.

³⁸⁵ That the animals were probably contributed for sacrifice and consumption at major feasts, is deduced from a comparison of the Thebes sealings and the Pylos tablets Un 138 and Un 2 which show similarities in structure and phrasing (Olivier/Melena/Piteros 1990, 178-179, 184; Killen 1994, 71-72; Palaima 2004², 221).

³⁸⁶ Palaima 2004², 221.

³⁸⁷ Killen 1999¹, 332.

³⁸⁸ Bendall 2007, 38.

³⁸⁹ Palaima 2004², 220.

³⁹⁰ Palaima 2004², 229.

tablets at Thebes.³⁹¹ Killen evaluates, following Chadwick, the rations given out as being allocated for one-day, two-day and three-day festivals alike.³⁹²

Contributions of offerings to various gods can entail liquids (such as perfumed oil, honey or wine) as well as solid commodities (such as textiles or vessels).³⁹³ Offering tablets often made reference to a certain occasion in the form of a month name or the name of a religious festival.³⁹⁴ This was sometimes followed by a list of deities and the offerings that were made to them. Similar offerings were recorded in the Pylos Fr tablets which are generally interpreted as offerings of perfumed olive oil to a number of deities at certain occasions and the famous tablets Tn 316 with its offerings of golden vessels.³⁹⁵

The tablets that refer to furnishings and paraphernalia used for banquets are the Ta tablets. Their content will be further discussed in the second part of the chapter.

4.4.2 The archaeological evidence for feasting

Three types of archaeological findings are the main evidence for feasting in Mycenaean Greece: feasting paraphernalia excavated in palaces and graves (mainly vessels and fragments of furniture), frescoes depicting various feasting and related scenes, and architectural evidence for banqueting spaces in the palaces. Hints towards a possible interest in organized feasting in the form of drinking vessels as grave goods can be found from Middle Helladic times, but the record for feasting activity in Mycenaean Greece culminated in LH IIIA/B.³⁹⁶ During this time, ceremonial feasting seemed to play an important role in Mycenaean culture.³⁹⁷ Ceremonial feasting in this sense was to be distinguished from the more mundane variants of dining held at various times and to various extents by all members of the society. Wright in this sense stresses the ritual character of the major

³⁹¹ Killen 1999², 218-219; Killen 2004, 155.

³⁹² Chadwick 1976, 118; Killen 2001, 440-441.

³⁹³ Bendall 2007, 17.

³⁹⁴ Bendall 2007, 19.

³⁹⁵ Bennett 1958, 37; Shelmerdine 1985, 63; Bendall 1998-1999, 9.

³⁹⁶ Wright 2004¹, 146.

³⁹⁷ Wright 2004¹, 136.

Mycenaean feast.³⁹⁸ Judging from especially the iconographic record, feasting was not a solitary activity but was connected to other forms of social bonding “whether hunting or harvesting, worship or initiation”.³⁹⁹

The significance of feasting was reflected in various aspects of culture. This included the architecture of the Mycenaean palaces where large rooms or courts suitable for major celebrations were connected to storerooms for the provision of crockery. Bendall identifies three main feasting zones at the palace of Pylos: Court 63 in the Southwestern Building, Court 58 and the megaron (see Figure 20).⁴⁰⁰ Each of these was connected to various levels of privacy and different routes of access and must have served different numbers and types of guests. Court 58, for example, is located adjacent to, but outside, the actual palace. Court 63 is part of the palace, but not of the central

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The image originally presented here cannot be made freely available via ORA because of copyright. The image was sourced from Bendall 2008, 101.

Figure 20 Map of the Palace of Pylos with feasting zones and adjacent pottery pantries (Bendall 2008, 101).

³⁹⁸ Wright 2004¹, 134.

³⁹⁹ Wright 2004¹, 136.

⁴⁰⁰ Bendall 2008, 78.

building. The megaron, of course, is the heart of the palace and access must have been limited to the highest-ranking individuals of the Pylian state.⁴⁰¹

Each banqueting space had its own pantry or pantry system which would provide the guests with crockery. Court 63, for example, must have been served by pantry rooms 18-22 which yielded several hundreds of eating and drinking vessels.⁴⁰² Judging from the most precious vessels and pieces of furniture recorded on the Ta tablets and their low numbers (in comparison to the hundreds of kylikes found in the pottery storerooms), we can regard the megaron as the most probable place for a banquet that made use of these provisions.

4.4.2.1 Vessels connected to feasting

The pantry rooms in the western part of the main palace complex contained a large variety of vessels used for banqueting among which were found 2,853 kylikes, 1,325 bowls, 1,151 ‘teacups’ and more than 425 dippers.⁴⁰³ They were not stored randomly, but rather sorted according to their function: Room 19 hosted drinking vessels, Room 20 food sets, Rooms 23-24 contained large pithoi, possibly used for storing food, and Room 22 displayed dippers used as ladles.⁴⁰⁴ While the vessels on the Ta tablets must be assumed to have been of metal, the vast majority of vessels at the palace of Pylos was made of clay. Bendall distinguishes two qualities of clay vessels: fineware and vessels of inferior quality. Remarkably, the fineware vessels were found in relation to Court 63 while the coarser vessels were found in the pantry serving Court 58. This, together with the spatial separation of the banqueting areas in the palace, argues for what Bendall calls a “banqueting hierarchy” in the palace of Nestor, where certain areas were allocated to certain social groups, together with specified drinking vessels.⁴⁰⁵

⁴⁰¹ Bendall 2004, 124.

⁴⁰² Bendall 2004, 117.

⁴⁰³ Hruby 2010, 195. ‘teacups’ is the name given by the excavators to their pottery shape 12, a shallow cup with one low handle (Blegen/Rawson 1966, 360).

⁴⁰⁴ Bendall 2004, 118-119.

⁴⁰⁵ Bendall 2008, 78-79.

Vessels used for eating and drinking and possibly for larger scale banqueting were also found as grave goods in elite burials from the Late Middle Helladic period onwards. Especially drinking and pouring vessels were regarded as having a high material and symbolic value.⁴⁰⁶ While the first exemplars were mainly made of clay, an increased appreciation of metal vases soon made its appearance (see Figure 21).⁴⁰⁷

IMAGE REMOVED

The image originally presented here cannot be made freely available via ORA because of copyright. The image was sourced from Persson 1942, 88, Fig. 99.

Figure 21 Drinking set of silver from Dendra tomb 10, shaft II. From LH IIIA. (Persson 1942, p. 88, fig. 99).

The selection of specific vessels as grave goods across a variety of burials developed into what Wright called a 'Mycenaean taste'.⁴⁰⁸ The existence of special drinking sets, that is a number of vessels arranged according to their function, is further suggested by KN K 93, a tablet from Knossos that depicts an ideogram of such a set, composed of five single vessel ideograms (*219, *226, *301, *302, *303).⁴⁰⁹ Judging from the concentration of precious vessels in elite burials, it follows that feasting at this time was separated from more simple forms of dining and instead became

⁴⁰⁶ Wright 2004², 92.

⁴⁰⁷ Wright 2004¹, 146.

⁴⁰⁸ Wright 2004¹, 146.

⁴⁰⁹ Wright 2004¹, 151.

emblematic for the Mycenaean elite self-conception as a symbol for wealth and hospitality.⁴¹⁰ This attitude was carried over across generations as heirloom pieces in graves and the mention of defective tripods in the Ta tablets suggest.⁴¹¹

4.4.2.2 *Frescoes with feasting scenes*

A second genre connected to the cultural context of feasting is that of frescoes. Frescoes in the palace of Pylos in LH IIIB can be seen to depict possible feasting scenes.⁴¹² Among these, the megaron fresco stands out due to its size, artistry and pictorial programme. The fresco is described by Lang in the second volume of “Palace of Nestor”.⁴¹³ It is a two-part composition that stretches along the walls of two rooms: the vestibule (Room 5) and the megaron. The depiction leads the viewer from the anteroom of the megaron into the heart of the palace up to the central throne. The scene at the righthand side of the vestibule, fallen in fragments to the floor, depicted a procession of mainly male persons in different styles of clothes carrying various objects, among them a possible table and basket (Figures 22 and 23). The persons move from right to left, that is towards the megaron. Before them marches a large bull.

IMAGE REMOVED

The image originally presented here cannot be made freely available via ORA because of copyright. The image was sourced from Lang 1969, Plate 119.

Figure 22 Drawing of the fresco in the vestibule at the Palace of Pylos - Procession and sacrificial bull (Lang 1969, Plate 119).

⁴¹⁰ Wright 2004¹, 154.

⁴¹¹ Wright 2004¹, 171.

⁴¹² Wright 2004¹, 137.

⁴¹³ Lang 1969, 192-196.

IMAGE REMOVED

The image originally presented here cannot be made freely available via ORA because of copyright. The image was sourced from Lang 1969, Plate 120.

IMAGE REMOVED

The image originally presented here cannot be made freely available via ORA because of copyright. The image was sourced from Lang 1969, Plate 120.

Figure 23 Detail of the Vestibule Fresco at the Palace of Pylos – Men carrying supplies (Lang, 1969, Plate 120).

Lang describes the procession scene and the role of the bull as following:

“the long-robed men perhaps serve a religious function; those in kilts bring equipment; an occasional and privileged female, whether priestess or member of the royal family, attends; and the bull comes as both sacrifice and dinner”⁴¹⁴

The depiction could be interpreted as the preparations for a feast: the decoration of the space with furniture and other objects that would have been brought over from storage rooms by lower-ranking individuals, the gathering of high-ranking individuals as guests, the preparation of a large bull as exceptional sacrifice and as source of meat for a luxurious dinner. The megaron itself depicts what Lang called “The Bard at the Banquet” (Figure 24).⁴¹⁵

⁴¹⁴ Lang 1969, 193. In more recent works, the association of the bull with the processional fresco is, however, debated (Peterson 1981, 85).

⁴¹⁵ Lang 1969, 194.

IMAGE REMOVED

The image originally presented here cannot be made freely available via ORA because of copyright. The image was sourced from Lang 1969, Plate 125.

Figure 24 Drawing of the fresco in the megaron at the Palace of Pylos - Feasting scene and heraldic animals (Lang 1969, Plate 125).

The scene on the right-hand wall of the throne room consists of two parts: on the one hand, the painting of a lyre player and a bird (Figures 25 and 26). On the other hand, two men sitting at a table (Figure 27). Fragments of a second table were found, so the lyre player was apparently singing to at least four seated men.⁴¹⁶

IMAGE REMOVED

The image originally presented here cannot be made freely available via ORA because of copyright. The image was sourced from Lang 1969, Plate 125.

Figure 25 Megaron Fresco at the Palace of Pylos - Feasting scene: fragments of lyre player and bird (Lang 1969, Plate 125).

⁴¹⁶ Lang 1969, 194.

IMAGE REMOVED

The image originally presented here cannot be made freely available via ORA because of copyright. The image was sourced from Lang 1969, Plate 126.

Figure 26 Megaron Fresco at the Palace of Pylos - Feasting scene: reconstruction of lyre player and bird (Lang 1969, Plate 126).

IMAGE REMOVED

The image originally presented here cannot be made freely available via ORA because of copyright. The image was sourced from Lang 1969, Plate 126.

Figure 27 Megaron Fresco at the Palace of Pylos - Feasting scene: men seated at a three-legged table (Lang 1969, Plate 126).

Further fragments suggest that the lyre player was joined by a bull that would “serve as a link between the banqueting scene and the heraldic animals [flanking the throne]”.⁴¹⁷ The scene

⁴¹⁷ Lang 1969, 194-195.

depicted is therefore that of a feast with people sitting at three-legged chairs, in pairs opposite to each other, accompanied by music.

Frescoes depicting feasting and related scenes can be found in other places as well. Wright compares, for example, a miniature fresco from Ayia Irini on Kea, found in the Northeast Bastion (see Figure 28).⁴¹⁸ In Rooms 18 and 20 of the Northeast Bastion in Ayia Irini we find the painting of a feast. Morgan interprets the miniature frieze as the depiction of a festival at the sea.⁴¹⁹ The men are shown leaning over the tripods as if stirring whatever is in there. Burn marks on the tripods suggest the presence of fire under them.⁴²⁰ Another miniature painting from Kea shows a procession of men moving towards the middle from both directions, but it cannot be said whether this has to do with a feast or not.⁴²¹ Further paintings with hunting of deer scenes might be related to large scale festivals.⁴²² Morgan stresses how these frescoes from Kea are related with Mycenaean painting.⁴²³ Hunting scenes are present in Pylos, as well, for example from Room 43.⁴²⁴

IMAGE REMOVED

The image originally presented here cannot be made freely available via ORA because of copyright. The image was sourced from Morgan 1990, 255, Fig. 2.

Figure 28 Reconstruction of the Miniature Frieze at the Northeast Bastion in Kea (Morgan 1990, p. 255, Fig. 2).

⁴¹⁸ Wright 2004¹, 156.

⁴¹⁹ Morgan 1990, 254.

⁴²⁰ Morgan 1998, 204.

⁴²¹ Morgan 1990, 257; Morgan 1998, 204.

⁴²² Morgan 1995, 244.

⁴²³ Morgan 1990, 258.

⁴²⁴ Lang 1969, 68-69. For the iconography of hunting scenes at Pylos cf. Bennet 2001, 34-35.

4.4.3 The faunal evidence for feasting

A third possible source for Mycenaean feasts is the excavation of faunal remains that can be interpreted as remains of sacrifice and feasting. A study of the faunal remains in the palace of Pylos was conducted by Halstead, Isaakidou, Stocker and Davis.⁴²⁵ They found that among the faunal residues in the palace of Nestor, six groups stood out due to their size and tight clustering.⁴²⁶ A group of burnt bones in Room 7 (that is the ante-room) of the Archives Complex is especially remarkable. They were found in the western corner of the room.⁴²⁷ The assemblage consists of bones of cattle and deer and displays a curious selection of body parts (mandible, humerus and femur) that seems to bear a certain ritual significance because this combination of bones repeatedly appears in other bone deposits, too. Halstead and Isaakidou remark the large size of the cattle bones, which presumably were taken from adult and fairly impressive bulls. From the state of the bones, burnt and with butchery marks, it can be deduced that they had been stripped of their meat and then burnt without removing the marrow which suggests a deliberate sacrifice. Otherwise the nutritious marrow would have been extracted and used for cooking.⁴²⁸ After their preparation, the bones were deposited in the Archives Complex, maybe as proof for the sacrifice having been conducted.⁴²⁹ Close to the bones, in the northwestern part of Room 7, were found several miniature kylikes, a spearhead and a sword.⁴³⁰ These objects are thought to be related to feasting as well: the miniature kylikes, although too small for proper drinking, for libations and the sword for killing the sacrificial victim. The purpose of the spearhead is not fully clear.⁴³¹ Isaakidou et al. interpret these findings as evidence for the close association of sacrifice and feast in Mycenaean Greece.⁴³²

⁴²⁵ Isaakidou/Halstead/Davis/Stocker 2002; Halstead/Isaakidou 2004; Stocker/Davis 2004.

⁴²⁶ Halstead/Isaakidou 2004, 143.

⁴²⁷ Stocker/Davis 2004, 184.

⁴²⁸ Halstead/Isaakidou 2004, 145-146.

⁴²⁹ Stocker/Davis 2004, 193.

⁴³⁰ Stocker/Davis 2004, 184. One group of 11 miniature kylikes was found very close to the bones. It cannot be reconstructed from the excavation reports where in the room the further 11 kylikes were found (Stocker/Davis 2004, 187).

⁴³¹ Stocker/Davis 2004, 190.

⁴³² Isaakidou/Halstead/Davis/Stocker 2002, 88.

4.4.4 Feasting in Mycenaean Greece

The three lines of evidence – epigraphic, archaeological and faunal – allow us to deepen our picture of the Mycenaean feast. The wide spread of the various elements that made up a feast among the Mycenaean kingdoms, their physical proof and their symbolism, suggest a high value for this social activity with the Mycenaean world. The artistic depiction of various stages of the feast in the most central rooms of important buildings, the recurrent burying of specific sets of expensive vessels and feasting equipment in elite burials and their detailed account on the Linear B tablets (taken together, the relevant tablets are among the most prominent texts in Pylos) underline the importance of the feast in Mycenaean culture. Palaima stresses that the palace of Pylos and its immediate surroundings were most probably the stage for large-scale communal ceremonies that entailed sacrifices as well as feasting.⁴³³

The evidence from the tablets and the wall paintings suggests that feasting was most probably connected to further activities beyond the actual intake of drink and food. Libations are made probable by the finding of the miniature kylikes in the Archives Complex. A very tight connection can be assumed for sacrifice which would not only have a religious and sacral significance but also the very practical function of providing large numbers of guests with expensive and otherwise rarely available meat. Very prominent among these, although probably not the only sacrificial victims, were bulls which are described in their detailed colouring in the Linear B texts and the impressive size of which is physically proven by their faunal remains. The sacrifice of bulls must be connected to high-ranking individuals as in Un 2 one bull is contributed by the *wanaks* himself (see Catalogue 5). As known from the tablets, various other items of foodstuff were contributed to a feast such as wine, figs, and grain. The Ta tablets and the depiction of objects in the procession can be seen as evidence for the provision of special portable furniture and other feasting paraphernalia that must have been stored in store rooms and taken out at certain occasions. The Ta tablets give a picture of highly valuable and artistic pieces which must have been the provision for elite persons, but the

⁴³³ Palaima 2004², 232.

remains of which are unfortunately largely lost to us. Another activity that might have been connected to feasting is the (ceremonial) hunting of deer. Depictions of this are known from Pylos and other sites. A hunt would also account for the finding of bones of deer within the palace walls. After the numerous preparations for the feast would have been finished, the guests would take a seat at three-legged tables, enjoy their food and drink. They would have been entertained by music, similar to the depiction in the megaron.

4.5 Methods of ordering in the Ta tablets

After having broadened our picture of the Mycenaean feast, let us now return to the Ta series. We have seen that the Mycenaean feast played an important role in the social life of Pylos and the wider Mycenaean culture. Different activities centred around the feast and various steps were taken in preparation for the major feasting ceremonies that took place in the Palace of Nestor. One of these preparatory steps was to equip the feasting space with the necessary furnishing and paraphernalia. A list of possible objects for one of the highly elite feasts is preserved in the Ta tablets. To better understand how these tablets are cognitively related within the feasting frame and its subframes, it is necessary to scrutinize the methods of ordering that Hand 2 applied to them. Three methods of ordering can be observed in the Ta tablets:

1. The order of the tablets as forming one coherent set
2. The order of entries within each tablet
3. The order of attributes within each entry

The first two points will be discussed in the first part of the chapter, while the third aspect forms the second part of the chapter.

4.5.1 The order of the tablets within the set

I hypothesize that each of these types of order is reflective of cognitive framing. I will start from the first point, the general ordering of the tablets to form one coherent set. The Ta tablets form a coherent set and thus were meant to be read together as one long, coherent text. Thus, the

introductory phrase on Ta 711.1 serves to contextualize all thirteen Ta tablets within a common time frame (see Catalogue 1). These tablets are then assumed to have been ordered according to one, ‘logical’ order, that is an order that seems to ‘make sense’ intuitively with smooth transitions between tablets. We can now try to reconstruct the original order of the Ta tablets commencing with Ta 711 which through its introductory sentence is evidently the first tablet. The order of the texts has been a focus of interest in research on the Ta tablets from the beginning. I will list the different suggestions in chronological order in Table 1:

Table 1 The order of the Ta tablets.

Ventris 1955⁴³⁴	Ventris/Chadwick 1956⁴³⁵	Gallavotti 1972⁴³⁶	Palaima 2000²⁴³⁷	Meier-Brügge 2008⁴³⁸	Type of item
711	711	711	711	711	Heading and vessels
709	641	709	709	709	Vessels and hearth equipment
⁴³⁹	709	641	641	641	
-	996	-	-	-	Vessels
-	-	-	716	716	Sacrificial equipment (?)
642	642	642	642	642	Tables
713	713	713	713	713	
715	715	715	715	715	
-	-	-	714	714	Chairs or stools
707	707	721	708	708	
708	708	722	707	707	
714	714	-	-	-	
721	721	707	722	721	Stools or chairs
722	722	708	721	722	
-	-	710	710	710	
-	-	714	-	-	Chairs
-	-	716	-	-	Sacrificial equipment (?)

⁴³⁴ Ventris 1955, 109-110.

⁴³⁵ Ventris/Chadwick 1956, 332. This is the order in which the tablets were published in both editions of Documents. Ventris/Chadwick do not mention whether they think it to reflect the original order of writing but because they have placed the tablets in a logical order according to content, it appears so. Tablet Tn 996 is treated together with the Ta tablets in Documents because of its similar content (bathtubs).

⁴³⁶ Gallavotti 1972, 25.

⁴³⁷ Palaima 2000², 237.

⁴³⁸ Meier-Brügge 2008, 503-504.

⁴³⁹ Ventris omits Ta 641 here, because it was separately published (Ventris 1955, 109).

As can be seen from the above, the different suggestions regarding the order of the Ta tablets do overlap, but are not completely identical. Let us start from the question of which tablets need to be included. Four tablets are debated over: Tn 996, Ta 641, Ta 716 and Ta 710. I would exclude Tn 996 because of its distant find-spot in Room 30, while the other Ta tablets cluster very densely in Room 7 of the Archives Complex. Ta 641 was excluded in Ventris 1955 because of its different place of publication, but this was at the very beginning of research after the decipherment and did not worry researchers afterwards and its structure, content and find spot resemble that of the other Ta tablets, so it should be included.⁴⁴⁰ Ta 716 is a more difficult case and was debated in research numerous times (e.g. Sacconi 1999, Speciale 1999 in the same volume interprets the items as being used for the sacrifice of an oxen⁴⁴¹). The main difficulty lies in our very fragmentary understanding of its objects that appear in pairs and the etymology of which is often not clear. Their descriptions are very brief in contrast to most of the other entries of Ta, but so are the descriptions in certain entries of Ta 709. Their relation to the other items is not fully clear. As they were found within the tight cluster of Ta tablets in the corner of Room 7, it is nevertheless feasible to include the tablet in the set of Ta. With regard to Ta 710, it is not fully clear whether it is a mere repetition of the entry in Ta 721.3 and 4 or whether it is an entry on its own. We know repetitions like this from other series, such as the E series. An argument for this would be – as Palaima notices – that the pieces of furniture would then add up to eleven tables and twenty-two seats (chairs and footstools), which would be one table with two seats each.⁴⁴²

After the introductory sentence, Ta 711 lists three *qe-ra-na* vessels probably used for pouring liquids.⁴⁴³ Next is usually sorted Ta 709. This tablet starts with a selection of different vessels (*pi-je-ra₃*, *pa-ko-to*), some kind of ladles (*po-ro-e-ke-te-ri-ja*, *ko-te-ri-ja*) and continues with hearth equipment. It ends with the description of two tripods. Next comes most probably Ta 641. This

⁴⁴⁰ Ventris 1955, 109-110.

⁴⁴¹ Speciale 1999, 295.

⁴⁴² Palaima 2000², 237.

⁴⁴³ Ventris/Chadwick 1973, 327.

order is inverted in Documents but as Ta 709 ends with tripods and Ta 641 begins with tripods, it is more plausible to sort them together in this order. If one follows this order, the intact tripods are mentioned first, followed by their defective counterparts. Next is sorted in all cases Ta 642, but Palaima and Meier-Brügge first insert Ta 716. As the content of the tablet is so very unclear, it is difficult to judge its position within the series. Listing axes and daggers, one might prefer to sort it together with the hearths and appropriate utensils. But one could equally well place it at the very end of the series as does Gallavotti because it stands out among the tablets. This cannot be decided at this point.

After the more heterogeneous content of the first tablets, the series moves now on to the description of the furniture: tables, chairs and footstools. Three tablets are only occupied with tables: Ta 642, Ta 713 and Ta 715. For this reason, they are grouped together. The reason for them being sorted in this order are the last and the first entries of the tablets respectively. The material of the last entry of a tablet should be identical with the material of the first entry of the following tablet. According to this logic, Ta 642 is listed first, describing tables made of stone (*ra-e-ja*). The first table of Ta 713 is made of stone as well which is why it is placed next to Ta 642. The second table on this tablet is made of ivory and the third of a wood called *ku-te-so*, which is usually identified with 'bastard ebony'.⁴⁴⁴ This is also the material of the first table in Ta 715. The second and third table of Ta 715 are described as being 'without top' (*a-ka-ra-no*). The last table is made of yew. Therefore, the material of the table itself is significant for its sorting. The other furniture tablets fall into two groups: one group (Ta 707, Ta 708, Ta 714) lists chairs paired with footstools. The other group (Ta 721, Ta 722, Ta 710) only mentions footstools but in this case the footstools are further illustrated with the ideogram *220 which is absent in the first group. The ideogram looks similar except for Ta 722.1 which depicts the feet in a more pronounced way.⁴⁴⁵ It is usually assumed that the footstools without ideogram were used as proper rest for the feet which is why they are

⁴⁴⁴ Ventris/Chadwick 1973, 341. *Laburnum vulgare* according to Aura Jorro 1985, 414.

⁴⁴⁵ Vandenabeele 1979, 162.

paired with the chairs because a footrest without a chair would not make sense. The other footstools, the twelve exemplars with the ideogram, would have been used as seats which is why they can stand on their own and which would also explain the small number of chairs.⁴⁴⁶ It is not sure which group was placed first but most researchers (except for Gallavotti) prefer to sort the group with mixed content first and after that the tablets that mention only footstools.

For the ordering, one can in general remark that the Mycenaean scribes have the slight tendency (as in the E tablets) to place the more irregular entries at the beginning or end of a tablet or series. In this case, all chairs in Ta 707 and Ta 708 are made from *ku-te-so* wood. The chair in 714 is an extraordinary exemplar made of crystal (*we-a₂-re-jo*) with an elaborate decoration, described in an extraordinarily long phrase. Note that the footstool matched with this precious item is of very fine design as well.⁴⁴⁷ Ventris' and Chadwick's order of the chair tablets (707 – 708 – 714) could be supported through a minor difference in the phrasing. In Ta 707, the first pair of chair and footstool is connected through *-qe* 'and'. This is the only case where the *-qe* is explicitly written although one must for sure assume that it was thought in all pairs because the chairs and the footstools were meant to be paired together. Maybe the scribe has made this connection explicit in the first entry of the tablets but has omitted it in the following entries for sake of economy and because the relation between the pairs was obvious from world knowledge. On the other hand, what speaks for Palaima's and Meier-Brügge's order (714 – 708 – 707) is the parallel order of the tables. In the case of the tables, the most ornate piece, decorated with crystal, is listed first. It would make sense to also list the appropriate chair and footstool first in the order of tablets. One might see these extraordinary pieces as forming a set for a most distinguished person (the *wanaks* himself?). The tablets would then have been ordered according to value with the most precious item listed first. I therefore prefer the order 714 – 708 – 707. The order of Ta 721 and Ta 722 is difficult to assess. Maybe I would have a slight preference for reading Ta 722 with the more ornate items first, parallel

⁴⁴⁶ Tsagrakis 2012, 323.

⁴⁴⁷ Vandenabeele 1979, 162.

to the tables and chairs (as does Palaima), but this is rather speculative and cannot be decided so far. I would therefore tentatively suggest the following order, which is identical with Palaima's order as given in Catalogue 1:

Ta 711 – 709 – 641 – [716] – 642 – 713 – 715 – 714 – 708 – 707 – 722 – 721

An analysis of the sorting of the Ta tablets shows that the scribes to a high probability had intended them to be read in a certain order. The tablets can be roughly brought into one logical sequence. By 'logical', I mean that even today we can observe a grouping of entries according to content and according to form and smooth transitions between them.

4.5.2 The order of entries within the tablets

Information was not randomly distributed across the tablets. Within the set, information was organized on single tablets according to similarities and contiguities in content, that is entries belonging to a similar category or exhibiting a close association were grouped together on one tablet. The assignment of information to different tablets closely interacts with the order of the tablets. Two principles can be recognized: entries that refer to the same type of object, that is the same frame, are generally listed together. After that, objects that serve a similar purpose or belong to a similar context are taken together. The first entries, for example, refer to vessels that were used for pouring liquids. In the first tablet, all *qe-ra-na* entries are noted and described in detail. In the next tablet, further pouring vessels are mentioned: *pi-je-ra₂*, *pa-ko-to*, *po-ro-e-ke-te-ri-ja*, *ko-te-ri-ja*. These are followed by a different category of items in the next line. The second line of Ta 709 refers to various parts of hearth equipment: *au-te*, *pu-ra-u-to-ro*, and two *e-ka-ra*. After that, the tripods are listed, a vessel that could be used over an open flame. Hearth equipment would be needed to sustain such a flame and ladles and fire tongs to stir and keep the flame alive. Thus, the tripods are closely related in space and function to the hearth equipment. It is noticeable that, within the tripod descriptions, first the complete tripods are mentioned and then the defective ones. The tripod descriptions are followed by a list of vessels, *qe-to* and various *di-pa*. The word *qe-*

to might be related linguistically to the later Greek πίθος while *di-pa* might correlate with later δέπας; the function of the vessels, however, has changed in all probability.⁴⁴⁸ The unclear use of those vessels in Mycenaean times makes an interpretation for their position in the text difficult.

The second part of the set consists of descriptions of furniture. The set mentions eleven tables, six chairs and sixteen footstools (without the one on Ta 710 which might be a double entry). First, all tables are noted. The descriptions of tables are in a second step ordered according to their material. The last tablets all refer to chairs and footstools. It is remarkable that two principles of order can be detected: Ta 722 and Ta 721 describe eleven footstools made of ivory, all listed with the noun *ta-ra-nu* and the respective ideogram *220. The other footstools in the Ta tablets are listed together with a number of chairs. On Ta 707, 708 and 714, one chair is always mentioned in combination with one footstool (except for Ta 714 where apparently two chairs are described but only one footstool). The chairs and the footstools in each pair resemble each other in material and quality. The second *to-no* in Ta 707, for example, is made of *ku-te-so* wood as is its footstool counterpart. The chairs in Ta 714 are made of or adorned with more precious crystal with an elaborate decoration and also the accompanying footstool is of precious material and of elaborate manufacture as can be seen from its detailed description. The footstools that are paired with the chairs do not receive an ideogram. The fact that the main organizing principle of the Linear B tablets, that entries that refer to the same frame are taken together, is breached here in favour of teaming different pieces of furniture up together in pairs must surely be significant.

4.6 Similarity and contiguity in the Ta tablets

An analysis of the order of the Ta tablets and their entries demonstrates that their writing procedure was a highly planned and skilful process. The entries were arranged not only according to similarity and identity but also to more complex principles, that were deeply entangled with a wider cultural knowledge. In order to arrange all items of hearth equipment together, one needed

⁴⁴⁸ Anderson 1994-1995, 300, 306.

to know that a fire needed a certain, delimited space and certain tools to be kept alive and to be handled with. A tripod could only have been approximated to hearth equipment when the writer knew that it was used over the fire. Tripod only means ‘with three legs’ – nothing in the word suggests its usage. This was inferred from experience and cultural knowledge. Entries were clearly arranged in a purposeful order that reflected their function or their spatial arrangement within the context of the feast. It is interesting that such diverse entries could be taken together in one clearly delineated set. They all belonged to one cultural context, but the context itself is not mentioned. How could a scribe and a reader now bring all these different strands together? What cognitive principles allowed them to group the entries in a logical manner?

I suggest that one of these cognitive principles was that of contiguity. Contiguity and similarity are the main cognitive ordering principles employed in frame theory. Humans are able to connect frames and assign a concept a place within them through the central cognitive feature of categorization. New experiences get compared and assigned a schema according to criteria of similarity.⁴⁴⁹ Kernerding expresses this process in the following:

“Kategorisierung erfolgt durch Vergleich; Phänomene werden zu Typen gruppiert aufgrund ihrer (wechselseitigen) Ähnlichkeit, unter bestimmten Rahmenbedingungen und Zielsetzungen. Durch Kategorienbildung werden vergangene Wahrnehmungen zur Grundlage der Interpretation und Einordnung neuer Erlebnisse und Erfahrungen gemacht.“

“Categorization results from comparison; different phenomena are grouped in types depending on their (reciprocal) similarity, under certain circumstances and goals. Due to categorization, past perceptions form the basis for the interpretation and classification of new experiences.”⁴⁵⁰

⁴⁴⁹ Kernerding 1997, 57.

⁴⁵⁰ Kernerding 1997, 57.

The importance of the principle of similarity was already observed in early Gestalt psychology. One of the most influential early researchers of Gestalt theory, Max Wertheimer, in 1923 showed how people naturally make similarity judgements when confronted with groups of items.⁴⁵¹ He used visual stimuli in the form of differently arranged rows of dots in order to prove how people would perceive them according to what he called their “factor of proximity”. He further emphasized how this observation was not as obvious as it seemed and that it was worth further study.⁴⁵² Max Wertheimer also referred to the principle of contiguity as ‘Assoziationsthese’.⁴⁵³ The importance of the principles of similarity and contiguity were further recognized by Bartlett. Taking this into account, what happens, according to Bartlett, is “that we may suddenly change our point of view. We may transform the statement ‘These details, being together, are similar’ into, ‘These details are together because they are similar’.”⁴⁵⁴ What applies to similarity would also apply to contiguity. According to Ziem, similarity and contiguity are the most important types of categorial correlation.⁴⁵⁵

But what does contiguity in a psychological and cognitive sense mean? In contrast to similarity, where two objects are close because they share attributes, contiguity connects objects through temporal or spatial proximity. Objects are perceived as being related to each other because we know that they usually occur together.⁴⁵⁶ This knowledge is learned by experience. Experience forms new cognitive interrelations between objects. Ziem stresses that this knowledge is independent of the modality.⁴⁵⁷ That is, it affects language as much as visual recognition or other forms of cognition. Contiguity and similarity are important notions in frame theory. They are employed to explain relations between frames or between elements of a frame (which not always can be distinguished due to the recursivity of frames). With regard to frame theory, Koch defines

⁴⁵¹ Wertheimer 1923, 308.

⁴⁵² Wertheimer 1923, 308.

⁴⁵³ Wertheimer 1922, 49.

⁴⁵⁴ Bartlett 1932, 305.

⁴⁵⁵ Ziem 2008, 252, fn. 9.

⁴⁵⁶ Ziem 2008, 252.

⁴⁵⁷ Ziem 2008, 254.

contiguity as “the relation that exists between elements of a frame or between the frame as a whole and its elements”.⁴⁵⁸ Ziem further specifies that similar items in a frame would refer to the same slot but different values. Contiguous items in a frame would refer to different slots.⁴⁵⁹ For the frame CHILDREN’S BIRTHDAY PARTY, for example, the values KITE and CARD GAME take the same slot PRESENT. Their frames in this sense are similar. The slots PRESENT and BIRTHDAY CAKE, on the other hand, are different slots but they are associated through the schema CHILDREN’S BIRTHDAY PARTY in a relation of contiguity. Busse stresses how different frames can be connected through epistemic relations. These relations can take the form of contiguities which he sees as “cultural contextualizations”.⁴⁶⁰ These relations do not exist a priori, they have to be experienced and recognized as such.⁴⁶¹

The relationship of the different entries in the Ta tablets, I think, is one of similarity and contiguity. Similar items of different material or of different workmanship, such as the various footstools or the tripods, are taken together. But the other relations between the objects are shaped by contiguity. Objects that were known to appear together in life because of their functionality and their temporal and spatial association were also listed together. Ladles or tongs were needed to attend the fire in the hearth. A tripod was used over the fire. Water jugs and dippers used for scooping water. Tables were listed close to the seating furniture. And chairs and footstools were a match, either as seat and footrest or as two complementary seats for one table each. Thus, these single groups of items were grouped together by experience. By living in the Mycenaean society and knowing which items were needed in a certain cultural context, cognitive relations were formed. These influenced the writing and ordering of the entries in the tablets. Each entry on a tablet can be imagined to represent one frame. These frames were interconnected in a complex frame network governed by the principles of similarity and contiguity. In the case of the chairs and

⁴⁵⁸ Koch 1999, 146.

⁴⁵⁹ Ziem 2008, 255-256.

⁴⁶⁰ Busse 2012, 636.

⁴⁶¹ Busse 2012, 636-637.

the footstools, contiguity even outmatched similarity. Instead of taking all chairs together and all footstools, each chair was matched with one footstool. This is actually counterintuitive to the normal Linear B record, where the principle of similarity in the entries is of high importance. Here, the co-occurrence of these objects seems to have been more relevant.

But the principle of contiguity does not only affect the ordering of the single entries into small, functional groups. The whole set must be interpreted in this way. The Ta set is a compilation of highly diverse entries, each of them with different ideograms. The usual case in the Linear B tablets is that one series is composed of entries with the same ideogram. The Ab tablets, for example, all use the ideograms MUL, GRA and NI. The E tables write GRA, the Sh tablets ARM. The modern classification after Bennett classified series according to their ideograms and it has since proven to be accurate also from a Mycenaean perspective. The Ta series shows different entries with various ideograms that cannot be explained by simple similarity. Nevertheless, from their find spot and their common hand, they are clearly one coherent set. But then how was coherence attributed to this set? This must be explained and indeed a heading was added to the text. However, the heading does not clearly state the purpose of the series. It gives us an occasion, a certain point in time, but no direct mention of the reason for the drawing up of the set. This must have been inferred, by the Mycenaean scribe as much as by us. One must expect that this could have happened without a lot of effort, because otherwise it would have been easier to simply state the purpose more concretely than the heading does.

4.7 Multiple entangled frames in the Ta tablets

This procedure is best explained by the assumption of multiple entangled frames. The single entries each would reflect an exemplar of a frame such as TABLE. These frames would have been ordered within the series into smaller groups that could be assigned a higher frame such as FURNITURE. Tables, chairs and footstools were all elements of this frame FURNITURE. Other frames might have been HEARTH EQUIPMENT and VESSELS under which all entries could have been subsumed. A reader would intuitively recognize various frames and try to make them coherent. What he arrived

at would be the same result at which modern research arrived: the most probable context in which these different items appear together is that of a feast. A reader would access his FEAST frame and try to match these elements to the frame – and likely succeed. This is prompted by two aspects: first, the heading of the tablets which gives a certain occasion, and second, the selection of items.

The heading refers the tablets to the appointment of a new official. Such an event must have occurred regularly and we can assume that, if this typically came with a sacrifice and a feast, the scribe would have known this by experience. This is also suggested by tablets Un 2 which lists foodstuff for a feast on occasion of the initiation of the *wanaks* (see Catalogue 5).⁴⁶² And more than this: a scribe would have been able to extract much more information from this in the same way that we extract information from the specification ‘birthday party’. When the *wanaks* appointed the *damokoros*, he might take part in the feast. This would mean that the participants of the feast were some of the highest-ranking individuals in the palace. Through this, again, a scribe would know the character of the feast: that, maybe, a certain sacrifice of especially precious animals would be due. And that the palace would of course make use of their most valuable crockery, that is metal vessels instead of clay ones (and, indeed, the material of the vessels is never mentioned, it seemed to have been obvious to the scribe). And he would have known that this feast likely took place within the palace boundaries, maybe in the megaron, and not somewhere outside the palace. As Bendall has suggested there probably was a hierarchy in banqueting with different exclusive circles depending on who would take part in the feast, where it took place and what equipment was needed. The high standing context of the Ta series is further emphasized by its assignment to Hand 2, one of the most experienced scribes at Pylos, and by the mentioning of *pu₂-ke-qi-ri*, probably Hand 2 himself, the name of which suggests a connection to the Mycenaean elite, as being responsible for the supervision over the precious goods.⁴⁶³

⁴⁶² Killen 1994, 72; Bendall 2008, 80.

⁴⁶³ Palaima 2004², 234.

For the items listed, one might assume a different subframe for FEAST in the sense of FEASTING EQUIPMENT under which these items would be subsumed and which would be one element next to others in the FEAST frame. As an official in the palace, the reader will have witnessed many feasts, maybe having been involved in the preparation or even as participant in a larger feast. He will know what it is that makes a good feast. Given the omnipresence of feasting equipment and feasting depictions at least in the elite circles of the Mycenaean palaces, we must assume that this frame was readily available to the scribe and the reader alike. With the example of the Ta tablets, he will know that chairs and stools will be grouped in pairs around tables in the same way as depicted on the walls of the megaron. He knows the importance of drinking as a ceremonial act and the types of vessels it involves. And, with regard to the heading, he will also know that a certain occasion calls for a feast and who will be part of this feast and which equipment exactly is needed because that will be different in a feast of the elite or in a more inclusive festival. And this is only part of the complete FEAST frame. Because he has learned this by experience it is part of his cultural knowledge. This cultural knowledge in the form of frames serves to make sense of an otherwise unconnected set of tablets. It is intersubjectively shared: the writer of the tablets shares the same knowledge and he knows that the reader shares the same knowledge. He can organize the entries in this way without even giving the name of the superordinate frame. He can just expect that the reader will understand the meaning of it from the various elements given without any effort. We are struggling with this because we do not share this knowledge. We have to reconstruct it.

We have now disentangled the various strands of evidence and come to a conclusion about the nature of the set. This required, however, seventy years of research and detailed linguistic and archaeological analysis of every single word in the texts. From our perspective, we can now look at these tablets with their possible feasting context in mind. The formerly unconnected items start to interlink when interpreting them with this frame in mind. We can imagine them to be spatially and temporally associated at a feast for the appointment of the new *damokoros*. The reason for our difficulties with the categorization of these tablets is that the actual purpose of the inventory – the

occasion that we have now termed ‘feast’ – is never mentioned in the tablets. Nevertheless, to a Mycenaean scribe this must have been very obvious. Thus, the most economic explanation for the arrangement of the various pieces of information in the Ta tablets and appearance as a coherent set is the existence of a wider frame that governed the formation and understanding of the tablets.⁴⁶⁴ A frame is an instrument of cognitive economy, providing only certain information and leaving others for the reader to infer. This is true even for such an important and comparatively detailed set of texts like the Ta tablets.

4.8 The order of attributes in the entries - object frames in the Ta tablets

The preceding section argued how the postulation of a superimposed feasting frame in the minds of the Mycenaean scribe gives coherence to a seemingly heterogeneous set of tablets. This coherence in content is further emphasized through the outer appearance and findspot of the tablets. If one suggests the existence of frames for one aspect of the tablets, one must equally propose it for all other aspects. Thus, not only their collocation as a set would be governed by frame structures, but also the inner structure of their texts. And, indeed, the inner composition of the various entries of the Ta series can easily be aligned with our knowledge of the structure of frames in general. The Ta tablets concentrate around a central noun that is written in syllabographic signs at the first position of the line and in certain entries with an ideogram at the final position of the line before the number. This word occupies the most significant positions in the text, the ones that immediately catch the reader’s eye. It denotes the object that is listed. The importance of these central nouns is stressed by their double writing which embraces the rest of the text in each line. All other words of each entry refer back to this first noun. They serve as description of the object mentioned, as its attributes, and can take the form of adjectives or nouns. In that, they closely resemble Barsalou’s conception of concept frames with a central noun accompanied by various attributes. I will therefore place a special focus on Barsalou’s frame theory in this section in order

⁴⁶⁴ Oswald Panagl argues in a similar direction when he observes that the heading in Ta 711 lacks the object of the central verb *wi-de* ‘he saw’, which can be explained by assuming that the objects mentioned in the subsequent tablets functioned as objects for the cataphoric first sentence (Panagl 1979, 321).

to illustrate how the Mycenaean scribes cognitively structured the perception of objects in a way that would make them recognizable to other people. The E tablets in the next chapter centre around a verb and resemble most closely Fillmore's conception of case frames as structures governed by a central verb.

As I have pointed out in the preceding paragraphs, the Ta series subsumes various groups of objects under the heading of the feast: vessels, hearth equipment, sacrificial equipment and furniture. In the following section, I will focus on the descriptions of furniture and take as an example the texts on tables. The full texts with a possible transcription and translation are given in Catalogue 2. For comparison, I am adding the texts for chairs and stools in Catalogue 3 and 4. The descriptions of chairs and footstools and to some extent also vessels work in a similar way but with different attributes. I am excluding the hearth equipment and the sacrificial equipment because they do not include a lot, if any, description but mainly mention the name of the item. The pieces of furniture, on the other side, are described in a very precise way which made them recognizable as individual and precious items. For a discussion of the tables, I will present the entries of each tablet in comparison. This was partly done by the ancient scribe as well, when he listed all tables together.

4.8.1 A frame-theoretical approach to Mycenaean object descriptions

As an exemplary case study for the structure of a Mycenaean object frame, I have chosen the description of tables on tablets Ta 642, Ta 713 and Ta 715. Eleven tables are listed. Placing the entries underneath each other in their rightful order together with their transcription and translation allows for a detailed comparison of their structure. The first thing that appears from that is that the texts follow a very concise pattern. We can see that the different entries repeat the same structure all over again. Every word has its rightful position within the arrangement of the text.

The entries all start with the denomination of the central noun, in this case *to-pe-za* 'table'. Frame theoretically speaking, this word evokes the frame of the named object. This frame gets then filled

up through the consecutive phrases. When I say that *to-pe-za* evokes the frame for 'table', this does not only mean that it names the object in a lexical sense. By placing this central noun in the first position, the writer cognitively prepares the reader for what follows. The frame of table that gets evoked does not only make a representational reference to a type of object. It will raise expectations in the reader about what will come next. In reading the word *to-pe-za*, a reader will immediately – consciously or subconsciously – imagine the object, thinking about which parts it consists of, what it looks like, what it is made of typically, how it is made or how it is used. Only the word *to-pe-za* will readily provide the reader with a relatively concrete picture of the object that follows, gained from their experience and world knowledge. It will already generate certain properties of the object. These different properties are ordered in the mind of the scribe and reader alike in the form of attributes filled with default values. The default value for material in tables, for example, might be a certain type of affordable and sturdy wood. The entries that follow in the text make indirect reference to these attributes by filling them with concrete values that might confirm or replace the default values.

As a Mycenologist, we are now provided with the concrete values and from these can reconstruct the attributes that made up the image of a table in Mycenaean times – at least in this very specific context. For this purpose, we compare the different entries that have survived, see which words occupy which position, what their possible etymologies and meanings are and what they have in common. Due to the largely uniform and consistent character of the tablets, it can be proposed that words that occupy a similar position, display a similar word formation and a similar categorial meaning should be seen as different values for one attribute.

This will result in the following frame elements that usually appear in this order:

MATERIAL – CONSTRUCTIONAL PARTS – TYPE – NUMBER OF LEGS – WORKMANSHIP – DECORATION

I will now give an overview of these different frame elements with a special emphasis on which values can fill the available attributes.

4.8.1.1 Frame element I: MATERIAL

The main material of the table is always mentioned first. This attribute is filled with the following values in the form of adjectives in *-e₂jos* denoting a quality (except for *mi-ra₂* which is a noun) and referring to *to-pe-za*:

- *ra-e-ja* ‘of stone’
- *e-re-pa-te-ja* ‘of ivory’
- *ku-te-se-ja* ‘of ebony’
- *mi-ra₂* ‘yew’

Noticeably, three of the four examples follow the same principle of word formation in *-e₂jos*. This suffix serves to form an adjective of material from a noun. Thus, the word formation alone, aside from the semantic content of the nouns, hints towards the common attribute of the words and its meaning of ‘material’. In Ta 642.1, after the main material *ra-e-ja*, the scribe mentions *we-a-re-ja* which probably is to be read ὑάλεος ‘crystal’ and seems to denote a material.⁴⁶⁵ In the same position in the next line is *me-no-e-ja*. Its etymology and purpose are fully unclear; ideas range from a decorative motif to the shape of the table to its material, but none is fully convincing. An etymology related to μήν ‘month; moon sickle’ is probable.⁴⁶⁶ It is possible that the two adjectives *we-a-re-ja* and *me-no-e-ja* serve to specify the adjective of material *ra-e-ja* ‘of stone’. Whether the material mentioned in each line refers to the whole table or, as Ventris assumes, to the table top is unclear.⁴⁶⁷ As in Ta 715 the reference to the top of the table is inserted between the name of the object and its material and as the material of the feet and the strutting is mentioned separately one might assume that the material referred to the table top alone. It is equally uncertain whether the tables which are depicted in the friezes not as miniature should be imagined as being manufactured completely from the material mentioned. This might be possible for stone and wood, but more

⁴⁶⁵ Aura Jorro 1993, 414.

⁴⁶⁶ Aura Jorro 1985, 436.

⁴⁶⁷ Ventris 1955, 118.

difficult for ivory and not realistic for crystal. The manufacturing might also refer to some kind of veneer attached to a less costly material.

4.8.1.2 *Frame element II: CONSTRUCTIONAL PARTS*

Three constructional parts of Mycenaean tables can be securely inferred from the Ta tablets: feet (*po-pi*), strutting (*e-ka-ma-pi*) and the table top (indirectly in *a-ka-ra-no* ‘without head’). The strutting is described in four cases (Ta 642.3, Ta 713.1, Ta 713.3 and Ta 715.1). It usually occupies the middle position in the entry, except for in Ta 642.3 where it changed places with the TYPE and the NUMBER OF LEGS. The strutting is said to be made of ivory or ebony. The feet are mentioned only once directly (Ta 642.3) together with the strutting, made of ivory. It is not clear whether they denote the complete legs or specifically decorative feet, e.g. in the shape of claws.⁴⁶⁸ The table top is not directly mentioned but we can reconstruct by the mention of its absence in Ta 715 that it was denoted with the word for ‘head’.

The absence of the word for the table top suggests that not all attributes must necessarily be filled with concrete values. Some might be so fundamental that they can be deduced without being mentioned. For example, the most fundamental description of a table would be that it consists of a top and feet or some other support. A table without a top can hardly be called a table. Furthermore, the table board is expected to be placed on top of the feet. Now, the Linear B tablets do not usually mention that the table has a top and feet. The scribe presupposes that a reader will know how a table looks like in general and it is not necessary to mention this in normal cases. This is why these fundamental attributes usually stay empty and are therefore not visible to us. However, in certain cases the scribe felt the need to fill these attributes. He did this in cases where the attributes needed special emphasis, either because their parts are absent or because they are especially striking. In Ta 715.2, for example, two tables are mentioned together that are *a-ka-ra-no*. The Mycenaean adjective *a-ka-ra-no* is composed of an alpha privativum (that is an a-prefix that

⁴⁶⁸ Gray 1959, 53.

negates what follows) and the root *káp-* ‘head’. It describes the tables as ‘headless’, that is without table top. In none of the other entries the top of the table is explicitly mentioned. This was not necessary because a table with top was normal, while a table without top required specific attention. Similar is true for the feet. Only in one case (Ta 632.3) the feet (*po-pi* in the Instrumental) are explicitly mentioned as being present. This is because they were made of or decorated with ivory. We might assume that in all other cases the feet were not mentioned because they were made of the same material as the rest of the table or because they were made with a standard material that was known to the reader. We have a further hint towards the feet: the mention of their number, either *e-ne-wo-pe-za* ‘with nine feet’ or *we-pe-za* ‘with six feet’ which will be discussed in the next section.

Note that interestingly, if one perceives table top and feet as two attributes of the frame for table, they would be connected through what Barsalou calls a ‘structural invariant’. Structural invariants are correlations between attributes of a frame that are formed through frequent cooccurrence. These relations can be of different character, depending on the example, and can in themselves constitute frames. Barsalou takes as an example the attributes SEAT and BACK in the frame of CHAIR. Because these elements cooccur typically in a chair (and without them a chair would not be a chair) they form a tight bond. This bond can be expressed through a relation of space as well as function.⁴⁶⁹ They occur next to each other, and not only next to each other, but attached to each other in a specific way so as to afford sitting. A similar relation can be seen for table top and feet with the feet being necessarily under the table and the table top forming the topmost part of the furniture so it can serve as a kind of fixed and elevated tray for people to sit at. This relation was expressed by the Mycenaeans through a bodily metaphor. They used the most fundamental image schema of the human body and transferred it to an inanimate object.⁴⁷⁰ Parallel to the head that is the topmost part of humans, the table top is called ‘head’. The lower part, on which the head rests

⁴⁶⁹ Barsalou 1992, 35; Busse 2012, 566.

⁴⁷⁰ Gibbs 1999, 148.

or stands is called ‘feet’. This bodily representation of objects is a typical feature in the Mycenaean conception of inanimate things and can also be seen in the chairs, where what we call ‘back’ is called ‘shoulders’ (*o-pi-ke-re-mi-ni-ja*), and in the vessels where the legs of the tripod are called ‘legs’ (*po-de*) and the handles ‘ears’ (*qe-to-ro-we* ‘four ears’). As becomes apparent already from English, the denomination of parts of objects according to parts of the human body is not a purely Mycenaean phenomenon. Rather, it can be observed in various cultures across the globe. In a next step, this bodily metaphor could be extended to positions adjacent to and then outside the object until it gets completely abstract, resulting for example in a preposition such as ‘in front’. This development is a universal phenomenon although it does not need to be executed to its fullest in all cultures.⁴⁷¹ In the Mycenaean texts, the structure of the human body is used metaphorically to denote spatial relations in objects.

4.8.1.3 Frame element III: TYPE and frame element IV: NUMBER OF LEGS

The two next frame elements, TYPE and NUMBER OF LEGS, are far more difficult to analyse because we do not fully understand the etymologies of their words and especially their function. This is why TYPE can only be a very general description of what in the text is referred to as *a-pi-qo-to* and *po-ro-e-ke*. From the structure of the texts, it is probable that these two refer to the same attribute because they are not found together, they occupy similar positions in the entries and in Ta 715 they alternate with the only difference between the two tables mentioned being their description as *a-pi-qo-to* and *po-ro-e-ke*. Various interpretations have been suggested for both. *a-pi-qo-to* is most probably read as *ἀμφίγυτος ‘to be walked around’ (from ἀμφί ‘around’ and βαίω ‘walk’).⁴⁷² But whether this refers to its position in the room in the sense of ‘free-standing’ (e.g. Mühlestein cited in Ventris, Higgins) or to an edge running around the table (e.g. Ventris, Chadwick and Lang) is not fully clear.⁴⁷³ For an interpretation as edge speaks the insertion of types of decoration after the words in Ta 713.2 (*pi-ti-ro₂-we-sa* ‘with feathers’) and Ta 715.3 (*pu-ko-so e-ke-e* ‘having boxwood’)

⁴⁷¹ Heine 1997, 44.

⁴⁷² Aura Jorro 1985, 85.

⁴⁷³ Ventris 1955, 118; Higgins 1956, 41; Lang 1958, 189; Ventris/Chadwick 1973, 341.

which could be easily imagined to decorate a rim. However, these might also refer to the table as a whole. It is more difficult to explain the presence of a rim that is mentioned in Ta 715 on a table without table top. Palmer suggests ‘splay-legged’.⁴⁷⁴

a-pi-qo-to is most frequently used in the Ta table descriptions (six times). Alternating with it seems to be *po-ro-e-ke*. *po-ro-e-ke* appears only twice: once in direct contrast with *a-pi-qo-to* (Ta 715), once instead of *a-pi-qo-to* (Ta 713.2). It is either read as *προ-εχής* ‘projecting’ (e.g. Ventris, Chadwick) or **πωρο-έγχης* ‘with a marble shaft’ (Palmer) parallel to *pu-ku-so e-ke-e*.⁴⁷⁵ Lang suggests ‘with bevelled edge’ in contrast to the broad rim of *a-pi-qo-to*.⁴⁷⁶ It therefore either refers to a method of construction or to a material. Structurally, however, a type of construction seems more probable.

Although the exact meaning of the two terms cannot be decided now, it seems relatively secure that they were placed in the tablets in some form of contrast. Equally probable in a structural sense is their correlation with the next frame element: NUMBER OF LEGS. From the entries on Ta, it emerges that *a-pi-qo-to* is regularly correlated with *e-ne-wo-pe-za* while *po-ro-e-ke* (though with only one appearance) is correlated with *we-pe-za*. This correlation makes the words *a-pi-qo-to* and *po-ro-e-ke* appear more like fundamental constructional parts than words of material because one could hardly imagine how the number of legs influences the choice of material. That these terms belong together can be seen from their common appearance that can be separated only by the terms *pi-ti-ro₂-we-sa* and *pu-ko-so e-ke-e*. In Ta 642.3, Hand 2 has apparently forgotten to write *e-ne-wo-pe-za*. He could have added it at the end of the line to its usual position, the line would have offered enough space for that. Instead, he decided to squeeze the term above the line directly above *a-pi-qo-to* which he in this line – contrary to his usual behaviour – wrote close to the beginning of the line. This hints towards their close relation.

⁴⁷⁴ Palmer 1957, 67.

⁴⁷⁵ Ventris 1955, 118; Palmer 1957, 67; Palmer 1963, 347; Ventris/Chadwick 1973, 341; Aura Jorro 1993, 146.

⁴⁷⁶ Lang 1958, 189.

we-pe-za and *e-ne-wo-pe-za* can be analysed as being composed of the numbers ἕξ ‘six’ and ἐννέα ‘nine’ plus the root *ped- ‘foot’.⁴⁷⁷ It therefore means ‘having six/nine feet’ or ‘of six/nine feet’. This explicit mention of their number suggests that normally tables had a different number of feet, an assumption which is further reinforced by the etymology of *to-pe-za* ‘table’ from the Indoeuropean roots *k^utur- ‘four’ and *ped- ‘foot’.⁴⁷⁸ From this, we can deduce that tables were originally imagined to have four feet. It is not fully clear, however, how transparent this etymology was still in Mycenaean times. The root for ‘foot’ was probably lucid, but the number might have been thought to be connected to τρεῖς as tables with three feet are known from Mycenaean times.⁴⁷⁹ Three feet as the standard would of course align well with the multiples of three feet attested in the Ta tablets. Even if we cannot be sure if the Mycenaeans perceived tables as having three or four feet, apparently the usual number of feet was not six or nine which is why it was explicitly mentioned. How a table with six or nine feet should look like is debated. Tables with three legs are depicted on sealings. The depicted table on CMS XI 052 (Figure 19) could be interpreted as having more than three legs. Speciale suggests that CMS I 80 (Figure 18) from Mycenae and CMS I 264 from Messenia depict sacrificial tables with more than three legs in frontal perspective, that is thought as having multiples of three legs.⁴⁸⁰ This is confirmed by Tsagrakis.⁴⁸¹ CMS I 80 appears to show a table with three legs that are composed of three strands each. Legs composed of two or three strands are also considered by Palmer and Gray as they are attested in the archaeological record.⁴⁸² But she doubts whether the root *ped- can refer only to these strands of legs without the foot.⁴⁸³ The only other mention of feet in the descriptions of tables are *po-pi* in Ta 642.3. But whether these refer to the whole leg or only to decorative feet is unclear. Chadwick sees the terms

⁴⁷⁷ For *e-ne-wo-pe-za* cf. Aura Jorro 1985, 219. For *we-pe-za* cf. Aura Jorro 1993, 420.

⁴⁷⁸ ‘τράπεζα’ in Beekes 2010, 1499.

⁴⁷⁹ Higgins 1956, 40.

⁴⁸⁰ Speciale 2000, 233.

⁴⁸¹ Tsagrakis 2012, 324-325.

⁴⁸² Palmer 1957, 67; Gray 1959, 53.

⁴⁸³ Gray 1959, 53.

as a measure of size in the sense of ‘six/nine feet long’.⁴⁸⁴ This is thought also by Higgins.⁴⁸⁵ Ventris suggests ‘with six/nine fields or panels’.⁴⁸⁶

4.8.1.4 Frame element V: WORKMANSHIP and frame element VI: DECORATION

The frame elements WORKMANSHIP and DECORATION are both set out towards the end of each entry. They can be distinguished by their word formation. The Ta texts regarding tables record two different types of workmanship: *a-ja-me-na* and *qe-qi-no-me-na/qe-qi-no-to*. The Mycenaean *a-ja-me-na* is read by Ventris and Chadwick as /aiai(s)menā/ but it is difficult to be sure about this because we do not know the root of the word, although it might have a connection to Luvian *aia-* ‘make’.⁴⁸⁷ The word form is a participle perfect medio-passive that agrees with the noun frame *to-pe-za*. Although we do not understand its etymology, the context and its usage together with terms of material and motifs suggests a method of decoration, probably some kind of inlay or veneer.⁴⁸⁸ A decoration of this type can be crafted with different materials and different motifs. Materials recorded for inlays in tables are ivory (*e-re-pa-te*), aquamarine (*a₂-ro-u-do-pi*), possibly lapis lazuli (*ku-wa-no*) and possibly silver (*pa-ru-ke-we*, but the meaning of it is very debated). In the tables, no motif for an inlay is mentioned, but the texts regarding chairs and stools show that the inlay could be crafted in a certain shape. The chair in Ta 714.1-2 is said to have a golden inlay of the figure of a man (*a-di-ri-ja-pi*), the enigmatic *se-re-mo-ka-ra-o-re* (‘with the head of a siren’??) and possibly palm trees (*po-ni-ki-pi*).⁴⁸⁹ Stools can be seen to have been inlayed with

- the figure of a man (*a-di-ri-ja-pi*),
- lions (*re-wo-pi-qe*),
- belts (*ko-no-ni-pi*),
- the frequently occurring but not understandable *au-de-pi*.

⁴⁸⁴ Ventris/Chadwick 1973, 239.

⁴⁸⁵ Higgins 1956, 41.

⁴⁸⁶ Ventris 1955, 117.

⁴⁸⁷ Palmer 1957, 61; Ventris/Chadwick 1973, 340; Aura Jorro 1985, 30.

⁴⁸⁸ Palmer 1957, 61; Ventris/Chadwick 1973, 340.

⁴⁸⁹ For *se-re-mo-ka-ra-o-re* cf. Aura Jorro 1993, 287; Mühlestein 1957, 154.

- spirals (*to-qi-de*)
- nuts or nut-trees (*ka-ru-we*)
- grooves? (*so-we-no*)
- a horse (*i-qo*)
- an octopus (*po-ru-po-de*)
- palm trees (*po-ni-ke*)
- lion's heads (*ka-ra-a-pi re-wo-te-jo*)

Our problems with the linguistic understanding of several of the motifs limits our abilities to parallel them with motifs known from archaeology. It is probable that some of them refer to well-known decorative motifs of the Mycenaean age such as rosettes or the triglyph pattern but we cannot be sure about this. Hurst and Bruschweiler note that there is a regularity in the distribution of ornamental motifs in the tablets: first are mentioned human-shaped motifs, then animals, after that plants and last ornamental patterns. This is true for the description of furniture as well as vessels on the Ta tablets. Certain motifs seem to fluctuate between categories: *to-qi-de* between animals and plants, *se-re-mo-ka-ra-a-pi* between humans and animals; in the texts they may occupy different positions. This must be due to an insecurity in their taxonomic classification, possibly because they represent composite beings.⁴⁹⁰

The second type of workmanship is *qe-qi-no-me-na/qe-qi-no-to*. The term *qe-qi-no-me-na* is parallel in formation to *a-ja-me-na* which reflects their parallel function in the context of the furniture descriptions. The word *qe-qi-no-to* must be interpreted as adjective in the instrumental from the same verbal root. In Ta 642.2, it most probably describes *e-re-pa-te* closer in the sense of 'inlaid with ivory that is **carved** in the shape of...'.⁴⁹¹ In Ta 642.3, its affiliation is not fully clear but it must have a similar meaning. Ventris refers it to Homeric δινωτός in the sense of "lapidary work executed

⁴⁹⁰ Hurst/Bruschweiler 1979, 68.

⁴⁹¹ Ventris 1955, 117; Palmer 1957, 62.

with a drill".⁴⁹² The participle *qe-qi-no-me-na* denotes the table as a whole. In the table tablets, it is connected to the motif of the spiral, but in the chairs more complex motifs are mentioned: *se-re-mo-ka-ra-o-re*, a man's figure (*a-di-ri-ja-te*), and calves (*po-ti-pi*). Stools are not described with this term.

What I refer to as DECORATION is denoted in the texts in the form of an adjective in *-eja-* and agrees syntactically with the frame noun *to-pe-za* (singular)/*to-pe-zo* (dual). The suffix *-eja/eja-* is used to form adjectives from nouns. These adjectives often denote a kind of material (e.g. *wi-ri-ne-jo* 'of leather'), but can also be used in a more general sense of 'in the shape of; being decorated with'.⁴⁹³ Two decorations of this type are found: *ko-ki-re-ja* 'decorated with shells' (Ta 713.3 and Ta 715.1) and *to-qi-de-jo* 'decorated with a (running) spiral' (Ta 715.3). Both seem to refer to an ornamental pattern rather than a material. It is however not known how this pattern was applied. There is no expression for 'painted' in the texts and it could be imagined that such a relation was expressed through an adjective, but this is pure speculation.

4.8.2 The Mycenaean TABLE frame

This thorough analysis of the different components that make up the table entries in the Ta tablets should now allow us to reconstruct the frame of 'table' and attempt a possible graphic representation that includes attributes, values and of these again attributes and values. Three aspects need to be kept in mind when approaching the Mycenaean frame of TABLE.

First, the frame that can be constructed is no quasi-objectivist representation of a physical object that we can excavate. It is no description that we can include in a dictionary entry about this object. It is lacking some elements that we might expect and includes others that we might see as being of secondary importance. It is a subjective account of a number of specific exemplars. But this is exactly the interesting point: we are given the opportunity to take up the perspective of the

⁴⁹² Ventris 1955, 118.

⁴⁹³ Killen 1983, 66; Hajnal 1994, 80.

Mycenaean scribe, to see what he perceived and in what order he perceived, what was important to him, what he did not need to mention because a Mycenaean (at least of a certain social group) would intuitively know. We are getting to know this subconscious state of mind of Hand 2. The Mycenaean scribe wrote these entries with a specific goal in mind: not to describe what a table looks like or is produced in general, but to make these concrete objects identifiable. Barsalou stresses how experience is what guides us in the formation of frames.⁴⁹⁴ People with different levels of experience and different intentions will construct different attributes of frames. Hand 2 chose to highlight certain attributes and omit others. A reader would have been able, without being given the concrete information, to fill in the frame with standard values. The top of the table is, for example, only mentioned when it is absent. From this, we have to conclude that usually a table should have a top but that it did not need mentioning because this could be inferred from world knowledge. Another example is the workmanship of the tables. Within these, *a-ja-me-na* is always mentioned with a material and occasionally with a shape, while *qe-qi-no-me-na* is always mentioned with a shape and only indirectly with a material. Both of these terms would evoke a frame on their own with different attributes and different values. A Mycenaean reader could imagine a standard pattern for *a-ja-me-na* and a standard material for *qe-qi-no-me-na*. If we take into consideration our understanding of the terms, we are able to relate to this. The term *a-ja-me-na* as denoting an inlay would immediately evoke the question “What kind of inlay?”, that is “What material?”, while *qe-qi-no-me-na* as denoting the process of drilling would evoke “Drilled into what?” rather than “Drilled in what material?” because we already know what materials can be drilled typically.

Second, when our knowledge and understanding of the Mycenaean terms changes, our idea of the frame will change as well. This is the difficulty with texts as ancient as the Mycenaean ones, where we cannot ask a thousand persons to define their conception of a frame. We need to work with what has survived from the masses of sentences once uttered. Naturally, some words will be easier

⁴⁹⁴ Barsalou 1992, 34.

to understand than others. For example, the material words such as *ra-e-ja* or *e-re-pa-te-ja* are relatively clear, but words such as *a-pi-qo-to* are less so. I think a close analysis of the terms allows us to group them and assign them a superordinate frame but of course uncertainties will remain. Every newly discovered tablet might yield new information that needs to be incorporated. One should just keep in mind that things might be shifting over time and that names that I assign to frame elements might need alteration when a different understanding of their respective values comes up. An example for this are the two categories of WORKMANSHIP and DECORATION that I used to incorporate different terms. I paired *a-ja-me-na* and *qe-qi-no-me-na* because of their similar word formation, their similar place in the structure of the sentence and their similar usage. I separated the terms *ko-ki-re-ja* and *to-qi-de* because of their differences to the former. But if one thinks of *ko-ki-re-ja* and *to-qi-de* as being some kind of decoration that was applied in a different way than *a-ja-me-na* or *qe-qi-no-me-na* decorations, for example painting, one could organize them all under the superframe DECORATION and assign a not mentioned technique such as painting for the adjective forms. This complicates the graphic representation of a frame. It, however, does not mean that reconstructing a frame is a hopeless task. Although we might feel unsure about how to represent and categorize certain aspects of a text, there is no guarantee that for the Mycenaeans every categorization was obvious. Take as an example the decorative motif of *se-re-mo-ka-ra-a-pi* that was assigned different positions within the same text by the same scribe. Once before the human figure, once between human figure and animal. Equally, some Mycenaeans might have thought that *ko-ki-re-ja* should be taken together with the motifs executed as *a-ja-me-na* and *qe-qi-no-me-na*. But some Mycenaeans might have thought that they should have been separated as their word formation suggests, maybe because *a-ja-me-na* and *qe-qi-no-me-na* referred to three-dimensional decoration and *ko-ki-re-ja* possibly to two-dimensional. We can of course not decide this from the small number of texts we have but one should keep in mind that the exact structure of frames is not always transparent even to a native speaker of that language.

Third, in frame theory there are different methods of depicting a frame. The graphical representation of frames was not the primary goal of frame theory which, as Busse phrases it, has always been more theoretical than empirical.⁴⁹⁵ In contrast to dependency grammar, which could use tree diagrams to represent the relations between different elements of an enclosed sentence, frame theory encountered a problem that originated in the heart of the theory itself: the recursive character of frames. Because frames are recursive and every frame is embedded in a multiplicity of superordinate and subordinate frames, you never know where to start and to stop – the description of frames could easily be an interminable task. A depiction of this is naturally difficult. It was tried nevertheless and various, extremely different approaches to this have emerged. Two main categories can be differentiated: frame representations in graphical form (as used e.g. by Barsalou) and frame representations in text form (as used e.g. by Wegner). The starting point for the construction of these representations are questions asked about the frame. The result very much depends on the decision to represent an abstract, encyclopaedic frame or a concrete, exemplar frame. This is closely connected to what Busse calls the “granularity” of a frame, that is which aspects to incorporate and where to stop.⁴⁹⁶ Various researchers took different ways in representing frames and some of the more extensive frame descriptions contain a vast amount of information. For frames of ancient languages, I think, the decision is made easier. As I have mentioned before, we need to stick to a concrete exemplar frame, although we are able to expand on the knowledge of one exemplar by comparing the various texts that survive. The granularity of the frame is inherent in the texts: I include all the information that is written and some aspects that can be inferred from what is written. One could probably even go further, but this will lead to further uncertainties. I have decided for a graphical representation of the frame because it shows the different frame elements, their hierarchy and their relation with each other. My frame

⁴⁹⁵ Busse 2012, 705.

⁴⁹⁶ Busse 2012, 707.

conception is orientated towards Barsalou's depiction of frames which is intended and indeed very suitable for the depiction of concrete exemplars.

An explanation for the graphic representation in Figure 29: the depiction is to be read from left to right and moves from the more general to the more specific. It makes use of knots and relations between knots. After Barsalou, relations can take the form of 'aspect' (from a frame to an attribute) and 'type' (from an attribute to a value). The main knot is denoting the frame that is of interest here: TABLE. Note that this frame is an attribute of a larger FURNITURE frame which in this context is an attribute of a larger FEASTING PARAPHERNALIA frame which is an attribute of a larger FEAST frame and so on. But for the moment, what is of interest is the frame for TABLE. From this, various relations reach to six attributes: MATERIAL, PARTS, TYPE, NUMBER OF LEGS, WORKMANSHIP, DECORATION. These are the frame elements. Because they are attributes, they are only thought. That is, nowhere in the text is the word 'material' explicitly used. We can only infer this from the values attached in the respective position. These of course use word formation (in this case adjectives in -ejos) to explain the function of the terms which is a direct hint towards the attribute. I have listed the attributes in the order of their position within the textual structure because I suppose that there is a certain effect of salience that governs their positioning. That is, MATERIAL might be perceived as more important for the categorization and the identification of the table than decoration, maybe because it is shared by more than one exemplar or because it is immediately perceivable because it occupies more space than a decoration or because it refers to the table top that is the main compositional part of the table or all of it. I do not think that it is chance that first the material was described, then the construction of the table and then the decoration. From Hurst and Bruschweiler's analysis we know that there was salience governing the order of the decorative motifs, so this is to be expected for all the other terms as well.

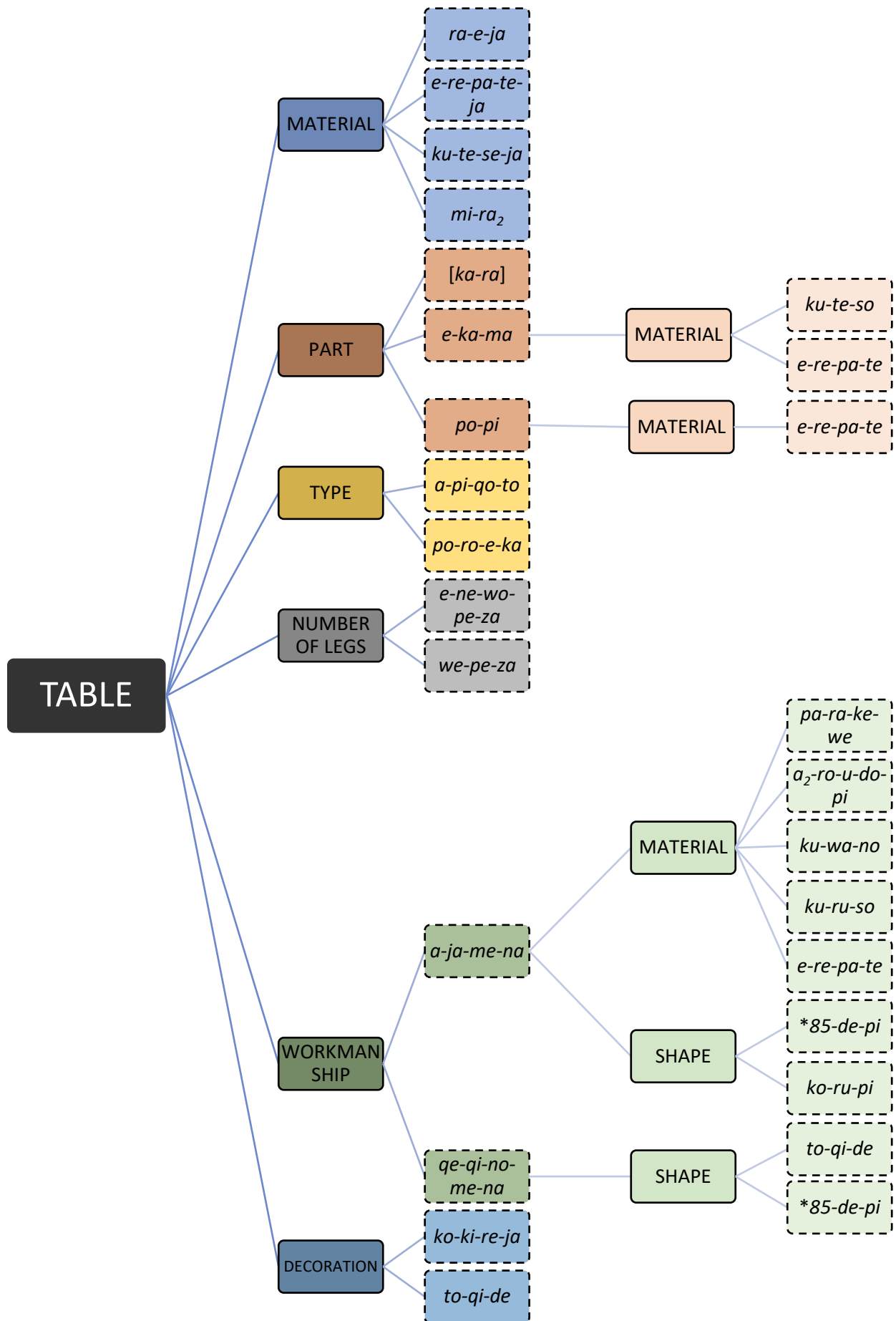


Figure 29 A possible frame representation of the Mycenaean table (to-pe-za) frame.

Each attribute governs a number of values which are depicted with dotted lines. However, these values are at the same time small frames in themselves. Take as an example WORKMANSHIP. WORKMANSHIP is an attribute of the TABLE frame and carries the two values *a-ja-me-na* and *qe-qi-no-me-na*. *a-ja-me-na* in the sense of 'inlaid' has its own frame. One would ask "Inlaid with what?" and "Inlaid in which shape?". Therefore, material and shape are two attributes of *a-ja-me-na* that get filled with various values. These values can be frames, too. For example, *ku-ru-so* 'gold' has its own frame with attributes such as COLOUR, VALUE or WEIGHT. But we do not have these, although we know that gold was perceived as precious, that is VALUE is HIGH.

In this way, the frame of table can be depicted graphically. This allows us to perceive its cognitive structure with different hierarchies and relations. For example, there must have been a spatial invariant between the different parts of the table with the head being on top of the feet which is expressed by its denomination with body parts. There also seems to be a correlation between *a-pi-qi-to/e-ne-wo-pe-za* and *po-ro-e-ke/we-pe-za* although we do not understand its nature. The graphic representation of a frame makes us aware of the complex entanglement of concrete words, abstract categories and their interdependencies. What is shown here is only the minimum of what was cognitively processed in the description and recognition of only one object in Mycenaean times. And, I am sure, it is not even the complete frame for a table. A full frame would include further attributes and values, such as those referring to size, shape or function (although some of them might already be included in the words we have without us understanding). And other persons, who were not officials of the palace, might include totally different aspects but this is unfortunately lost to us.

The previous chapter suggested that a comparison of the entries of the single objects in the Ta series allows for a reconstruction of the cognitive substructure that guided the perception and description of objects, in this case tables, in the mind of the Mycenaean scribe. This substructure can be described and depicted in the form of a frame.

5 Case study II: The E tablets

A different frame will be in the centre of the next part of the thesis. A study of the E series at Pylos allows for a reconstruction of the cognitive pattern for the cultural concept of ‘have’ in the context of Pylian landholding. For this, I will first give an overview of the structure of the different entries in the Ea, Eb/Ep and Eo/En series. This is followed by an analysis of the methods of ordering and abbreviating information on the tablets and how this reflects wider cognitive and cultural patterns.

5.1 The land registry of Pylos

The E-series of Pylos is a land registry recording information about land tenure and the corresponding obligations for the tenants of Pylian lands. It is a large series and contains some of the longest sentences that are preserved in Mycenaean Greek.⁴⁹⁷ The tablets were grouped together as one series due to the reoccurrence of the ideogram 120 representing GRA ‘wheat’.⁴⁹⁸ The ideogram is repeatedly associated with the word *pe-ma*, read as σπέρμα ‘seed’ by Ventris/Chadwick.⁴⁹⁹ It is probable that this quantity of grain together with the word *pe-ma* recorded on the land tenure tablets did not refer to a real quantity handed out for sowing, but to an abstract method of land measurement with the amount of grain being the quantity necessary for a certain area.⁵⁰⁰ The amount of grain could then be used for calculating the height of the taxes for a certain property.⁵⁰¹ Ventris and Chadwick compare the unit of *imêru* ‘donkey-load’ in the Nuzi texts that was used for quantities of grain as well as land measurements.⁵⁰² The exact metrical equivalences of this kind of unit are, however, not known.

⁴⁹⁷ Bennett 1956, 104.

⁴⁹⁸ Brown 1956, 385; Bennett 1956, 103. The identification of the ideogram *120 with wheat is not secured. In the texts, it appears together with sign *121 but only *120 is used as abstract measurement. One ideogram is thought to depict wheat, while the other refers to barley. Palmer, on grounds of the distribution of *120 on the tablets argues for an interpretation as barley (Palmer 1992, 487). For our present discussion the exact identification is of secondary relevance as the crop is used in the function of an abstract measurement.

⁴⁹⁹ Ventris/Chadwick 1973, 236.

⁵⁰⁰ Ventris/Chadwick 1973, 236.

⁵⁰¹ Brown 1956, 388.

⁵⁰² Ventris/Chadwick 1973, 236.

The function of the E series is debated. Deroy and Gerard interpret it as cadaster ('livre fiscal').⁵⁰³ This is generally doubted because the E series does not contain any specific locations of the single plots apart from the general district.⁵⁰⁴ Bennett sees the E tablets as the reflection of a census or an assessment.⁵⁰⁵ It is assumed that the purpose of the E-series was more in matters of taxation than in the geographical distribution of the plots.⁵⁰⁶ De Fidio summarizes the main goals of the E tablets as being a tabulation of the types of land, their surface, their owners and the obligations attached to them.⁵⁰⁷ Chadwick stresses that, in contrast to a cadaster in the modern sense, the main aim of the E tablets was to give a list of landholders and their respective types of property.⁵⁰⁸

5.2 Structure of the E tablets

It was understood very early in research that the tablets of the E series followed a complex and hierarchical principle of organization that reflected certain administrative intentions.⁵⁰⁹ Bennett noted the formulaic character of all of these texts.⁵¹⁰ This is of course true for all of the Mycenaean texts, but it especially applies here, where the density and complexity of information leads to different strategies of organizational economy. The E-series is further subdivided into subseries Ea, Eb, Ed, En, Eo, Ep, Eq and Er according to their formulaic pattern and their physical appearance.⁵¹¹ The subseries were written by different scribes: Hand 43 (Ea), Hand 41 (Eb and Eo), Hand 1 (Ed, En, Ep, Eq, Es except Es 650), Hand 24 (Er). The most remarkable fact in the E series is the striking similarity in formulae (despite different formats) between Eb/Ep and En/Eo respectively that suggests that Ep and En are summarizing copies of the shorter notes in Eb and Eo written by the most experienced scribe Hand 1.⁵¹² Both types of tablets have different formats and are therefore

⁵⁰³ Deroy/Gérard 1965, 11.

⁵⁰⁴ Lejeune 1974 [1976], 81; Killen 1985, 244.

⁵⁰⁵ Bennett 1956, 128.

⁵⁰⁶ Lejeune 1974 [1976], 81-82.

⁵⁰⁷ De Fidio 1987², 144.

⁵⁰⁸ Chadwick 1979, 27.

⁵⁰⁹ Ventris/Chadwick 1973, 232.

⁵¹⁰ Bennett 1956, 104.

⁵¹¹ Bennett 1956, 104.

⁵¹² Bennett 1956, 107. Apart from the effort that Hand 1 takes to make the texts more regular, especially the alternation between *e-ke-qe* in the earlier Eb and *e-ke* in the later Ep tablets is striking. The reason for this

easily recognizable. The shorter Eb and Eo texts were written on the elongated, palm-leaf tablets that were used for shorter notes (Figure 30). The longer compilations found their place on the large page-shaped tablets (Figure 31). Despite their close resemblance, the texts on the tablets are not completely identical. Most of the information gets repeated but, occasionally, a piece of information is omitted in one place, but included in the other.⁵¹³ This is a reflection of the choices that scribes made when writing a tablet about which information to include and which to omit because it was not important or would have been obvious to the reader. This system of early notes that get copied onto longer compilations can be imagined for many Linear B texts. Usually, however, concrete evidence for this process is lost to us because the early tablets would have been disposed of. The E series is one of the rare examples where both stages of administration have survived.



Figure 30 The palm-leaf tablet Eb 294 that was later copied to Ep 704 (from <https://calibra.classics.cam.ac.uk/Tablet/PY/294> [10.11.2023]).

The main governing principle of the series and its subseries is the allocation of property tenures within certain of the Pylian districts, which are named by Lejeune as *pa-ki-ja-ne* (Eb/Ep, En/Eo and Ed series), *sa-ra-pe-da* (Er 880 and Er 312), *ki-ri-ti-jo* (Es 650), a district of uncertain name (possibly *ti-no* in Ea series) and another nameless district (Eq, except Eq 213).⁵¹⁴ Of them, *pa-ki-ja-ne* is known

alternation depends largely on the meaning of the suffix *-qe* which was interpreted by Palmer as suffix *-ken* with prospective aspect (Palmer 1963, 190). Hajnal doubts this interpretation due to difficulties in sound development. He, instead, sees it as reflex of a different language use. The use of a particle *-qe* 'and' in the earlier texts might reflect the oral language of the Mycenaean while the abandonment of the suffix in the later tablets might be due to Hand 1's effort to make the texts neat and regular (Hajnal 2004, 244). To prefix a sentence with a noun is also known from the Homeric epics (e.g. Od VI, 1-3) (Bakker 1997, 100).

⁵¹³ Brown 1956, 388.

⁵¹⁴ Lejeune 1974 [1976], 81. It is not fully clear whether *sa-ra-pe-da* refers to a concrete toponym or to a type of land (cf. Ventris/Chadwick 1973, 266-267; Duhoux 1976, 27-28; Aura Jorro 1993, 282.). Eq 213 is attributed by de Fidio to *a-ke-re-wa* (De Fidio 1987², 143).

to have been located close to the centre.⁵¹⁵ In the following, I will focus on the five sub-series Eb/Ep, Eo/En and Ea as they provide us with the largest amount of data and the clearest principles of structure. But first we will discuss some general remarks about the landholding system of Pylos as it can be deduced from the tablets. This is necessary to understand the full complexity of the comparatively short texts.

IMAGE REMOVED

The image originally presented here cannot be made freely available via ORA because of copyright. The image was sourced from <https://calibra.classics.cam.ac.uk/Tablet/PY/704> (accessed 10 November 2023).

Figure 31 The page-shaped tablet Ep 704. The text from Eb 294 was copied to line 1 (from <https://calibra.classics.cam.ac.uk/Tablet/PY/704> [10.11.2023]).

5.3 System of land distribution

As Deger-Jalkotzy stresses, the land holding system in Pylos was deeply interconnected with the general social system of the Pylian state.⁵¹⁶ Land tenure in Mycenaean Pylos seems to have been subdivided into different types of property. There were owners of land on the one hand and tenants in some kind of usufruct relationship on the other. Each level of land tenure had its own vocabulary. The most basic distinction of property types was that between *ko-to-na ki-ti-me-na* and *ke-ke-me-na ko-to-na* with *ko-to-na* being equivalent to the Classical Greek κτοίνα and denoting a subdivided

⁵¹⁵ Killen 1985, 245; De Fidio 1987², 143.

⁵¹⁶ Deger-Jalkotzy 1988¹, 37.

piece of land. Table 2 gives a schematic representation of the Pylian landholding system according to types of land and the hierarchy of land distribution and tenure in three levels:

Table 2 The system of land distribution at Pylos (cf. Ruijgh 1984, 477).

Level	<i>ko-to-na ki-ti-me-na</i> (A)		<i>ke-ke-me-na ko-to-na</i> (B)	
	owner	retrocede	owner	retrocede
I	Individual	-	<i>damos</i>	-
II	-		Individual has <i>o-na-to</i>	From <i>damos</i>
III	Individual has <i>o-na-to</i>	From individual IA	Individual has <i>o-na-to</i>	From individual IIB

Aside from the meaning of both terms, *ko-to-na ki-ti-me-na* are owned by individuals at a first level (called *te-re-ta* or *ko-to-no-o-ko*), whereas *ke-ke-me-na ko-to-na* are mostly owned by the *damos*, the administrative authority of the Pylian state.⁵¹⁷ The *damos* can then retrocede a piece of land (*o-na-to*) from its property to an individual at a second level. This individual can then, at a third level, retrocede part of their *o-na-to* to a second individual. The tenants of an *o-na-to* are called *o-na-te-re* (Pl.).⁵¹⁸ Equally, an individual who owns a *ko-to-na ki-ti-me-na* can give out part of their property as an *o-na-to* to a second person.⁵¹⁹ In that way, one individual can be both tenant and landlord. An individual can also be owner or tenant of *ke-ke-me-na* and *ki-ti-me-na* land at the same time.⁵²⁰

From the Ea series we know that *ko-do*, for example, is a *te-re-ta* and holds *ki-ti-me-na* land on the first level (Ea 71), gives out part of it to *ti-ri-da-ro* (Ea 754) and *ta-ra-ma-ta* (Ea 825) (for the Linear B texts with translation see Catalogue 6). The relationships between these different tenants are illustrated in Table 3. At the same time (the time of the writing of the Ea tablets), *ko-do* leases two parcels of *ke-ke-me-na* land from the *damos* (Ea 824, Ea 803). The individual *ta-ra-ma-ta*, on the other hand, not only holds a parcel of *ki-ti-me-na* land from *ko-do*, but as a *te-re-ta* also owns a piece of *ki-ti-me-na* land in the first level (Ea 821) and additionally he leases a parcel of *ke-ke-me-*

⁵¹⁷ Ruijgh 1984, 477.

⁵¹⁸ Ventris/Chadwick 1973, 235.

⁵¹⁹ Ruijgh 1984, 477.

⁵²⁰ Lejeune 1974 [1976], 111.

na land directly from the *damos* (Ea 778).⁵²¹ Lupack argues that *ko-do* and *ta-ra-ma-ta* act as *te-re-ta* in the district of Ea, similar to the *te-re-ta* in the parallel series of *pa-ki-ja-ne*. Both persons are never called *te-re-ta* in the Ea tablets, but their function might have been implicit in the *ki-ti-me-na* phrase.⁵²² The different relations between owner and beneficiary and the different types of land holdings that reflect wider juridical relationships were therefore highly entangled.

Table 3 Distribution of land between ko-do, ta-ra-ma-ta and ti-ri-da-ro in the Ea tablets.

Level	<i>ko-to-na ki-ti-me-na</i> (A)		<i>ke-ke-me-na ko-to-na</i> (B)	
	owner	retrocede	owner	retrocede
I	<i>ko-do</i> /Thalamatas	-	<i>damos</i>	-
II	-		<i>ko-do</i> /Thalamatas	From <i>damos</i>
III	Thalamatas/Tridaros	From <i>ko-do</i>	-	-



5.4 A short lexicon of Pylian landholding vocabulary

In the following, I will give an overview of the most important Mycenaean technical terms in the context of landholding that are necessary for a discussion of this area of culture. This includes the various types of landholdings as well as the specific social roles that can be occupied by tenants.

5.4.1 Types of land

We basically know four types of land from the E tablets: the more general terms *ko-to-na* ‘parcel’ and *o-na-to* ‘plot of a parcel’ as well as the more specific *ka-ma* and *e-to-ni-jo*. These will be described more closely in the following.

5.4.1.1 *ko-to-na*

The word *ko-to-na* is equivalent to the Classical Greek κτοίνα, which is attested in Hesychios as a Rhodian word for a subdivided piece of land parallel to an Attic deme (δῆμος μεμερισμένος).⁵²³

⁵²¹ Lejeune 1974 [1976], 112.

⁵²² Lupack 2017, 352.

⁵²³ Ventris/Chadwick 1973, 232.

Etymologically, it originates from an Indo-European root **ktei-/kti-* with a very wide meaning of ‘win from waste, lay out, settle’.⁵²⁴ In Classical Greek, it is reflected in a variety of derivations such as the transitive κτίζω ‘settle, populate’.⁵²⁵ *Ktoina* is a noun formed from this root, probably in the sense of ‘something that has been settled; private possession’.⁵²⁶ It must have had the more specific meaning of ‘plot of land’ in the Linear B texts, such as an area that has been cultivated.⁵²⁷ In the land tenure tablets, *ktoina* are further described as being either *ki-ti-me-na* or *ke-ke-me-na*. Their interpretation poses a number of difficulties to modern research, especially since both words were lost in later Greek.⁵²⁸ Both words are used rather complementary, so it is usually thought that they refer to opposing concepts. Their interpretation depends also on the question of the categorization of these words as legal or agricultural terms.⁵²⁹

Ventris and Chadwick suggest the different meanings of ‘private land’ in contrast to ‘public land’ or ‘cultivated land’ in contrast to ‘fallow land’.⁵³⁰ Following Furumark, they prefer the meaning of ‘private vs communal’.⁵³¹ Palmer, equally, reads ‘private possession’ for *ki-ti-me-na*.⁵³² Because *ke-ke-me-na ko-to-na* are usually associated with the *damos*, Ruijgh assumes that *ki-ti-me-na* refers to a private plot of land, while *ke-ke-me-na* denotes a public property.⁵³³ This is suggested by Brown and Deger-Jalkotzy as well.⁵³⁴ Carpenter agrees with the meaning of ‘private plot’ but sees in it parts of the best land close to the villages in contrast to outlying *ke-ke-me-na ko-to-na*.⁵³⁵ Duhoux, on the other side, compares *ki-ti-me-na* to *pu-te-ri-ja*, used on the Knossos Uf tablets to describe *ko-to-na*. A land *pu-te-ri-ja* would, in contrast to *ke-ke-me-na* land, be planted with trees.⁵³⁶ A meaning of

⁵²⁴ Palmer 1963, 186; Ventris/Chadwick 1973, 232.

⁵²⁵ Deger-Jalkotzy 1988¹, 37.

⁵²⁶ Palmer 1963, 186.

⁵²⁷ Palmer 1963, 186; Ventris/Chadwick 1973, 232.

⁵²⁸ Brown 1956, 388.

⁵²⁹ Duhoux 1976, 9.

⁵³⁰ Ventris/Chadwick 1973, 232-233.

⁵³¹ Furumark 1954, 36; Ventris/Chadwick 1973, 233.

⁵³² Palmer 1963, 186.

⁵³³ Ruijgh 1984, 477.

⁵³⁴ Brown 1956, 389; Deger-Jalkotzy 1988², 104.

⁵³⁵ Carpenter 1983, 84, 88.

⁵³⁶ Duhoux 1976, 12-13. The word *pu-te-ri-ja* probably belongs to *pu-ta* φυτά ‘plants’ (KN Gv 864.3) or *pu-te* *φυτήρ ‘planter’ (e.g. on KN Uf 835.b)

‘cultivated vs fallow’ is also proposed by Dunkel.⁵³⁷ From its usage connected to different types of landholders, a meaning of ‘private’ and ‘public’ appears more probable and will be retained in the following. This is further made probable by Chadwick’s observation of the word formation of both terms which appears to denote a property of the land in a juridical sense rather than a task to fulfil by the holders of land.⁵³⁸

The term *ki-ti-me-na*, like *ko-to-na*, is derived from **ktei-/kti-*.⁵³⁹ Its seemingly tautological appearance in one phrase can probably be explained by the development of the term in the course of time.⁵⁴⁰ In Homeric Greek, the word ἐκτίμενον is attested for something that was ‘good to live in’ (Od. XXIV, 226; Od. IX, 130).⁵⁴¹ In a literal sense, therefore, *ki-ti-me-na* must mean something like ‘settled’. But there must be more to this as the procedure of settlement is already expressed by the word *ko-to-na*. It is striking, that *ko-to-na ki-ti-me-na* are always connected to a personal name in the genitive.⁵⁴² The person referred to in that way should be the user of this piece of land. The connection of this term to a private person would argue for its meaning of ‘private land’ in comparison to land owned by the *damos* or by a person in their official function.

Land called *ke-ke-me-na ko-to-na* can either be associated (in most cases) with the *damos* or with an occupational title in the genitive. All researchers stress the close semantic coupling of the phrase with the notion *pa-ro da-mo* which some suppose led to the meaning of ‘common land’.⁵⁴³ Three interpretations of *ke-ke-me-na* are discussed: /kekeimenai/, /kekesmenai/ and /kekhemenai/, each of them connected to a different verbal root. Ventris and Chadwick suggest an etymological connection to κείμεναι, κείμενος ‘to lie’.⁵⁴⁴ Palmer rejects this attribution and instead refers it to

⁵³⁷ Dunkel 1981, 28.

⁵³⁸ Chadwick 1987, 82.

⁵³⁹ Ventris/Chadwick 1973, 232.

⁵⁴⁰ Deroy/Gérard 1965, 16. Panagl suggests that the chiasmic placement of the two terms (*kotona kitimena* vs *kekemena kotona*) is meaningful in the sense of a ‘Stellungsoption’ (word order opposition). The normal word order in Mycenaean would have been *kotona kitimena* while *kekemena kotona* was inverted in order to contrast it with the older concept of *kotona kitimena*. (Panagl 1973, 12).

⁵⁴¹ Ventris/Chadwick 1973, 233. Carpenter 1983, 84.

⁵⁴² Carpenter 1983, 84; Krigas 1987, 24.

⁵⁴³ Brown 1956, 389; Palmer 1963, 189; Ventris/Chadwick 1973, 233.

⁵⁴⁴ Ventris/Chadwick 1973, 233.

κοινός ‘common’ from a possible verbal root **kei-* ‘cut’ which would have been replaced by κείζω in later times.⁵⁴⁵ The participle would therefore be read as ?*kekeimenai* and mean ‘being cut (from shareland)’.⁵⁴⁶ Ruijgh reads /*kekhemena*/ from a possible root **gheh₁-* (not attested in Greek, but in Sanskrit as *jáhāmi* ‘leave’ with a similar formation as in /*tethemena*/ from /*tithemi*/).⁵⁴⁷ Carpenter adheres to either Ventris and Chadwick’s interpretation or to Ruijgh’s reading.⁵⁴⁸ Deger-Jalkotzy follows Heubeck in narrowing down the possibilities from a linguistic ground to /*k(h)ekhemena*/ ‘empty property’ (to χηπώ ‘make empty’, compare Ruijgh) or /*kekesmena*/ ‘cut property’ (to κείζω ‘cut’).⁵⁴⁹ Heubeck decides for /*kekesmena*/ because he dates the change in meaning of the hypothetical *κίχημι from ‘to leave’ to ‘to reach’ already in Mycenaean times which would exclude a meaning of ‘land left empty’ for *ke-ke-me-na*.⁵⁵⁰

5.4.1.2 *o-na-to*

Owners of *ko-to-na ki-ti-me-na* and the *damos* in *ke-ke-me-na ko-to-na* land can give out parts of their land to other individuals. In the tablets, this is referred to as ‘PN *e-ke o-na-to pa-ro* PN’ in the sense of ‘PN has an *onato* from PN’ with the first PN being the individual who leases land on a second level from an individual on the first level. The piece of land that is leased is called *o-na-to*. The new lessee are called *o-na-te-re*.⁵⁵¹ People with different occupations can be *o-na-te-re*, but the most frequent occupation in the *pakijane* land are *te-o-jo do-e-ro/a* ‘servants of the god’ which denotes some kind of religious functionary.⁵⁵² The leasing of land does not seem to be a transfer of ownership but rather takes place in the sense of a usufruct.⁵⁵³ Deroy and Gerard derive the word from a verb ὠνέομαι ‘buy’ and read ‘acquisition’.⁵⁵⁴ Ventris and Chadwick suggest a possible

⁵⁴⁵ Palmer 1963, 186-187.

⁵⁴⁶ Palmer 1963, 189.

⁵⁴⁷ Ruijgh 1972, 91.

⁵⁴⁸ Carpenter 1983, 83.

⁵⁴⁹ Deger-Jalkotzy 1988¹, 39.

⁵⁵⁰ Heubeck 1967, 21.

⁵⁵¹ Ventris/Chadwick 1973, 235.

⁵⁵² Ventris/Chadwick 1973, 236.

⁵⁵³ Deger-Jalkotzy 1988¹, 37.

⁵⁵⁴ Deroy/Gérard 1965, 22.

etymology from the later verb ὀνίνημι ‘bestow a benefit’ which is regarded as the most probable derivation.

5.4.1.3 *ka-ma*

The *damos* can hand out properties from the *ke-ke-me-na ko-to-na*. But in the *ke-ke-me-na ko-to-na* texts we find a second category of land, the *ka-ma* properties. They differ in textual structure, size and responsibilities from the other parcels.⁵⁵⁵ The word *ka-ma* is attested in Hesychius as καμάν τὸν ἀγρὸν Κρήτες, that is ‘a Cretan field’.⁵⁵⁶ The leasing of *ka-ma* land seems to have worked in a similar way as for the *ke-ke-me-na ko-to-na* land, but it was done by individuals, not the *damos*, and it came with a certain obligation against the state named by the verb *wo-ze-e* ‘work’.⁵⁵⁷ A *ka-ma-e-u*, the tenant of a *ka-ma*, had the obligation of *wo-ze-e*.⁵⁵⁸ Brown suggests that *ka-ma* land was unproductive land and the tenant had the obligation to make it productive.⁵⁵⁹ This is agreed with by Deroy and Gerard.⁵⁶⁰ From Ep 617, we know ten *ka-ma-e-we*.⁵⁶¹ A *ka-ma-e-u* could be a *ko-to-no-o-ko* at the same time (for example, the persons called *pa-ra-ko*, *ko-tu-ro*, *pe-re-qo-ta*), but could also be only an *o-na-te-re*.⁵⁶² Except from the specific obligation, the nature of which is insecure as well, it is not clear, what exactly the difference between *ke-ke-me-na ko-to-na* and *ka-ma* land was. Judging from the texts, it seemed to have been very obvious to the scribes as it is never described more closely. The variation in formula for this type of lease suggests more complicated procedures.⁵⁶³ The complete formula is found in Eb 862/Ep 613.3.⁵⁶⁴

⁵⁵⁵ Duhoux 1976, 39.

⁵⁵⁶ Brown 1956, 390; Duhoux 1976, 29.

⁵⁵⁷ Deger-Jalkotzy 1988¹, 37; Deger-Jalkotzy 1988², 104-105.

⁵⁵⁸ Deger-Jalkotzy 1988¹, 38.

⁵⁵⁹ Brown 1956, 393.

⁵⁶⁰ Deroy/Gérard 1965, 54-55.

⁵⁶¹ Brown 1956, 391.

⁵⁶² Deroy/Gérard 1965, 51.

⁵⁶³ Deger-Jalkotzy 1988², 104.

⁵⁶⁴ Deroy/Gérard 1965, 50.

5.4.1.4 *e-to-ni-jo*

Land designated as *e-to-ni-jo* is only found on two pairs of tablets: Eb 297.1/Ep 704.5 and Eb 473.1/Ep 539.14.⁵⁶⁵ Aura Jorro derives it from *ἐτώνιον < *ἔτωνος, but the meaning is not very clear.⁵⁶⁶ Brown relates it to the word *eta*, known from Hesychius as word for ἀληθής ‘true’.⁵⁶⁷ Deroy and Gerard read ‘enclave’ from τόρνος.⁵⁶⁸ Duhoux interprets it as a compound of ἐτός ‘true’ and a derivative of ὀνίνημι (cf. *o-na-to*), an interpretation that seems highly probable.⁵⁶⁹ It seems to denote a land with certain privileges. In Ep 539.14 it refers to land owned by *a-pi-me-de*. This land is part of *ke-ke-me-na ko-to-na*. It is contrasted with the parcels owned by the three servants of *a-pi-me-de* in the lines before which are denoted as *o-na-to*. Brown therefore concludes that *e-to-ni-jo* denotes the land of a higher ranking individual who has the ‘real’ ownership in contrast to the parcels of his servants.⁵⁷⁰ The second time *e-to-ni-jo* appears is on a somewhat enigmatic tablet Eb 297 which contains the longest sentence preserved in Mycenaean Greek.⁵⁷¹ It refers to a priestess who claims to own a parcel with the status *e-to-ni-jo*, but the *ko-to-no-o-ko* regard it as a regular *o-na-to*.⁵⁷² Deger-Jalkotzy follows Ventris/Chadwick in arguing that *e-to-ni-jo* was a type of land with certain privileges.⁵⁷³ She suggests to contrast it to the *ka-ma* land that comes with the obligation of *wo-ze-e*. *e-to-ni-jo* could therefore mean the exemption from such an obligation.⁵⁷⁴ A similar exemption is also assumed by Duhoux.⁵⁷⁵

⁵⁶⁵ The only other mention of *e-to-ni-jo* is in PY An 724.12.

⁵⁶⁶ Aura Jorro 1985, 259.

⁵⁶⁷ Brown 1956, 397.

⁵⁶⁸ Deroy/Gérard 1965, 68.

⁵⁶⁹ Duhoux 1976, 47.

⁵⁷⁰ Brown 1956, 397.

⁵⁷¹ Brown 1956, 396.

⁵⁷² Deroy/Gérard 1965, 65.

⁵⁷³ Ventris/Chadwick 1973, 135; Deger-Jalkotzy 1988¹, 41.

⁵⁷⁴ Deger-Jalkotzy 1988¹, 41.

⁵⁷⁵ Duhoux 1976, 48.

5.4.2 The principal owner of land: *te-re-ta* and *ko-to-no-o-ko*

The word *te-re-ta* appears ten times in the Pylos tablets.⁵⁷⁶ As it always appears in the E tablets (except maybe for the fragmentary Xa tablet), it seems to be tightly connected to the system of landholding. *te-re-ta* are the owners of *ki-ti-me-na* land on the first level, thus their position is parallel to the *damos* in the *ke-ke-me-na* land. In Er 312.6, the *te-re-ta* are mentioned immediately after the *wa-na-ka* 'king' and the *ra-wa-ke-ta* 'lawagetas', the second highest official in the Pylian state. A *te-re-ta* can additionally hold an occupation. *ti-qa-jo* in Eo 278 is a *po-me*, a shepherd.⁵⁷⁷ In Eo 371, the *te-re-ta pi-ri-ta-wo* is qualified as *ke-ra-me-wo wa-na-ka-te-ro* 'royal potter'.⁵⁷⁸ The close association of *the te-re-ta* with the highest-ranking individuals of the palace can be interpreted as sign for their high status in society. From this, it is often inferred that the properties of the *te-re-ta* belong to the palace.⁵⁷⁹

Both words, *te-re-ta* and the verbal form *te-re-ja*, belong to the same root. Their etymology does not refer to a type of land (such as *ko-to-no-o-ko*) but to their relationship with the state or palace and their duties in the managing of land.⁵⁸⁰ Ventris/Chadwick deduce them from τέλη 'service due' instead of τέλος 'fulfilment', but most other researchers prefer to associate them with τέλος.⁵⁸¹ They suggest that the *telestai* owed some feudal service to the king.⁵⁸² Palmer agrees with that but derives it from τέλος.⁵⁸³ Deger-Jalkotzy directly refers the origin of the root of *te-re-ta* to an obligation owed to the king.⁵⁸⁴ The word τελεστής is known from an ancient Elean inscription referring to different parts of a citizen body. Their relation to the religious sphere is debated.⁵⁸⁵ The

⁵⁷⁶ Eb 149.1/Ep 613.4, En 609.2, En 609.15/Eo 224.5, Ed 411.1, Eq 146.1, Er 312.6, Er 312.5, and maybe the fragmentary Xa 113.1 (cf. Aura Jorro 1993, 338)

⁵⁷⁷ This information was not transferred to En 467.1 (Palmer 1963, 191).

⁵⁷⁸ Scribe 1 does not take this information up in his entry of the same person in En 467.5.

⁵⁷⁹ Deger-Jalkotzy 1988¹, 44.

⁵⁸⁰ Carlier 1987, 65.

⁵⁸¹ Bennett 1956, 120; Ventris/Chadwick 1973, 234.

⁵⁸² Ventris/Chadwick 1973, 234.

⁵⁸³ Palmer 1963, 190-192.

⁵⁸⁴ Deger-Jalkotzy 1988¹, 44.

⁵⁸⁵ In later times, the word τελεστής is connected to the initiation priests of the mystery cults. Palmer rejects this backward projection for reasons of the internal structure of the tablets (Palmer 1963, 193-194). Adrados believes that the *te-re-ta* had an important and ancient position in the religious sphere (Adrados 1956, 367-368).

verb *te-re-ja-e* can be translated as 'to fulfil the obligations of a *telos*'.⁵⁸⁶ Deger-Jalkotzy equates *te-re-ja-e* in the *ki-ti-me-na* context with *wo-ze-e* in the *ke-ke-me-na* texts.⁵⁸⁷ Bennett, as well, stresses their close relation.⁵⁸⁸ That the terms are, maybe not synonymous, but closely related can be seen from the parallel texts Ep 613.4-5 and Eb 149.1-2 (in Catalogue 7). If Eb 149 and Eb 940 indeed belong to the same tablet, then the term *te-re-ja* is used twice in Eb 149, while Ep 613 once refers to *te-re-ja-e* (the obligation that should have been fulfilled) and once to *wo-ze* (the obligation that has not been fulfilled). However, *te-re-ja-e* is only attested in texts belonging to the *ke-ke-me-na* category of land. This might be because of the possibility to infer it from knowledge in the Eo/En texts. It is also probably due to the irregularity of the entries on Ep 613.

The obligation that has to be fulfilled is not usually mentioned in the tablets. This is only done in the tablets of Ep 613 and in a few irregular entries in other tablets (e.g. Ep 539.5). The focus in the tablets is usually on the different relations of landholding. One might interpret that the other landholders did fulfil the obligation. In Ep 613, the two entries with persons who were owing their obligation are sorted at the beginning of the tablet. Their explicit mention together with the detailed description must be due to their shortcomings.

A *te-re-ta* could be *ko-to-no-o-ko* at the same time.⁵⁸⁹ This can be inferred from the comparison of the *te-re-ta* in the En tablets and Ep 301 which lists the *o-na-ta* that certain men called *ko-to-no-o-ko* receive from the *damos*.

According to Bennett, *ko-to-no-o-ko* refers only to a different aspect than *te-re-ta* of the same person. It stresses the relation between owner and a certain piece of land (*ko-to-na*), thus parallel to *o-na-te-re* on the next level. Ventris/Chadwick interpret the word as title for the actual owner of a plot of land in contrast to the *o-na-te-re* as illustrated in Eo 247.2.⁵⁹⁰ In contrast, *te-re-ta* refers to

⁵⁸⁶ Deger-Jalkotzy 1988¹, 45.

⁵⁸⁷ Deger-Jalkotzy 1988¹, 45.

⁵⁸⁸ Bennett 1956, 126.

⁵⁸⁹ Deroy/Gérard 1965, 79.

⁵⁹⁰ Ventris/Chadwick 1973, 248.

the position of an individual in the society. At the same time, every *te-re-ta* was a *ko-to-no-o-ko*, but not every *ko-to-no-o-ko* was a *te-re-ta*.⁵⁹¹ The *ko-to-no-o-ko* seem to have been closely related, if not identical, with the *damos*. Thus, in the legal case of Eb 297 *ko-to-no-o-ko-de* is substituted in Ep 704.5 by *da-mo-de-mi*.⁵⁹² According to Deger-Jalkotzy, the *ko-to-no-o-ko* were a board of persons who presided over the distribution of land.⁵⁹³ A similar view is shared by Ruijgh.⁵⁹⁴ Etymologically, and also from its usage in the tablets, the tight connection between the *ko-to-no-o-ko* and the legal ownership of land is evident.

5.5 Eb/Ep and Eo/En tablets

The E series of Pylos consists of nine subseries: Ea, Eb, Ed, En, Eo, Ep, Eq, Er and Es. Within these, Ea, Eb/Ep and Eo/En have been studied with special interest as they contain rather complex texts that shed light on the administrative procedures taking place in the palace of Nestor. The tablets contain information about the system of land tenure in certain of the Pylian districts with recurring formulae denoting the conditions for land tenure and the relations between landlord and tenant. The Eb/Ep and Eo/En tablets form two distinct sets with Ep and En being copies of Eb and Eo respectively.⁵⁹⁵ The two sets are connected through a common place name: *pa-ki-ja-ne* (as known from the heading of En 609). It is therefore necessary to treat them together.

5.5.1 Structure of the Eb/Ep and Eo/En tablets

The tablets of the different subseries can largely be distinguished by their outer appearance alone as they were written on different formats and by different scribes. The Eb and Eo subseries consist of small, elongated palm-leaf tablets. Eb tablets, written by Hand 41, usually have one entry spread across two lines of text, separated by a rule. Some broken tablets depict traces of a cord along the length of the tablet. The Eo tablets, written by the same Hand 41 as Eb, in many cases have more

⁵⁹¹ Bennett 1956, 120-121.

⁵⁹² Bennett 1956, 126.

⁵⁹³ Deger-Jalkotzy 1988¹, 46.

⁵⁹⁴ Ruijgh 1967, 315, fn. 112.

⁵⁹⁵ Bennett 1956, 107.

lines of text than the Eb and therefore are written on larger, but still elongated tablets. The information of Eb and Eo was summarized on the longer, page-shaped tablets Ep and En. Both series were written by Hand 1, the most experienced scribe at Pylos. It was therefore the responsibility of one scribe (Hand 41) to assemble the information on the small tablets and the responsibility of the more experienced scribe (Hand 1) to (check and) summarize it on the longer, final documents. In contrast to the Ep subseries, the En tablets are separated into paragraphs by blank lines, corresponding to the length of the entry of the Eo tablets. Each paragraph is introduced by a heading that refers to the whole text.⁵⁹⁶ Occasionally, one can see, how in the process of copying, information was just transferred without checking.⁵⁹⁷ Despite their similarities in writing, the series Eb/Ep and Eo/En are treated separately. This is because of their main formula. In Eb/Ep, it is *ke-ke-me-na ko-to-na* ‘public parcel’, in Eo/En, *ko-to-na ki-ti-me-na* ‘private parcel’. The four series thus refer to two different types of land holding in the same district.

Words referring to the religious sector make up most of the occupations or titles of the persons mentioned in the Eb/Ep and Eo/En tablets. They contain a vast number of *te-o-jo do-e-ro/a* ‘servants of the god (m/f)’ and several *i-je-re-u* ‘priest’, but also more enigmatic titles such as *i-je-ro-wo-ko* ‘executive priest’?? (Ep 613.7) or *pa-de-we-u* of unknown meaning (Ep 613.10).⁵⁹⁸ Because of the frequency of religious titles, it is usually thought that *pa-ki-ja-na* was an important place of religious life in the Pylian kingdom with the sanctuary of the *pa-ki-ja-na* at its centre.⁵⁹⁹ Another clue towards its status among the Mycenaean districts is given by the repeated mention of the term *wa-na-ka-te-ro* ‘royal’ as an attribute to three persons in the *pa-ki-ja-na* texts:

- *a-tu-ko*, the *e-te-do-mo wa-na-ka-te-ro* (‘royal armourer’??; in En 609.5),

⁵⁹⁶ Bennett 1956, 104.

⁵⁹⁷ For example, on tablet Eo 317, the first word was written in large letters and the rest of the text was written in two lines above each other. Writing in two lines is not unusual in Linear B, but normally the lower line would need to be read first, followed by the upper line. In this case, the upper line contained the occupation, the word that would actually need to be read second after the personal name. When Hand 1 copied the text on tablet En 467.5, he in the usual habit read the upper line second and therefore copied the occupational title to the end of the line, far away from its personal name (Bennett 1956, 107).

⁵⁹⁸ For *i-je-ro-wo-ko* cf. Aura Jorro 1985, 276. For *pa-de-we-u* cf. Aura Jorro 1993, 66.

⁵⁹⁹ Deroy/Gérard 1965, 34.

- *pe-ki-ta*, the *ka-na-pe-u wa-na-ka-te-ro* ('royal fuller', in En 74.3/Eo 276.2, En 74.23/Eo 160.3) and
- *pi-ri-ta-wo*, the *ke-ra-me-u wa-na-ka-te-ro* ('royal potter', in Eo 371.B).⁶⁰⁰

An association of *pa-ki-ja-ni-ja* with the *wanaks* and the palace of Pylos is therefore probable.⁶⁰¹

5.5.2 The writing process of the E tablets

For the arrangement of the series, we have to imagine the following procedure:

- 1) There might have been an early version of the texts that is lost to us. This can be deduced from the Eo tablets that in themselves look like small compilations, which already order information and suggest that there might have been shorter tablets noting only one line of text.⁶⁰²
- 2) The first step known to us was the assembling of information on the short, note-like tablets by Hand 41, both for the private *ki-ti-me-na* lands (series Eo) and the public *ke-ke-me-na* lands (series Eb). This might have taken place directly where the information was gathered.
- 3) The most experienced scribe Hand 1 used these small tablets to organize and structure their information in order to write the longer compilations for both sets (series En for Eo and Ep for Eb). That he must have done this reading the tablets of his colleagues, can be inferred from the fact of unusual formulae that were copied directly from the earlier documents.
- 4) The *ke-ke-me-na* lists, which refer to the properties of the *damos*, were then summarized by Hand 1 in the Ed tablets (except Ed 411).
- 5) Finally, Ed 411 is a very short list that contains the sums of the acres from both types of landholdings, *ki-ti-me-na* (written by Hand 41) and *ke-ke-me-na* (written by Hand 1).⁶⁰³

⁶⁰⁰ Deroy/Gérard 1965, 33.

⁶⁰¹ Deroy/Gérard 1965, 34.

⁶⁰² Bennett 1956, 107.

⁶⁰³ Lejeune 1974 [1976], 82.

It becomes apparent that several stages were necessary in assembling such complex documents as the land holding tablets at Pylos. Hand 1 is involved in most of the steps, especially the more complex ones that involve summarizing and adding, that probably took place in the palace. Hand 41, after having compiled the original information, in the end adds the number for the total acres in line 1 of the final summarizing document Ed 411.

After he had written the longer compilations, Hand 1 had the habit of cutting off the surplus clay at the bottom of the tablet. He did so in Ep 704, too. Bennett noticed that the cut piece of clay had not been reused but found blank and unshaped by archaeologists. He concludes that the copying of Ep had taken place very shortly before the palace was destroyed, so there was no time or chance to remodel the excess clay.⁶⁰⁴

5.5.3 Eb/Ep tablets

The tablets from the Eb/Ep series all treat *ke-ke-me-na ko-to-na* 'public land' properties. 93 tablets and tablets fragments belong to the Eb series.⁶⁰⁵ They fall into different categories depending on their content and on their formulaic structure: we find tablets that refer to the properties of the *ko-to-no-o-ko*, tablets that refer to the leases of the numerous *te-o-jo do-e-ro/a*, the leases of a number of people with different occupations and the distribution of *ka-ma*-properties. Eb 818, Eb 495 and Eb 338 are longer sentences, the meaning of which is not fully understood. In comparison to the other tablets of the series they exhibit a unique structure. Notably, they can be seen to be placed at the beginning (Eb 818 and Eb 495) and the end (Eb 338) of the tablet when they were transferred onto the longer Ep tablets. Almost all the tablets of Eb have two lines of text (except Eb 818 which is a heading and some very fragmentary texts). The tablets regarding the usual leases of *ke-ke-me-na ko-to-na* land all exhibit a very regular structure. These comprise mostly one, sometimes two entries.

⁶⁰⁴ Bennett 1956, 109.

⁶⁰⁵ Del Frio 2005, 84.

The Ep tablets are longer, page-shaped tablets. They were written by Hand 1 by copying the information on the Eb tablets and sorting their content. Several of the very uniform Eb entries are taken together to form one longer tablet. There are six Ep tablets. The structure of the Eb and Ep texts is largely the same, but there are a few modifications in the Ep tablets the purpose of which we do not always understand. The criterion of order is the structure of the entry and the qualifier of the leaseholder. The texts were transferred in a meaningful order with lines of similar content being placed close together in the Ep series. Of course, already the Eb series might have been ordered this way but their preservation is too fragmentary and their distribution in the archive too widely spread to be able to prove this. As the text is largely the same, it is possible to discuss its structure using both series because they complement each other with Ep often providing us with information that is lost in Eb. For the structure of the entries, take as an example Ep 212.1:

re-ka , te-o-jo , do-e-ra | o-na-to | e-ke | ke-ke-me-na , ko-to-na | pa-ro , da-mo | to-so pe-mo GRA
T 6

The entries listing the properties of the numerous *te-o-jo do-e-ro/a*, most frequent among the Ep tablets, have the following general structure:

PN OC | *o-na-to | e-ke | ke-ke-me-na , ko-to-na | pa-ro , da-mo | to-so , pe-mo GRA NUM*

PN OC | *onato | has | of kekemna kotona | from the damos | of so much seed GRA NUM*

In all the texts, the first word is – as Bennett has phrased it – the most variable and at the same time the most essential word in the text: it is the name of the tenant whose properties or leases are described.⁶⁰⁶ This name is in the nominative singular and must be seen as the referent of the phrase.⁶⁰⁷ The first word does not necessarily need to be a personal name. In rare cases, it can also

⁶⁰⁶ Bennett 1956, 105.

⁶⁰⁷ It is not sure whether he or she can be seen as the grammatical subject of the phrase or more as an apposition. If one takes *e-ke-qe* as an *ἐχει + τε*, it would be sensible to translate something like ‘He is called/This is PN, he is OCCUPATION, and he has...’. But however one interprets the first word, it does not change the meaning of the sentence.

be an occupational title such as *i-je-re-ja* 'priestess' (Eb 339).⁶⁰⁸ A personal name could be further specified by a title in the second position such as *te-o-jo do-e-ra* 'servant of the god'. This is followed by the word *e-ke* 'he/she has', then the noun *o-na-to* which denoted a piece of leased land and the phrase *ke-ke-me-na ko-to-na* which needs to be read as a genitive and further specifies the type of land. In many cases, this administrative (and probably legal) term was further specified by *pa-ro da-mo* 'from the *damos*'. This explained that *ke-ke-me-na ko-to-na* land was leased from the *damos* directly. The tablets are always concluded by the phrase *to-so pe-mo* 'so much seed', the ideogram GRA and the amount of wheat used to describe a surface. While there is room for a certain variation in between these two pieces of information, the name/title at the beginning and the phrase denoting the area are absolutely necessary and the most important part.

Two tablets in the Ep series have a different structure than the very regular remaining tablets: Ep 301 and Ep 613. Ep 301 lists the properties of the twelve *ko-to-no-o-ko*. Their title is mentioned in the text either in the form of a heading in the first part of the tablet or at the end of the entries in the second part. Their meaning seems to be similar, but why their structure is different is not known. The tablet can be seen in Catalogue 9. I will exclude these entries for the purpose of this study, but it should be remarked that they basically contain the same types of information as the regular entries, only in a different presentation.

Ep 613 lists the entries of *ka-ma* land. It is much more irregular in structure. It is not sure whether this irregularity is due to difference in land tenure or due to a lack of ordering, but it is very remarkable when one compares the effort taken by Hand 1 to make things regular in the other tablets of the Ep series. *Kama* land is a special type of land tenure that might have been governed by more complex rules. We find the following variations in formula

- *ka-ma* , *e-ke-qe* (Ep 613.6)

⁶⁰⁸ Because there is no name attached, one can assume that there was only one person of this occupation who was known to the scribes so that the identity was made clear enough by the mentioning of the occupational title alone.

- *ka-ma-e-u , o-na-to e-ke* (Ep 613.7)
- *o-na-to , e-ke , ka-ma-e-u* (Ep 613.8)
- *e-ke-qe [ka-]ma , o-na-to* (Ep 613.9) and *[e-]ke-qe , ka-ma , o-na-to* (Ep 613.10)
- *e-ke-qe , ka-ma* (Ep 613.11)
- *ka-ma-e-u , e-ke-qe* (Ep 613.13)

Ventris and Chadwick state that *e-ke ka-ma* ‘he has a *kama*’, *e-ke o-na-to ka-ma-e-u* ‘he has an *onato* as a *kamaeus*’ and *e-ke o-na-to ka-ma* ‘he has an *onato* [of the type] *kama*’ should be seen as synonymous. They do not provide an explanation for this variation.⁶⁰⁹ In four cases (Ep 613.6.7.9.13), this formula is followed by the obligation to be fulfilled, noted in the word *wo-ze-qe* ‘and he/she works’. Only *sa-sa-wo* in Ep 613.8 treats his piece of land in a different way (*e-pi-qe , to-me , te-ra-pi-[ke]*).

5.5.4 Eo/En tablets

The Eb/Ep tablets can be compared to the Eo/En tablets that refer to the same place but a different type of landholding. The thirteen Eo tablets, written by Hand 41, were later copied onto the larger En tablets by Hand 1 similar to the procedure of the Eb/Ep tablets (see Catalogue 8 for the complete En tablets). Both sets refer to the *ko-to-na ki-ti-me-na* ‘private’ land of the *pa-ki-na-ni-ja* district mentioned in line 1 of En 609.⁶¹⁰ They are thus complementary to the Eb/Ep tablets. In contrast to the very short Eb tablets with only one entry, most of the Eo tablets contain several lines of texts, each line with one entry. While the ordering of the Eb tablets can only be securely inferred from the Ep tablets, the texts of the Eo tablets have already been ordered to a certain degree by the scribe.

⁶⁰⁹ Ventris/Chadwick 1973, 262-263.

⁶¹⁰ Ventris/Chadwick 1973, 241.

Six out of thirteen Eo tablets consist of more than one entry and give a list of persons. Of the longer texts, one tablet was used for one lessor and his corresponding lessees, thus reflecting clear properties of land holding.

An example for a typical Eo tablet that was later transferred to En is Eo 211.1.2 (copied on En 609.3-5):

- | | | |
|----|--|------------|
| .1 | <i>wa-na-ta-jo-jo</i> <i>ko-to-na</i> , <i>ki-ti-me-na</i> | GRA 2[V 1 |
| .2 | <i>a-tu-ko</i> , <i>e-te-do-mo</i> <i>e-ke-qe</i> <i>o-na-to</i> <i>pa-ro</i> , <i>wa-na-ta[-jo]</i> | GRA [V 1 |
-
- | | | |
|----|--|------------|
| .1 | Of Warnatajos <i>ko-to-na ki-ti-me-na</i> | GRA 2[V 1 |
| .2 | Atychos, the armorer (??) and he has an <i>onato</i> from Warnatajos | GRA [V 1 |

The tablets all follow the same general structure: in the first line, we can read the name of the owner of the first level in the genitive (marked bold) followed by the phrase *ko-to-na ki-ti-me-na*, the ideogram GRA and a number. The denomination of the type of land is the subject of the text and the central element. Although it is always omitted in the texts, we know from the heading of En 609.2 that the owners of the first line were *te-re-ta*. The *to-so-de pe-mo* phrase is regularly omitted in the Eo tablets; it has to be inferred from the context. The first line serves as heading for the subsequent lines. Each line contains one entry for one **o-na-te* ‘lessee’ who leases land from the *te-re-ta* in the first line. Eo 211, for example, recalls as the name of the lessor a certain *wa-na-ta-jo*. He gives four parts of his property to lessees (cf. above): *a-tu-ko*, the *e-te-do-mo*, and three *te-o-jo do-e-ro/a* ‘servants of god’ (with names *i-ni-ja*, *e-*65-to*, and *si-ma*). The structure of the lessees’ entries is following

PN OC | *e-ke-qe* | *o-na-to* | *pa-ro* PN | GRA NUM

PN OC | has | an *onato* | from PN | in the size of NUM

Hand 1 copied the text onto the En tablets. His compilations are written on larger, page-shaped tablets. He largely adhered to the order of Hand 41 but slightly modified the layout of the texts and merged several tablets into longer tablets. He also slightly restructured the texts by adding information or grouping them into headings. Through this, he combines several of the shorter Eo tablets in larger summarizing tablets. He also occasionally adds information such as the royal (*wa-na-ka-te-ro*) affiliation of *a-tu-ko*. Hand 1 must infer this information from his world knowledge of the society he is living in. This requires an extensive knowledge of the properties and affairs of the palace including the identity of the personnel, their status and their responsibilities. The following is En 609.3-5 that corresponds to Eo 211.1.2 above:

.5 Atychos, the royal armorer (??) | *onato* | he has | of so much seed

In contrast to Hand 41, Hand 1 does not repeat the name of the lessor in each line. Instead, after having added an overall heading that refers to the whole series, he chooses to write a more detailed heading for every group of leaseholders. It consists of the name of the principal owner of the *ko-to-na ki-ti-me-na* land in the genitive followed by the phrase *ko-to-na ki-ti-me-na* ‘private land’. He then adds *to-so-de pe-mo* ‘so much seed’ which Hand 41 had omitted, probably as a method of abbreviation, but Hand 1 takes the time to write down the full formula, completed by the ideogram GRA and the numbers. Instead of writing *pa-ro* PN ‘from PN’ in every line, he chooses to sum up this information in one heading for each paragraph in what Bennett calls a “collective reference” (compare line 4 of En 609).⁶¹¹ It is most important in the tablets to note down the process of land transfer between two persons or between one person and the *damos*. This is done by contrasting the lessee at the beginning of the line with the lessor at the end of the line. The En tablets stress this procedure by adding the following formula directly after the heading and before the entries

o-da-a₂ | o-na-te-re | e-ko-si | PNgen | ko-to-na

The word order in this formula seems to be flexible to a certain extent. In En 609.11 we find the variation

o-da-a₂ | e-ko-si | a-]ma-ru-ta-o | ko-to-na | o-na-te-re

o-da-a₂ is a so-called particle chain, a sequence of small words that bear only little meaning in themselves, but are used to connect pieces of texts. Here the word makes a reference to the heading in the first line and aligns the new information with the knowledge already present. It also serves to connect the first part of the text, the heading, to all the subsequent entries of the paragraph. Particle chains were lost in later Greek, but are known from Hittite.⁶¹² Because the type of *ko-to-na* is already known from the first line, the scribe can omit its specification in the second line and writes only *ko-to-na*.

⁶¹¹ Bennett 1956, 109.

⁶¹² Salgarella 2019, 203.

This is followed by the list of the lessees, the *onatore*, in the standard formula.

PNnom OC | *o-na-to* | *e-ke* | *to-so-de*, *pe-mo* GRA NUM

As Salgarella showed, the particle chain *o-da-a₂* seemed to be used to link entries that referred to the same type of transaction.⁶¹³ In the case of the En tablets, it connects both groups of persons relevant to the land holding in Pylos, the owner of the *ko-to-na* with his *o-na-te-re*.⁶¹⁴ It could be seen as an instrument to bestow textual coherence to these tablets.⁶¹⁵

5.5.5 The order of the page-shaped En and Ep tablets

The tablets of the Eb/Ep and Eo/En series depict a very concise and highly formulaic pattern. The scribes took in general effort to make the tablets fairly regular. When words are omitted, it is not always clear whether this is because this word did not apply here or because it was so obvious that it could be inferred from context. There seems to have existed a full formula for every type of landholding but frequently the scribes do not bother to write out the complete formula and instead use abbreviations of various kinds. These abbreviations provide us with valuable hints towards which words the scribes judged to be essential for the text in order to be understood and which words could be omitted because they could be inferred from the general knowledge of the other scribes. Besides from the internal structure of the text, the order of the tablets provides information about the organizational principles of the Mycenaean scribes.

The Pylos E tablets give us the rare opportunity to compare at least two stages of Mycenaean bureaucracy: the ad hoc texts of the Ea and Eb tablets, the final compilations of the En and Ep tablets and the Eo tablets with their somewhat miscellaneous character that might depict an

⁶¹³ Salgarella 2019, 211.

⁶¹⁴ Del Freo 2005, 112.

⁶¹⁵ Dressler 1973, 16; Ehlich 2007, 6. Two terms are used in text linguistics to refer to adjacent concepts: cohesion and coherence. In classic texts about this topic (Halliday/Hasan 1976, 333-338), it is assumed that cohesion, that is linguistic means in the narrow sense such as ellipsis or certain particles, is central to a text. More recent approaches suggest that a text can be coherent without the various methods of cohesion by the use of schemata, but cohesive elements can help the reader to grasp the coherence. (Brown/Yule 1983, 197; Bakker/Wakker 2009, xiv.)

intermediary stage of tablet production. Additionally, we have the Ed tablets with their very brief summaries of the registered lands of the En and Ep tablets. Especially the comparison between Eb/Ep and Eo/En provides us with interesting insights about the methods of ordering internally to the tablet series. Within the series, different methods of ordering can be recognized, depending both on form and content. From the tablets in the Eb and Eo series, we would not be able to restore this order because they consist of only short tablets, often in a highly fragmented state. Through the lucky fact of their transcription into longer Ep and En sets and their preservation, we can partly reconstruct this original order. In these page-shaped tablets, the shorter notes of Eb and Eo were summarized according to a purposeful plan, sorting them in categories depending on various degrees of similarity in formula. Bennett and Palmer have attempted to sort the longer tablets in their original order.⁶¹⁶ Hints towards this are provided through clearly identifiable headings and cuttings which at least give us a relatively secure understanding of the first and the last tablet of each series. I will focus on the order of the Ep and En series. A possible divergence in order in the Eo series is discussed by Bennett.⁶¹⁷

The Ep and En series were thought to be read together, both referring to the lands of *pa-ki-ja-ne* and both introduced by two summarizing lines on En 609.1-2. Nevertheless, the texts can be separated into two distinct series with the character of the land holding being the main criterion of order. *ko-to-na ki-ti-me-na* land was treated in the En tablets and *ke-ke-me-na ko-to-na* land in the Ep tablets. This separation according to type of land seems to have been the most important factor in ordering the tablets within the landholding texts.

5.5.5.1 *The order of the En tablets*

As Bennett has shown, there is one logical order according to which the tablets of the En subseries were arranged. This is equally due to form and content. This sequence was established by Bennett to be:

⁶¹⁶ For the En tablets cf. Bennett 1956, 117. For the Ep series cf. Palmer 1963, 199.

⁶¹⁷ Bennett 1956, 123.

En 609 – En 74 – En 659 – En 467.⁶¹⁸

This order is given in Catalogue 8. He deduced this from the structure of the text and the co-occurrence of personal names that show natural transitions between the texts. En 609 contains the heading and must be the first tablet.⁶¹⁹ After that, the tablets were ordered first, according to their general structure following the principle of decreasing complexity.⁶²⁰ After the introductory phrase, that is not preserved in the Eo tablets and which probably was written up in the arrangement of the En tablets, Hand 1 decides to first list all entries which have one *te-re-ta* together with more than one **o-na-te* 'lessee', that is the longer Eo tablets (En 609, En 74 and the first paragraph of En 659). Each group is separated from the next by a blank line, so that their togetherness is easily visible. This is followed by the shorter entries that refer to one *te-re-ta*, who gives land to only one **o-na-te* (rest of En 659) and last by three short notes about one *te-re-ta* each without *o-na-te-re* (En 467). En 467 can be seen to be the last tablet because it is cut off at the end.⁶²¹

A further principle of order within the paragraphs might lie in the qualifiers of the persons. As all of the owners of *ko-to-na ki-ti-me-na* are known to be *te-re-ta* although this is not usually mentioned (except in En 609.15 when *wa-na-ta-jo*, the *te-re-ta*, is mentioned as lessee himself), they can be regarded to be of a similar social standing. For this reason, an ordering according to their qualifiers would not make sense. The order of the texts, as we would recognize it, would therefore be oriented according to the lessees. The most obvious criterion would be their qualifier. There are signs for ordering according to the qualifiers (as in En 609.5 where *a-tu-ko* the *e-te-do-mo* is mentioned first), but they are relatively scarce and inconsistent.

Bennett further remarks that a third principle of order consisted in the re-occurrence of personal names.⁶²² As such, names that referred to the same persons can be seen to be grouped closely

⁶¹⁸ Bennett 1956, 117; Lejeune 1974 [1976], 113, inverts the last two tablets.

⁶¹⁹ Bennett 1956, 117.

⁶²⁰ Palmer 1963, 196.

⁶²¹ Palmer 1963, 196.

⁶²² Bennett 1956, 117.

together in subsequent entries so that each paragraph quasi naturally leans against its neighbour. The first paragraph, for example, refers to the *te-re-ta* named *wa-na-ta-jo* and his *o-na-te-re*. This same *wa-na-ta-jo* is an **o-na-te* of *a-ma-ru-ta* himself in the next paragraph. Between the last paragraph of En 609 and the first of En 74 there is no co-occurrence which might be because they were separated into two tablets. Between the three paragraphs of En 74, however, are three co-occurrences: *pe-ki-ta* in the first and the third paragraph, *e-ko-to* in the first and the second paragraph and *ko-ri-si-ja* in the first and the third paragraphs. In En 659, the connecting element is a person called *ta-ra₂-to*, the servant of the god, who leases properties from *qe-re-qo-ta*, *a-da-ma-o* and *a-i-qe-u* in three subsequent paragraphs. This cannot be coincidental and it is probable that these paragraphs were not arranged only to the formal similarity of names but rather through the knowledge that these people were identical. The tablets therefore follow a logical order that is dictated by their structure as well as by the identification of their persons.

5.5.5.2 *The order of the Ep tablets*

The order of the Ep tablets is more difficult to obtain. The full texts with their possible order are shown in Catalogue 9. Tablets Ep 613 and Ep 301 each begin with an irregular phrase. In Ep 613, the lists of owners of *ka-ma* land is introduced and in Ep 301 the list of *ko-to-no-o-ko*. These headings were retrieved from two short tablets, Eb 495 and Eb 818 respectively. It can be assumed that one of these should be the first tablet. As Bennett remarks, it is not sure whether *ka-ma* land was regarded as part of the normal *ke-ke-me-na ko-to-na* ‘public land’.⁶²³ Palmer positions Ep 301 in the first place, mainly because its position in all other places can be excluded.⁶²⁴ All entries of tablets Ep 212 and Ep 705 refer to *o-na-te-re* ‘lessees’ whose title or occupation is *te-o-jo do-e-ro/a* ‘servant of god’. It would make sense to read these together. Ep 539 begins with a list of *te-o-jo do-e-ro/a*, but from line 7 continues with people of different occupation. Within Ep 539, entries for the same person or for persons referring to the same secondary person can be found next to each

⁶²³ Bennett 1956, 122.

⁶²⁴ Palmer 1963, 199.

other. In lines 4 and 5, for example, we find the name *po-so-re-ja* with two references. Lines 10-12 are occupied by three different persons who share their description as being servants of *a-pi-me-de*. The same *a-pi-me-de* can probably be found in the last line. It is usual that servants are named before their master. That he is separated from his servants by one line with a different person (*we-te-re-u*) must probably be because his entry follows an unusual structure, referring to the special type of land named *e-to-ni-jo*. Apparently, the structure of the formula governs its order, with the name of the person being a secondary criterion. As Ep 613 ends with a paragraph containing entries about *te-o-jo do-e-ro/a*, it is feasible to associate it in direct neighbourhood with Ep 705 and Ep 212. Which of these came first cannot be deduced from the tablets as we are lacking recurring names. They would have been followed by Ep 539 and then by Ep 704. Ep 704 is cut off at the end and must be the last tablet.⁶²⁵

Thus, the order of the Ep tablets should be

301 – 613 – [705 – 212] – 539 – 704

The governing principles therefore are (in this hierarchy):

- the structure of the formula
- the title or occupation of the lessees
- the identity of the lessees as known from their names.⁶²⁶

The Eb/Ep and Eo/En subseries that have been discussed in the previous section display a clear system of ordering of information according to type of land on a first level and lessors and lessees on a second level. This principle of arrangement is reflective of their advanced administrative stage. The following section will introduce the Ea subseries as a comparison. It shares the general topic of landholding and similarities in formulae with the previous subseries, but its writing procedure and

⁶²⁵ Palmer 1963, 199.

⁶²⁶ Palmer 1963, 199.

probably also the stage of administration is different from its counterparts which makes it a valuable object of comparison.

5.6 Ea tablets

The texts of the Ea subseries are closely related to the Eb/Ep and Eo/En series in form as well as in structure. The 67 tablets (or 66 if Ea 336 and Ea 1042 really belong to the same tablet) of the Ea series were written by Hand 43.⁶²⁷ They are long, narrow tablets with one line of text in general. When the scribe ran out of space, he would often place one or two words above the actual line.⁶²⁸ Thus, one tablet contains one entry each (except for Ea 59 and Ea 481).⁶²⁹ Central to the meaning of the tablets are again the first word denoting the lessee of the land, which is written in larger letters in the Ea texts in order to stress its importance, and the end phrase with the ideogram GRA and a unit.⁶³⁰ With their short, single-lined entries, the Ea tablets resemble very much the preliminary documents of the Eb tablets (and also, to a certain extent, the Eo tablets, although they are already grouped into short paragraphs). In contrast to Eb and Eo, we do not have any summarizing tablet preserved (similar to the Ep and En tablets; except maybe for the unclear Ea 59).⁶³¹ It can be assumed that the texts in the Ea tablets were being processed in order to be grouped into longer, page-shaped tablets in the last phase of the palace of Pylos. Presumably, this work was interrupted and ultimately ceased by the destruction of the palace.⁶³² That they were not in their final state, can also be deduced from their location in the ante-room of the archive of half of the tablets.⁶³³

⁶²⁷ Bennett/Olivier 1973, 90-91.

⁶²⁸ Bennett 1956, 104.

⁶²⁹ Lupack 2017, 348.

⁶³⁰ Bennett 1956, 104.

⁶³¹ Deroy/Gérard 1965, 44.

⁶³² Lejeune 1974 [1976], 83.

⁶³³ Lupack 2017, 348.

5.6.1 Location of the parcels in the Ea tablets

We know from the texts and the re-occurrence of names that the Eb/Ep and Eo/En tablets all referred to the Pylian district with the name *pa-ki-ja-na*. The only name analogy between this set and the Ea tablets is the name *o-pe-te-re-u* that appears in tablets Ea 805 and Eb 294/Ep 704.1 where he is listed in the context of ‘an expedition’ (*e-ne-ka a-no-qa-si-ja*) and as having been repaid (*qe-ja-me-no*).⁶³⁴ Because there is no other concurrence of names between these series, it was concluded that the Ea tablets referred to the land holdings of a different Pylian district. No name of a district is, however, named directly in the tablets. It is not sure whether this is due to the chance of survival or whether it is due to a different administrative procedure. Ventris and Chadwick suggest that only the name of the district closest to Pylos (and maybe identical with it) could have been written.⁶³⁵ It might also be because the headings were only added when the small tablets were assembled in the larger documents. Researchers had to find another way to identify the locality and until now it is not fully secure. Palmer detected two cross-references of names in the tablets: *ke-re-te-u* who is named three (probably four, if one adds the misspelling of the first line) times in the longer and thus irregular tablet Ea 59 can be found in Xa 565; and *du-ni-jo* of the same Ea tablet appears in Fn 79.3.⁶³⁶ Here, he is associated with the word *ti-ni-ja-ta* that is thought to be an ethnic from *ti-ni-ja* ‘referring to *ti-no*’ which would therefore be a place name.⁶³⁷ It is because of this tablet that Palmer identifies the place of the Ea tablets with the district *ti-no*.⁶³⁸ Lupack adds further that in An 18.9-11, *ti-no* is listed above *pa-ki-ja-ne*. This normally hints towards their

⁶³⁴ Nikoloudis 2012, 287, fn. 15 translates ‘manslaughter’ instead of ‘expedition’. It is, however, regarded more probable to translate *ana-basia ‘expedition’ rather than *andro-phasia ‘manslaughter’ (Aura Jorro 1985, 69).

⁶³⁵ Ventris/Chadwick 1973, 241.

⁶³⁶ Palmer 1963, 220; Nikoloudis 2012, 287.

⁶³⁷ Aura Jorro 1993, 349.

⁶³⁸ Palmer 1963, 220.

geographical proximity. De Fidio agrees with that.⁶³⁹ *ti-no* would therefore be located close to *pa-ki-ja-ne* and the palace of Pylos.⁶⁴⁰

5.6.2 Structure of the Ea tablets

The Eb series refers to *ke-ke-me-na ko-to-na* and the Eo series to *ko-to-na ki-ti-me-na*. This is a very clear principle of order applied to these landholding tablets. This separation is kept up in their subsequent series Ep and En. It seems to be fundamental to the scribe's categorization. The Ea tablets do not (yet?) show such a separation. We find texts referring to both types of landholdings. But in contrast to the Eo tablets that refer to *ki-ti-me-na* and which are already sorted according to lessors and therefore in many cases result in texts with more than one line, the texts of Ea are (still?) in one line of text, according to the individual identity of their lessees.⁶⁴¹ The principle of order seems to be a different one: according to identity of the lessees, not type of land.⁶⁴² The general system of land holding, however, seems to be similar to that of *pa-ki-ja-ne*: the *damos* or individuals own *ke-ke-me-na* or *ki-ti-me-na* land respectively on a first level and can lease out *o-na-ta* 'plots' to other individuals on a second level.⁶⁴³ A main problem for our understanding of the Ea texts is their abbreviated nature. We have various signs of ellipsis in the Eb and Eo texts as well. But in these cases, we have the compiling series Ep and En.⁶⁴⁴ We can complete the abbreviated version with the information from the more detailed record. This kind of help is not available in the Ea tablets. As the tablets do not usually give the full formula, we must here rely on deductions based on the parallels in the other E tablets and on internal analogies.

⁶³⁹ De Fidio 1987², 143.

⁶⁴⁰ Deger-Jalkotzy 1988², 119; Lupack 2017, 349-350. Deroy and Gerard make a connection to the district of *me-te-to* because the herdsman *ko-do* appears in Ea 71, 754, 803, 824 and 825 as well as in Vn 130 where is he associated with *me-te-to* (Deroy/Gérard 1965, 32). Aura Jorro, however, doubts that the persons in the Ea and the Vn tablets are identical (Aura Jorro 1985, 371).

⁶⁴¹ Lejeune 1974 [1976], 83.

⁶⁴² Deger-Jalkotzy 1988², 101.

⁶⁴³ Lupack 2017, 348.

⁶⁴⁴ Lejeune 1974 [1976], 84.

A variety of expressions is used to denote the type of land. The *ki-ti-me-na* ‘private’ lands show a relatively clear classification: they are either directly called *ko-to-na ki-ti-me-na*⁶⁴⁵ or they refer to a certain *te-re-ta*.⁶⁴⁶ Because we know that a *te-re-ta* functions as landlord only in the Eo/En tablets, we can assume that if a type of land belonged to a *te-re-ta*, this was *ko-to-na ki-ti-me-na* land. The groupings of the *ke-ke-me-na* ‘public’ land are more varied and more complicated. They can either be called *ke-ke-me-na ko-to-na*⁶⁴⁷ or they are given out by the *damos*.⁶⁴⁸ Because only *ke-ke-me-na* land belongs to the *damos* directly, we can assume that land given out by the *damos* must be *ke-ke-me-na* land. Or it is *ka-ma* land.⁶⁴⁹ Or a certain land is directly referred to *ke-ke-me-na* land.⁶⁵⁰ Or – finally – a piece of land belongs to an owner who is securely defined as owner of a *ke-ke-me-na ko-to-na* in another tablet.⁶⁵¹ To conclude: Lejeune assigns 12 tablets to the *ki-ti-me-na* land and 44 to *ke-ke-me-na* land; he judges 18 to be non-classifiable.⁶⁵²

5.6.3 The writing procedure of the Ea tablets

The Ea texts give evidence of the writing process of the tablets. Various aspects such as their position in the archive, the completeness of the series, a calculation of numbers by the scribe on one of the tablets, inconsistencies in writing and the principle of abbreviation testify to the early stage of writing of the tablets and make them appear like ad hoc notes, different from the more planned procedure in the previous sets.

⁶⁴⁵ As in Ea 71, Ea 756, Ea 781, Ea 817, Ea 821.

⁶⁴⁶ As in Ea 56, Ea 304, Ea 439, Ea 754, Ea 782, Ea 800, Ea 825.

⁶⁴⁷ As in Ea 59.2, Ea 59.3, Ea 305, Ea 480, Ea 757, Ea 801, Ea 802, Ea 806, Ea 809, Ea 922, Ea 1042.

⁶⁴⁸ As in Ea 52, Ea 59.4, Ea 59.7, Ea 136, Ea 258, Ea 259, Ea 460, Ea 773, Ea 778, Ea 808, Ea 816, Ea 824, Ea 803.

⁶⁴⁹ Ea 28, Ea 309.

⁶⁵⁰ As in Ea 59.1, Ea 59.4, Ea 59.5.

⁶⁵¹ For example, in tablet Ea 270 as in Ea 305, Ea 757, Ea 802; tablet Ea 421 as in Ea 809; tablets Ea 109, Ea 132, Ea 481.2, Ea 776 as in Ea 480 and Ea 59.3; tablets Ea 481.1, Ea 771, Ea 799, Ea 813, Ea 820 as in Ea 801; tablets Ea 29, Ea 827 as in Ea 816; tablet Ea 805 as in Ea 59.5.

⁶⁵² Lejeune 1974 [1976], 85.

5.6.3.1 Distribution of Ea tablets in the AC

The distribution of the E tablets within the archival rooms at Pylos was discussed by Del Freo.⁶⁵³ It is difficult to recognize patterns in the find spots of the tablets, but I will briefly present the distribution of series Ea because it suggests the scribes' late dealing with that series.

Table 4 Series Ea - Distribution of fragments in the Archives Complex (after del Freo 2005, 73).

Grid square	11	12	13	14	22	23	26	31	32	53	54	64	65	74	75	84
Number of fragments	9	7	15	1	7	5	1	3	4	1	1	50	1	2	1	2

The Ea tablets are distributed roughly equally over both rooms of the Archival Complex (52 fragments in Room 8, 58 fragments in Room 7; cf. Table 4 and Figure 32). While the tablets in the actual archival Room 8 are more widely scattered (with a larger heap in 13), the tablets in Room 7 are closely associated in grid square 64. This tight assemblage suggests that the tablets were stored in a basket on the floor awaiting processing similar to other series such as Aa. Aa actually shows a similar distribution of tablets in the archive with two minor bulks scattered in 64 in the ante room 7 and in 13 in Room 8. The Aa tables are known to show a relatively clear distribution according to province with tablets referring to the Further Province being stored in Room 8 (so-called Minor Aa, written by Hand 4) and tablets referring to the Hither Province in Room 7 (so-called Major Aa, written by Hand 1).⁶⁵⁴

One would expect a similarly meaningful distribution also for the Ea tablets as their distribution is definitely not due to the chance of the destruction of the palace.

All tablets were written by Hand 43, so the identity of the scribe is not a discriminating factor in this case. In the comparison of both sets of tablets, del Freo could not find differences either in the personal names or the qualifiers, the formulae or the amounts of grain.⁶⁵⁵ Because no differences are apparent to us, Pluta assumes that the only difference between both sets of Ea in Room 7 and

⁶⁵³ Del Freo 2005.

⁶⁵⁴ Chadwick 1988, 44.

⁶⁵⁵ Del Freo 2005, 74.

8 might be that of their temporal arrival in the archive, that is the set in Room 7 having arrived at a later point.⁶⁵⁶ The Ea tablets in the ante-room 7 were further associated with the label Wa 784 which reads]*q-na-te-ṛe*[and *ko-to-na-o* and must relate to the land holding tablets.⁶⁵⁷

IMAGE REMOVED

The image originally presented here cannot be made freely available via ORA because of copyright. The image was sourced from Plan from Palaima 2011, 61, Fig. 12.15; find spots from Bennett/Olivier 1976; plotting by the author.

Figure 32 The distribution of the Ea tablets in the Archives Complex of Pylos. Plan is superimposed with a grid in metre and decimetre squares. Tablet fragments marked red were dislocated in the Chasm (Plotting by the author. Plan from Palaima 2011, 61, Fig. 12.15. Find spots according to Bennett/Olivier 1976).

⁶⁵⁶ Pluta 1996-1997, 249.

⁶⁵⁷ Del Frio 2005, 75.

5.6.3.2 Completeness of the Ea set

The entries on the tablets of the Ea series add up to an area of GRA 85 T 2 V 5.⁶⁵⁸ The parcels on the Ea tablets differ in size from the other series. Whereas in the En series, the *ki-ti-me-na* parcels are usually between GRA 1-3 in size, the Ea plots are somewhat larger (GRA 1-6).⁶⁵⁹ That means, land is divided between fewer persons. Three lessees stand out due to the large size of their estates: *ke-re-te-u* (more than GRA 15), *ta-ra-ma-ta* and *sa-ke-re-u* (both more than GRA 6). Most of the tenants (sixteen individuals) own between GRA 1 and GRA 3 T 5.⁶⁶⁰ The tablets are, however, fragmentary: some tablets lack essential information like the name of the tenant (e.g. Ea 59.1 or Ea 1000) or the area covered (e.g. Ea 57 or Ea 258). Deger-Jalkotzy concludes that only 46 tablets of the 66 are preserved with the full formula including the numbers. These sum up to an area of GRA 64 T 1 V 1.⁶⁶¹ The remaining GRA 21 T 1 V 4 are attested as numbers but we do not know the character of the tenure.⁶⁶² Lejeune estimates that the total of the preserved tablets (including tablets that do not show numbers any more) would be around GRA 100. This compares well to the area covered by *pa-ki-ja-ne* which can be deduced from the sum of the numbers given in Ed 411: GRA 44 T 2 + GRA 58 T 2.⁶⁶³

As we do not have any compiling tablets for the Ea texts, we must rely on other pieces of information that provide us with hints towards their status. One of these pieces was written by Hand 43 on the reverse of tablets Ea 59. This tablet might also give us an idea about the writing procedure of the tablets.

The reverse of tablet Ea 59 (which carries the irregular list of six tenants on its obverse) depicts a list of numbers, arranged in a table-like fashion (see Figure 33). It contains a square of four to seven numbers. A schematic sketch of this is shown in Figure 34. The first six columns depict the number

⁶⁵⁸ Deger-Jalkotzy 1988², 98.

⁶⁵⁹ Lejeune 1974 [1976], 88; Nikoloudis 2012, 290.

⁶⁶⁰ Lejeune 1974 [1976], 111.

⁶⁶¹ Deger-Jalkotzy 1988², 98.

⁶⁶² Deger-Jalkotzy 1988², 99.

⁶⁶³ Lejeune 1974 [1976], 88.

IMAGE REMOVED

The image originally presented here cannot be made freely available via ORA because of copyright. The image was sourced from <https://calibra.classics.cam.ac.uk/Images/Tablets/Pylos/Large/112.1.jpg> (accessed 10 November 2023).

Figure 33 Tablet Ea 59 verso with calculation (from <https://calibra.classics.cam.ac.uk/Images/Tablets/Pylos/Large/112.1.jpg> [10.11.2023]).

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The image originally presented here cannot be made freely available via ORA because of copyright. The image was sourced from Bennett/Olivier 1976, 83.

Figure 34 Reverse of Ea 59 (Bennett/Olivier 1976, 83).

‘five’ 24 times. The number five is written as a bundle of five vertical strokes.⁶⁶⁴ Each line is then ended by the numbers 2 – 3 – 2 – 3 in the last column.

The right edge is broken so we do not have the complete numbers. Beneath this geometric arrangement, the scribe wrote the summarizing entry GRA 137. It is generally agreed that this number refers to the total area of land discussed in the Ea tablets.⁶⁶⁵ We would then lack a bit more than half of the complete information of the original set.⁶⁶⁶ Del Freo calculates that more than 30

⁶⁶⁴ Lejeune 1974 [1976], 89.

⁶⁶⁵ Lejeune 1974 [1976], 89; Deger-Jalkotzy 1988², 99.

⁶⁶⁶ Deger-Jalkotzy 1988², 100.

tablets are missing, although it is not clear whether they were lost or had not yet been assembled.⁶⁶⁷ This entry can, however, be compared only to a limited degree to the summarizing tablet of Ed 411. Ed 411 with the addition of the *pa-ki-ja-ni-ja* land must have been written after the longer compilations of the Ep and En series were written down. It reflected the official and final total of land. The calculation scribbled on the reverse of Ea 59 seems more like a provisional note written down by Hand 43 to get an overview over the state of the land tenure in this district.⁶⁶⁸ It is of special importance to us, as the note not only gives us a probable total for Ea, but also shows a method of calculating used by the scribe.

Lejeune emphasizes the distribution of the signs for 'five'. They are neatly packed in their small bundles and then arranged in four lines that are clearly separated from each other. From this, one must infer that this arrangement is meaningful and that we should read them as separate entities.⁶⁶⁹ Lejeune from that reconstructs the method of calculation: first, the scribe would have counted all the entities of the unit GRA. Each GRA is one vertical stroke. He packs them in groups of five to facilitate the summation as we would do today. Then he counts the entities of the unit T and writes one stroke for ten T (as ten T are one GRA). He stores in his memory the remaining T. As one GRA is 60 V, it is not sure if he really calculated these units or just estimated or omitted them in his provisional calculation. As a final step, he would have summed up the bundles of GRA units and added the remaining T.⁶⁷⁰ The question remains why the scribe ordered the bundles in two lines. Lejeune suggests two possibilities. First, the scribe ordered the bundles of five on top of each other in order to read '10'. Thus, the first two lines would have been read together to add up to 70 (with completion of the damaged last column) and the last two lines would have been read together to add up to 67. The other possibility that Lejeune takes into consideration is that the scribe, in writing the tablets, used two baskets, one for *ki-ti-me-na* and one for *ke-ke-me-na* land, each with roughly

⁶⁶⁷ Del Frio 2005, 84.

⁶⁶⁸ Lejeune 1974 [1976], 89.

⁶⁶⁹ Lejeune 1974 [1976], 89.

⁶⁷⁰ Lejeune 1974 [1976], 90.

the same number of tablets. He would then have worked through both baskets, one after the other. The first two lines would reflect one basket, the other two lines the second basket.⁶⁷¹ In the second scenario, the procedure of calculation would show a close entanglement between cognitive processes and the materiality of the tablets.

5.6.3.3 *Writing the Ea tablets*

Lejeune suggests that a similar procedure could have taken place in the Eb and Eo tablets. Hand 41 would have separated his tablets into two baskets, one for Eb and one for Eo, and Hand 1 would have used these baskets for his final compilations. This would explain why some information about the type of land holding could be omitted from the tablets (as in Eo 268). It would have been apparent from the storage procedure.⁶⁷²

It is obvious that the tablets of the Ea series are more abbreviated and more irregular in their structure. For us, it is much more difficult to follow their content than in the Ep and En tablets. This indicates their more provisional nature, on the one hand, but also a very concise practice of reading and understanding on the part of the scribes on the other hand. According to Ruijgh, the scribes would not have needed two baskets; they would have been able to fill the lacunae in the texts alone from their knowledge of the tablets. In order to explain this, Ruijgh develops a refined system of omissions and additions which can only be explained in abbreviated form.⁶⁷³

Ruijgh's main assumption is that scribes could omit certain elements, but never the most essential ones. Elements that could be inferred from the context or that recurred frequently did not necessarily need to be written. This can be proven from other series as well. In the Aa series, for example, the toponym *pu-ro* was omitted because all the tablets of the set referred to Pylos. According to Ruijgh, the scribes made use of a certain "schéma cadastral".⁶⁷⁴ The cadastral schema would have implied all pieces of information that could be attached to the description of a land

⁶⁷¹ Lejeune 1974 [1976], 91.

⁶⁷² Lejeune 1974 [1976], 84.

⁶⁷³ Ruijgh 1984, 478.

⁶⁷⁴ Ruijgh 1984, 478.

holding. This involved various actors and types of land. The full formula for a land holding tablet of the second and third level in the Ea series would include:

- The name of the lessee in the first position
- The verb *e-ke/e-ke-qe* '(and) he/she holds'
- (if it is a retrocession) the word *o-na-to* 'plot'
- The type of land: *ke-ke-me-na ko-to-na/ko-to-na ki-ti-me-na*
- The lessor
- [in some cases: the repetition of the word *ko-to-na*]
- The ideogram GRA
- A unit of GRA

In general, in first level land holdings (directly held by *ktoinohochoi* or the *damos*) no landlord was included because the relevant person or institution was the landlord himself. The word *o-na-to* 'plot' referred only to texts of the second and third level. Because the structure of the texts follows the level they refer to, Ruijgh classifies them according to these categories (cf. chapter 5.3). The knowledge that a text pertained to a certain category, would have facilitated the understanding.

Not all of these were regarded as equally necessary for a full understanding of the text. Words could be omitted and the appropriate information would have been inferred from the rest of the text and the context. This was done in various and creative ways. The full schema was found only in one text of level III (Ea 480).⁶⁷⁵ All other texts must be regarded as elliptical versions. Texts could be abbreviated to such an extreme that their content would not even have been classifiable if it was not for the context, namely, the ideogram, the other tablets (or the pre-text) and maybe the order in the archive or possible labels. This is true for Ea 421 and Ea 810. In the following, I will present an overview over the various types of abbreviations in the Ea tablets. Following Ruijgh, I will give the abbreviations according to type of landholding.

⁶⁷⁵ Ruijgh 1984, 482.

5.6.3.3.1 Level I texts

Table 5 Texts of level I A (*ki-ti-me-na* land; text in bold letters is the standard formula; table based on Ruijgh 1984, 478).

Tablet	Beneficiary	Piece of land	Land type
Ea 71, 756, 781, 817, 821	GEN	ko-to-na	ki-ti-me-na
Ea 823	GEN	ko-to-na	
Ea 812	NOM e-ke	ko-to-na	
Ea 810	NOM		

The full phrase of the Level I texts required only the information regarding who owned the land in the first place and what type of land it was. All level I texts in the Ea series except for the irregular text Ea 922 refer to *ki-ti-me-na* land (see Table 5). The most common way to present these was to announce the owner of the land in the genitive at the beginning of the sentence (often specified by their occupational title), followed by the description of the land as *ko-to-na ki-ti-me-na*. *ki-ti-me-na* could be omitted because it was evident from the knowledge that land in the first level with a person's name must be *ki-ti-me-na* land. The genitive could be substituted by the phrase NOM *e-ke* with the same meaning. The most radical abbreviation is Ea 810 which only reads a name in the nominative. The scribe could omit *e-ke* and *ko-to-na* because it was obvious from the ideogram and the other tablets that he was referring to land ownership. Without the ideogram and the previous texts, this text would have been barely understandable. This extreme form of abbreviation was, however, not done frequently.

There is only one tablet that refers to what Ruijgh denotes as category I B, that is, *ke-ke-me-na* land on the first level which directly belongs to the *damos*.

Tablet Ea 922 reads

Ea 922 { .a *a-pi-a₂-ro* | *e-ke* ,
ke-ke-me-na , *ko-to-na-no-no* GRA T 1 [

Ea 922 { .a Amphialos | has
ke-ke-me-na ko-to-na a-no-no GRA T 1 [

ko-to-na-no-no is a contracted form of *ko-to-na a-no-no* (cf. Eb 818/Ep 301.1). *a-no-no* denotes a piece of land that is not given out as lease. The person written above the actual line of text, Amphialos, is thought by Ruijgh to manage the property on behalf of the *damos* and not own it himself.⁶⁷⁶ The *damos* itself is not mentioned, probably because this was already included in *ke-ke-me-na*. As this tablet stands on its own, we cannot say more about possible abbreviations.

5.6.3.3.2 Level II texts

In the second level, only tablets with *kekemena* land existed. Without parallel in Ea is the formula of Ea 28:

NOM *e-ke ka-ma*

Parallels can be found in the Eb tablets and Ep 613. The formulae in these few examples, however, display a wide variety of phrases for which no standard pattern can be deduced.

The Ea tablets do not give the full formula for the *ke-ke-me-na* land on the second level. It can only be inferred from comparison with the more detailed Eb tablets. These give the following formula as standard:

NOM *e-ke-qe o-na-to ke-ke-me-na ko-to-na pa-ro da-mo*

All phrases in this category of the Ea tablet are abbreviated (cf. Table 6).

⁶⁷⁶ Ruijgh 1984, 479.

Table 6 Texts of level II B (*ke-ke-me-na* land; text in bold letters is the standard formula; table based on Ruijgh 1984, 479-480).

Tablet	Beneficiary	Verb	Parcel	Land type	Piece of land	Owner
[cf Eb 866]	[NOM	e-ke-qe	o-na-to	ke-ke-me-na	ko-to-na	pa-ro da-mo]
Ea 52, 59.4a, 136, 258 (fragmentary), 259, 460, 773, 778, 808, 816, 824	NOM	e-ke	o-na-to			pa-ro da-mo
Ea 803	NOM	e-ke				da-mi-jo
Ea 59.2, 336[+]1042??, 806	NOM	e-ke	o-na-to	ke-ke-me-na	ko-to-na	
Ea 811	NOM	e-ke	o-na-to			
Ea 780	NOM		o-na-to			
Ea 59.5	NOM	e-ke e-ne-ka	GEN			
Ea 805	NOM	e-ne-ka	GEN			

The most frequently used version of this category's phrase is the full phrase, but without the *ke-ke-me-na ko-to-na*. It is applied in eleven out of nineteen cases. The specification of the type of land is not needed in this case, as *pa-ro da-mo* 'from the *damos*' only allows for *ke-ke-me-na ko-to-na* 'public land' in the second level. Ea 803 is similar in structure. *da-mi-jo* is an adjective that is thought to be equivalent in meaning to *pa-ro da-mo*.⁶⁷⁷ Here, *o-na-to* 'plot' is omitted as well. As *da-mi-jo* points towards a second level entry, it was obvious that the tenant would hold a parcel of land. Instead of writing *pa-ro da-mo*, one could equally well write *ke-ke-me-na ko-to-na*, although this was less common (three tablets out of nineteen). The owner of *ke-ke-me-na ko-to-na* land in the first level, who could give out parcels in the second level, was the *damos*, so there was no need to mention both phrases. Ea 811 abbreviates the entry even further by only mentioning the holding of an *o-na-to*, leaving aside the type of land and the original owner. Apparently, this could be understood by entering the most frequent owner.⁶⁷⁸ Because each individual appeared only one or

⁶⁷⁷ Ruijgh 1984, 479.

⁶⁷⁸ Ruijgh's „second convention“, Ruijgh 1984, 480.

a few times in the tablets, the most frequently mentioned owner was the *damos*. If there was no explicit mention of an owner, the reader could just fill it in from his knowledge. To omit the verb as well (as in Ea 780) was only a natural step. *e-ke* is the by far most prevalent verb in these texts and alone the knowledge of the text category would suggest the type of verb used. Additionally, *e-ke* ‘he/she has’ is a very common and general word, so its filling in in the gap would not have been difficult. The sentence can then be seen either as a case of ellipsis or as a nominative of presentation.⁶⁷⁹ Similar are the tablets Ea 59.5 and Ea 805. They both leave aside large parts of the formula: *o-na-to*, *ke-ke-me-na*, *ko-to-na* and *pa-ro da-mo*. Ea 59.5 retains the *e-ke*, Ea 805 omits this as well. This must be for the same reasons as in Ea 811 and Ea 780. They both add an additional piece of information about the way the land is used. Ea 59.5 writes *e-ne-ka i-qa-jo* ‘for the horse (keeping?)’ and Ea 805 writes *e-ne-ka a-no-qa-si-ja*, the interpretation of which is very dubious, maybe ‘for the expedition’.

Ruijgh classifies Ea 801 in this category which is irregular in many respects. It reads:

GEN | *ko-to-na* | *a-no-no* | *ke-ke-me-na*

GEN | a *kotona* | not to lease | of *kekemena* [type]

5.6.3.3.3 Level III texts

The categorization of tablets from level III transactions is much more difficult to achieve. Tablets from level I can be distinguished from other levels and from each other, because they do not contain the word *o-na-to* and because the only owner and tenant is either an individual or the *damos*. Tablets from level II, according to the landholding system of Pylos, exist only for *ke-ke-me-na* ‘public’ land. Tablets of level III, however, are very similar in structure, because the transactions behind them are very similar: a person leases a plot from another person. Because the type of land is frequently not mentioned, it was very uncertain how a tablet should be assigned to one or the other category. Now, Ruijgh made the observation that, in all the cases where *ke-ke-me-na* is

⁶⁷⁹ Ruijgh 1984, 480.

explicitly written, the landlord of a certain piece of land was listed with his occupational term instead of his name. He concluded that in *ke-ke-me-na* land the occupational term was used, while the appellative was used for *ki-ti-me-na* land.⁶⁸⁰ This might have to do with the way the land was leased. *ke-ke-me-na* land was leased from the *damos* in the first instance and at least sometimes for a certain purpose (as we know from the second level texts Ea 59.5 and 805). It would make sense to attach a piece of land to the occupation of the tenant which could hint towards the way the land was used. The five occupations that can be assumed for *ke-ke-me-na* land are: *su-qo-ta* ‘swine herder’, *qo-qo-ta* ‘cattle herder’, *me-ri-te-u* ‘beekeeper’, *a-mo-te-u* ‘cartwright’ and *e-te-do-mo* ‘carpenter’. Ruijgh’s assumption of the binary character of the level III tablets was further reinforced through a syntactic observation: if the owner is called by his occupational title, this is done by using the genitive. If a personal name is used, the scribe uses the phrase *pa-ro* DAT/LOC.⁶⁸¹ This distribution was done fairly consistently, except for Ea 782 which has a contamination of both formulae (*pa-ro* + GEN).⁶⁸² A personal name can be added to an occupational title and vice versa. In this case, the order of words is important: the crucial word takes first position.⁶⁸³ Additionally, the understanding and categorization of the tablets must have been facilitated through knowledge from surrounding tablets. If, for example, tablet Ea 754 reads *e-ke o-na-to ko-do-jo ko-to-na*, a scribe would have known that *ko-do* is a *ktoinohochos* and that consequently the land in question is *ki-ti-me-na* land.⁶⁸⁴

Table 7 Texts of level III A (*ki-ti-me-na* land; text in bold letters is the standard formula; table based on Ruijgh 1984, 482).

Tablet	Beneficiary	Verb	Parcel	Owner
Ea 29, 304, 439, 800, 814, 825, 827	NOM	e-ke	o-na-to	pa-ro LOC
Ea 56	NOM	e-ke		pa-ro LOC
Ea 754	NOM	e-ke	o-na-to	GEN (mistake for pa-ro + LOC)
Ea 782	NOM	e-ke	o-na-to	pa-ro GEN (contamination)

⁶⁸⁰ Ruijgh 1984, 481.

⁶⁸¹ Lejeune 1974 [1976], 105; Ruijgh 1984, 481.

⁶⁸² Lejeune 1974 [1976], 105.

⁶⁸³ Ruijgh 1984, 481.

⁶⁸⁴ Lejeune 1974 [1976], 105.

In the texts of level III A (see Table 7), according to Ruijgh, the categorization as *ki-ti-me-na* would have already been included in the grammatical construction *pa-ro* + LOC ‘from PN’. This would differentiate these tablets from the tablets regarding *ke-ke-me-na ko-to-na*. Because of the phrase *pa-ro* + LOC it would also have been apparent that the tablet regards an *o-na-to* transfer. As noted above, tablet Ea 754 can be attributed to the *ki-ti-me-na* tablets due to the identity of the owner of land. The genitive can therefore be securely identified as a mistake. For the same reasons, Ea 782 can be assigned the value of a *ki-ti-me-na* tablet because the owner mentioned, *mo-ro-qo-ro*, is known as a *ktoinohochos*.

Table 8 Texts of level III B (*ke-ke-me-na* land; text in bold letters is the standard formula; table based on Ruijgh 1984, 482-483).

Tablet	Beneficiary	Verb	Parcel	Land type	Piece of land	Owner	Piece of land
Ea 480	NOM	e-ke	o-na-to	ke-ke-me-na	ko-to-na	GEN	ko-to-na
Ea 802	NOM	e-ke		ke-ke-me-na	ko-to-na	GEN	ko-to-na
Ea 59.3, 305, 757, 809	NOM	e-ke	o-na-to	ke-ke-me-na	ko-to-na	GEN	
Ea 132, 481.1, 481.2, 771, 776, 799, 813, 820	NOM	e-ke	o-na-to			GEN	ko-to-na
Ea 109, 270	NOM	e-ke				GEN	ko-to-na

In contrast to the *ki-ti-me-na* tablets, the word *ke-ke-me-na* is used explicitly in the texts of level III B, but not in every case (see Table 8). The full phrase adds the word *ko-to-na* at the very end of the sentence as an apposition in the sense of ‘..., the land of GEN’.⁶⁸⁵ In Ea 802, *o-na-to* can be omitted

⁶⁸⁵ Ruijgh 1984, 482. Why the scribe likes to repeat this word in these Ea tablets (and only in these) is not fully clear. It seems to be quite important for him, because he repeats it in most of the tablets and it also appears

because of the presence of *ke-ke-me-na* plus a genitive, that makes clear that the text treats retrocessions. According to Ruijgh, *ke-ke-me-na ko-to-na* can be left aside because of the presence of the genitive of an occupational title that would account for this type of land holding. Consequently, both, *o-na-to* and *ke-ke-me-na ko-to-na* can be omitted. Deger-Jalkotzy doubts that *o-na-to* can be omitted in these texts. She reads *(ke-ke-me-na) ko-to-na* in Ea 802, 109 and 270 as an accusative object.⁶⁸⁶

5.6.3.4 Summary: the abbreviated character of the Ea tablets

Among the Ea tablets, only Ea 480 shows the complete formula; all other tablets depict abbreviated forms. These differ with regard to their degree of abbreviation. The majority of texts of level I, level II B and level III A prefer an abbreviated form but in comparison to the other tablets of each group still reasonably long formula. In level I texts it is sufficient to state that an individual holds a certain *ko-to-na* in order to clarify the category to which the tablet belongs. Nevertheless, it is preferred to add the word *ki-ti-me-na* for reasons of clarity. In texts of level II B (which due to the system of land registry all belong to the *ke-ke-me-na* category), it is not usually necessary to mention the type of land because this can be inferred from the *damos* as landlord. *pa-ro da-mo* is often added for clarity but was not absolutely necessary. The only level where texts from both categories, *ki-ti-me-na* and *ke-ke-me-na*, are preserved (and sensible) is level III. In the frequent cases where the type of land is not mentioned, these texts could be easily mixed up. This can be solved through Ruijgh's explanation of the syntactical structure of the texts. The texts in this level can only be categorized according to a grammatical feature. This grammatical feature makes available a new frame through

in the standard formula. It might have to do with the use of the genitive that is in contrast to the *pa-ro* LOC formula of the *ki-ti-me-na* texts. It is conspicuous that this apposition appears only in the *ke-ke-me-na* type texts of level III. It might have served as a textual feature to distinguish the types of landholding at a first glance.

⁶⁸⁶ Deger-Jalkotzy 1988², 106. However, the syntactical function of the final *ko-to-na* in the sentence is not very clear, it seems more like an apposition than an accusative object. And reading, as she suggests, "PN ekhei ktōinān of PN" leaves us with the problem that one cannot have a *ke-ke-me-na ko-to-na* on the first level unless one is the *damos* or, in very exceptional cases, an appointed person on behalf of the *damos*. Leasing a *ko-to-na* from a person would automatically mean to lease an *o-na-to*.

which the text can be understood. Without it, there would have been no text-internal feature for categorization.

5.7 A frame semantic approach to the E series

The general administrative procedure for the records of land holding seems to be similar in the Ea as well as in the Eb/Ep and Eo/En tablets. The formulae resemble each other in their structure, placing the most important information (the identity of the tenant and the size of the property) at the beginning and the end of the tablet respectively. For the words in between, the tablets make use of a limited repertoire of phrases, but in a variety of combinations. All series utilize ellipses in their texts, but in general the Eb/Ep and Eo/En tablets are more extensive than the Ea texts. In the E series, especially in Ea, some texts get abbreviated to such an extent that they would not be understandable if taken in isolation. An example for this is Ea 810 which lists only a personal name in the nominative and an amount of GRANUM. Read as an isolated piece of text, this would hardly yield any information for a modern reader who is not involved in the Mycenaean bureaucracy. It can only be understood by referring to knowledge from the pre-text or general world knowledge that includes social and juridical as well as bureaucratic knowledge. This knowledge is tacit in that it is not explicitly mentioned in the text. It is the responsibility of the reader to consult it. Understanding a single tablet is always understanding its wider implications, its history and its context. This is what impedes the understanding of single texts or words for a modern reader. As a reader today, we have to carefully deduce this knowledge by analysing and comparing the texts which is difficult, especially in cases where the knowledge was so obvious to the Mycenaean writer that they did not care to mention it at all (as in the case of the meaning of the different kinds of *ko-to-na*). This leaves us puzzled with some of the most common phrases of the Mycenaean texts. We have to bear in mind that for the ancient scribe, this task had to be many times easier. It must have been done automatically and in large parts subconsciously. It can be hypothesized that this tacit knowledge takes the form of frames. The reader would have accessed their memory when reading the texts. A frame or a scene, in the case of the E tablets in the shape of a prototypical social

transaction, would have been stored in long term memory and available for consultation in the sense of a cognitive type. Its properties could then be compared to the actual example or token. This is similar to how Ruijgh imagines the 'schéma cadastral' in the E tablets to function.⁶⁸⁷

The tablets of the E series are some of the most extensive texts preserved in Linear B. In contrast to many other Linear B tablets, that are governed by noun phrases, the Eb/Ep, Eo/En and Ea tablets provide us with a central verb: *e-ke*. We can imagine the schema to be evoked by a verb in the sense of a predicative frame. This does not, however, exclude the presence of other conceptual frames. As frames are known to be recursive, we must assume not one frame for every line of text, but multiple interwoven frames. One frame would be evoked by the central verb, another frame, for example, by the *ko-to-na* phrase or even by the name of the leaseholder. We must be aware of the structure of the texts as being composed of multiple, entangled frames and sub-frames. The frames evoked by different words or phrases would, in this sense, work together to limit the possibilities of interpretation.⁶⁸⁸ Through that, the meaning of a general word as *e-ke* in the E tablets can be narrowed down by its surrounding phrases.

Various observations lead to the conclusion that frames were involved in the writing and understanding of the E series. These regard the inner structure of the tablets, their layout, their order, and their semantics.

5.7.1 Inner structure of the E tablets

The texts follow a certain structure and this structure is known to the scribes, writer and reader likewise. Knowledge of this structure allows for a certain degree of variation within the texts. Words can be omitted by the scribe because he can rely on the reader to know intuitively which word would make sense in a certain position. This intuitive knowledge is partly of grammatical nature (such as the fact that a verb requires certain nouns that depend on it in varied forms) and partly of

⁶⁸⁷ Ruijgh 1984, 478.

⁶⁸⁸ Busse 2012, 704.

more general, extra-linguistic nature (such as that the leasing of a plot of land requires certain persons and certain procedures). These different forms of knowledge, however, can often not be separated. In the use of language, they conflate.

5.7.2 The frame of the ‘normal’ tablets

As we have seen earlier, the E tablets can be categorized into three groups according to their level of landholding:

- Level I: owners of *ko-to-na* land,
- Level II: lessees of *o-na-to* ‘plot’ from *ko-to-na* ‘parcel of land’ and
- Level III: lessees of *o-na-to* ‘plot’ from another *o-na-to* ‘plot’.

In theory, each of these categories can be formed for *ke-ke-me-na ko-to-na* (Eb/Ep) and *ko-to-na ki-ti-me-na* (Eo/En), but in reality, level I texts exist only for *ko-to-na ki-ti-me-na* ‘private land’ and level II texts only for *ke-ke-me-na ko-to-na* ‘public land’. The Ea tablets contain both categories and are remarkably elliptic in character. The comparison of the detailed En and Ep texts with the elliptic Ea texts allows for insights about the inner structure of the tablets and the strength of the frames. The texts are very repetitive, therefore many of them will have this structure, although some – such as the *ka-ma* texts in Ep 539 – will stand out among them as being of irregular form. Leaving aside the more irregular texts for *ka-ma* land, *e-to-ni-jo* land or two plots of land, the phrases used to describe the types of property are remarkably close. Differences can be observed in their grouping (that is, headings in En and full phrases in Ep) and in the clear structural separation of level I texts from level II and III texts.

It is best to start from the more regular phrases and move on to the more irregular ones in due course. The phrases of the second and third level can be regarded as the ‘normal’ case. Most of the entries in the Eb/Ep, Eo/En and Ea texts follow this standard pattern (be it explicitly written or inferred). Take as an example Ep 212.1:

re-ka , te-o-jo , do-e-ra | o-na-to | e-ke | ke-ke-me-na , ko-to-na | pa-ro , da-mo | to-so pe-mo GRA
T 6

Lescha, servant of god | *onato* | has | of *ke-ke-me-na ko-to-na* | from the *damos* | of so much seed

SUBJECT	OBJECT	PREDICATE	ATTRIBUTE	indirect OBJECT	ATTRIBUTE
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This line of text forms a self-contained sentence. Tablets in this series are composed of multiple lines, each line being enclosed in itself but nevertheless part of a larger text. Focussing on the central verb, we will see that the other members of the phrase depend on the verb semantically as well as grammatically. *e-ke* with the meaning of 'have' requires at least a subject and a direct object. *re-ka te-o-jo do-e-ra* in that sense is the subject, *o-na-to* the direct object. *ke-ke-me-na ko-to-na* is a genitive referring to *o-na-to*. *pa-ro da-mo* is the indirect object. *to-so pe-mo* GRA T 6 is more difficult to analyse. Although its position in the sentence is somewhat isolated, it nevertheless has an important function. As is well known, in Mycenaean texts the most important members are the first word and the last which in most cases is an ideogram and a number. The ideogram serves the purpose to immediately categorize the tablet in a certain series. The GRA ideogram allows a very quick classification of the texts in the landholding context. The E tablets of Pylos are the only tablets in Pylos where the GRA ideogram is used on its own.⁶⁸⁹ The ideogram in this sense has a clear relation to land holding. Duhoux has shown how we must understand the GRA ideogram in the landholding tablets as a measure of surface based on the amount of grain that can be sowed.⁶⁹⁰ This would be differentiated from the meaning of GRA in the context of rations or storage.⁶⁹¹ This

⁶⁸⁹ It is further used together with other signs such as fig (NI) or wine (VIN), mostly to denote rations or pieces of storage: in Ab used with NI, TA, DA, in An 128 recto used with VIR, in Fg 253, 368, 374, 828 used with NI; 828 lists only GRA but is broken on its right edge where the NI would be expected), in Un 443 used with various commodities, in Un 718 used with various commodities, in Un 1319 used with various commodities, in Un 1321 used with VIN, in Un 1322 used with NI, *146, in Un 1426 used with NI, in Ua 158 used with NI, *146, in Ua 434 used with CYP+O (cf. Palmer 1992, 492).

⁶⁹⁰ Duhoux 1974, 31.

⁶⁹¹ The only somewhat mixed series is Es. Es 650 lists a number of persons with the term *e-ke* and a reference to GRA as a measure of land. The other Es tablets refer to the same persons, one tablet for each referent, but list distributions of *do-so-mo* to four different gods. The Es tablets (including Es 650) were all stored in the ante-room 7, judging from their close association in one basket on the floor. GRA appears on all the *do-so-mo* tablets, although their exact meaning is subject to debate (cf. Duhoux 1974, 30).

would have been further emphasized through its close correlation with the phrase *to-so-de pe-mo*. I would suggest that the ideogram evoked a landholding frame by unifying the tablets and contextualizing them within the landholding paradigm. This would give a more specific meaning to the word *e-ke*. The correlation of the different elements would narrow down the various possibilities of meaning and view the situation from a certain perspective. This contextualization would also prepare the reader for the text to come and awake certain expectations regarding the slots and fillers of the frame. The use of GRA in this context presumably would evoke a different or at least more specific frame than that of GRA in, for example, tribute tablets. To understand its association with landholding required the knowledge that land could be used for sowing grain and that a certain area of land will require a certain amount of grain in order to be used fruitfully. A reader would further know that this amount of grain is to some extent standardized and could be used for denoting a piece of land of a certain size. This might even be more abstractly used for land that did not grow grain.

5.7.3 Frame theoretical parallels

The grammatical structure of the sentence as I just presented it, is very simplified and a dependency grammarian would now draw a tree with the different syntactical relations between the members of this phrase. One can, however, analyse this sentence in a different way. This takes into account the function of each of the members with regard to their 'place in life'. It asks: what do we need to know to understand this sentence? This knowledge involves grammatical, but also syntactical and pragmatic aspects. This is the claim of frame semantics. According to Fillmore, interpreting the text is always the search for a maximally rich interpretation, an interpretation that involves the questions

"Why does the language have the category which the form represents?"

"Why did the speaker select this form in this context?"⁶⁹²

⁶⁹² Fillmore 1985, 234.

We need to ask not only: what was the role of an actant in this sentence? But also: What was his role in life? This is more than one would think we can actually accomplish for the Linear B texts. As we completely rely on the preserved, fragmentary and often short texts, we can only make deductions based on the available material. Nonetheless, this material does give us certain information about the knowledge of the scribe. The E tablets centre around the verb *e-ke* with the general meaning 'he/she has'. It is present tense, therefore we can assume that the act of possessing is accomplished. In most cases, it is singular, that means one person possesses something. A simple word like 'to have' would have evoked a large and complicated frame in the reader. A reader would intuitively know the social and cultural rules that are transmitted by this word. He would know that to have something involves being granted it, either by birth or as inheritance or in the form of a gift or as acquisition or by hiring or in any other transactional process. He would know that this possession comes with rights and duties. It might give you the right to use the property in your own way or in a prescribed way. It might protect your property from theft. On the reverse, it might require a return service such as a certain payment or the regular payment of taxes or certain rules for its care. All these questions would have been evoked in the reader who belongs to this culture and within the culture maybe to a certain educated and privileged group. For us, who we are not Mycenaeans and who only have the immediate textual fragments, that is the words that evoke the frame, this is not easy to follow. Nevertheless, the texts give us some clues towards the properties of the frame of 'to have'. They provide us with the concrete pieces of information that could not be inferred by the ancient reader or that seemed to be needed to be clarified. In frame semantic language: they provide us with concrete values from which we can deduce abstract attributes and also certain properties of these attributes.

At this point, we might recall Fillmore's classical example of the commercial act scene.⁶⁹³ The commercial act is a kind of prototypical scene (that is, a frame that represents a sequence of events). We have all kinds of these prototypical scenes available. They guide us in our daily life by

⁶⁹³ Fillmore 1976, 25.

giving directions towards how to behave in a certain situation. The commercial frame refers to the processing of a commercial transaction. A scene has certain actors and it is evoked by a word. In the case of a commercial act scene, this could be BUY. But it also could be PAY or SELL, depending on the perspective we are taking. From hearing or reading the word BUY, we would start to ask questions such as: Who buys? What is bought? From whom do they buy? Where do they buy? What for do they buy? For which price do they buy? These questions are pre-organized in our mind, structured in a frame. A full sentence might answer some of these – but, in all probability, not all of these. A speaker will always decide to focus on certain pieces of information that are most relevant in the relevant context. Some questions are more salient than others. These need to be answered or inferred, otherwise the sentence would not make sense. These frame elements represent the core of the frame. According to Fillmore, in the commercial act scene, these would be: BUYER, SELLER, GOODS, MONEY. The appearance of these frame elements is required by linguistic regularity – linguistic in the sense of cognitive as well as grammatical. As such a sentence like

*John buys

does not make sense to us. This is because we know that the verb ‘buy’ cannot appear with a valency of one.⁶⁹⁴ As we have seen, Fillmore’s early frame theory was closely intertwined with valency theory. That is because in a predicative frame the elements that are evoked by the verb are largely congruent with its arguments in valency theory. Hearing this sentence, we would automatically ask: What does John buy? Sentences like

John buys an apple

on the other hand, can be easily understood although not all frame core elements appear. This is because we can infer them from our world knowledge. We have learned where to buy apples and

⁶⁹⁴ Unless, as Thomas Herbst mentions in his valency dictionary of English, in examples such as “Your fridge and freezer are on 24 hours a day, so it makes sense to assess running costs before you buy”. But this sentence is anaphorical and it only makes sense taken together with the first part of the sentence which refers the object to buying to the fridge and freezer. This object can be easily connected to the verb buy by the reader (Herbst/Heath/Roe et al. 2004, 105).

we know how much approximately they cost. In this sentence, the speaker would want to impose a certain perspective on a situation. Thus, he provides us with the elements that we cannot infer. The other elements are not absolutely necessary and they might not be important to the speaker in this moment. In this way, word valency and frame structure are closely entangled.

Returning to our example of the E tablets, we can assume that the Mycenaean scribe had a certain scene or schema or frame in mind when writing the texts. This schema would be his concept of being in possession of something that he has learned while growing up in the Mycenaean culture. This can be deduced from the extremely regular structure of the E tablets (especially in the final compilations En and Ep) on the one hand and their very abbreviated nature (in the ad hoc Eb and Ea texts) on the other hand. The long texts provide us with information about the frame elements that were important to the scribe and the short texts provide us with the knowledge of how these could be abbreviated in the expectation that a reader would be capable of inferring them. Both types of texts were needed to be understood by different scribes. In his En and Ep tablets, Hand 1 took very much care to provide the reader with the full information although the texts are incredibly repetitive and could have easily been abbreviated. This is most probably due to the nature of the texts. A final compilation that would have been stored in the archival room for one year would have needed to be exact, be it only for the sake of completeness. They might have been read not only by a different person but also after a certain amount of time. Hand 1 would have used the previous documents and taken time to neatly transcribe them, correct a few mistakes, and give order to the various pieces of information. Hand 43, on the other hand, would have drawn up his Ea tablets in a more provisional manner, maybe even while witnessing the transactions. He needed to use abbreviations but he was confident enough that a different scribe, who would eventually have transcribed them, would be able to understand its full informational content in order to fill – in the manner of Hand 1 – the gaps. It presupposes a careful weighing up of which pieces of information to include so as to make a text accessible to a certain audience: as much information as necessary,

as little as possible. To facilitate this, it would have been expected that both – writer and reader – had access to the same prototypical schema. As Busse notes:

“In diesem Prozess der Prototypikalisierung (den wie gesehen später auch Frame-Theoretiker wie Fillmore als konstitutiv für Wissensrahmen beschrieben haben) greifen bereits zum frühestmöglichen Zeitpunkt soziale Parameter ein, da es für das einzelne Individuum aus Gründen der Gedächtnisökonomie (d.h. zur Vermeidung von Doppelspeicherungen) wenig sinnvoll ist, von einem bestimmten Sachverhalt (oder Gegenstand) ein Schema zu bilden, das schlecht kommunizierbar wäre; also wird es ein Schema ausbilden, das eine Chance darauf besitzt, in kommunikativer Interaktion anderen Mitgliedern der sozialen Gemeinschaft vermittelbar zu sein.”⁶⁹⁵

“In this process of prototypicalization (which, as we have seen, was also described by frame theoreticians like Fillmore as constitutive for frames) social parameters intervene at the earliest possible point as it is not very sensible for an individual for reasons of economy of memory (that is to avoid double storage) to form a schema of a certain situation (or object) that is difficult to communicate; they will rather form a schema that has a chance to be transmittable to other members of a social group in communicative interaction.”

5.7.4 An exemplary frame as reconstructed from Ep 212.1

The actual implementation of a schema or frame in language is always intentional. Certain pieces of information are given and certain are omitted in the relevant context. Thanks to the different stages of bureaucracy and formation and use of frames in the E tablets, we are able to make some deductions about what the Mycenaean frame for HAVE and the frames of its frame elements in the context of landholding looked like. Referring again to Ep 212.1, we see that the Ep tablets follow a

⁶⁹⁵ Busse 2012, 818.

standard pattern for the possession of an *o-na-to* that can be expressed as being composed of frame elements.⁶⁹⁶

re-ka , te-o-jo , do-e-ra | o-na-to | e-ke | ke-ke-me-na , ko-to-na | pa-ro , da-mo | to-so pe-mo GRA
T 6

Lescha, servant of god | *onato* | has | of *ke-ke-me-na ko-to-na* | from the *damos* | of so much seed

LESSEE	LEASEHOLD HAVE	TYPE	LESSOR	SIZE
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With Tesnière's theatre metaphor, we can see the frame for 'to have' in the context of landholding as a little scene with the verb *e-ke* taking central stage and the other members of the phrase as actors that complement the scene. The actors in frame theory would be called frame elements. Each of the central frame elements (LESSEE, LEASEHOLD, LESSOR) would be attached to a frame of its own. A lessee is almost always referred to by name and qualifier.⁶⁹⁷ The most frequent qualifier is *te-o-jo do-e-ro/a* but we also have priests or priestesses (e.g. *i-je-re-u* in Ep 539.13) or persons of more obscure offices (e.g. *e-te-do-mo* in Ep 301.5). In the frame, these all take the position of the LESSEE, which is marked through the nominative and their first position in the text. Through the text, we learn more about the frame of the LESSEE. Thinking about the attributes and values of the frame LESSEE can be achieved by asking and answering a few questions one would ask about a person such as: Is it a man or a woman? How old are they? What is their position in society?

⁶⁹⁶ For the discussion of frames, I will mainly focus on the very standardized 'normal' patterns. The more irregular patterns (such as the *ka-ma* and *e-to-ni-jo*) are mainly due to a different type of land, the properties of which we do not fully understand, and even a different type of text, such as the clear legal case of the priestess Erita. They do belong together with the landholding tablets as they discuss matters of leases and as the landholding tablets can be regarded as legal texts as well. But the case they are treating is rather unique, especially in Erita's text.

⁶⁹⁷ *a-pi-me-de* is described only by name in Ep 539.14 and En 609.18 recalls an *i-je-re-ja pa-ki-ja-na*; both cases can, however, be explained: the name of *a-pi-me-de* recurs several times in the Pylos tablets in Cn 655.5, Eb 1186, 1187, 1188/Ep539.10-12 and in Eb473.1/Ep 539.14. Bennett suggested he was a priest, while Lejeune, Duhoux and Deger-Jalkotzy assumed him to be an *e-qe-ta*. (Bennett 1956, 131; Duhoux 1976, 48; Deger-Jalkotzy 1978, 63.) Whatever his exact role was, he was apparently an important person in the Pylian kingdom who would be known by name to the scribes (Aura Jorro 1985, 82). With regard to the priestess, there might have been only one in *pa-ki-ja-na* similar to the swineherd who in the Ea tablets is only called by his title (*su-qo-ta-o* in Ea 480a). If this applies, she would need to be identified with *e-ri-ta* who is mentioned twice in the Ep series (Ep 704.3 and 5).

5.7.4.1 Frame element I: LESSEE

In the majority of cases, the lessee had to be a person. No object or abstract entity could be lessee. Exceptions seem to have existed for deities although the exact conceptualization of the relations between gods and earthly property is not fully clear. Possible examples for land holdings of deities are Eq 213 with land held by the goddess Potnia and Na 1357, a member of the flax series, with a record of Hermes as holder of land.⁶⁹⁸ In the regular cases, however, the attribute SPECIES of LESSEE would be filled with the value HUMAN (one could add a layer of meaning by superimposing an attribute of CATEGORY with the value LIVING BEING which again would have the attribute SPECIES with the value HUMAN which again would have the attribute GENDER with the values MAN or WOMAN and so on – this illustrates the recursive character of frames). This person had to have a certain role in society that was probably bound to a certain status that would give them the legal prerequisites to lease a plot of land. We do not know the exact social status, for example, of the *te-o-jo do-e-ro/a*, but it appears that it was more elevated than that of the ordinary slaves that are mentioned in the A tablets and who are not mentioned as owners of land. The only other persons with the title *do-e-ro* are directly referred as a person of apparently higher status and named by name and therefore distinguished from the anonymous servants of the A tablets (e.g. *e-ni-to-wo*, *to-wa-te-u* and *wi-dwo-i-jo*, the servants of *a-pi-me-de* in Ep 539.10-12; they might be servants of a priest or an *e-qe-ta*, thus having an exposed position).⁶⁹⁹ From the text, we learn that in general men and women could be lessees. However, women only appear in the *pa-ki-ja-ne* texts and all belong to the religious sphere (being *i-je-re-ja* ‘priestess’ or *te-o-jo do-e-ra* ‘servant of the god’ or *i-je-re-ja do-e-ra* ‘servant of a priestess’) which led Bennett to the conclusion that the distribution of land to women was rendered possible only within the religious context of *pa-ki-ja-na*.⁷⁰⁰ This would be a constraint to LESSEE. Another attribute of LESSEE might be AGE. The texts do not provide us with information regarding the age of the tenants. But as the tenants are always referred to by a

⁶⁹⁸ Bendall 2007, 70-72.

⁶⁹⁹ Bennett 1956, 131.

⁷⁰⁰ Bennett 1956, 130.

combination of their name and their position, we can assume that they were at least old enough to take up such a position. We do not know what is their age is, but it would be feasible to compare it to the age when boys were regarded as older boys or men and moved to a separate category in the Ad tablets. An analysis of the tenants' names might allow conclusions about ethnicity, but as names are notoriously flexible inferences about ethnicity would in this case be speculative and it is also not sure whether this aspect played a role in the legal rights. These are some of the attributes and values we can deduce for the attribute LESSEE from the concrete values in the text. Although I have now given an example from the Ep tablets, a similar frame must be assumed for the En (and naturally also for Eb and Eo) and for the Ea tablets (although, in this case, we find many more names of tenants without qualifier). From the analysis of the order of the tablets it can be seen that the identity of the person who leases or lets out seemed to play an important role for the categorization of the tablets. It is not only the theoretical role they play as an attribute in the distribution of land but also their individual identity. In filling the attribute for the tenant with the values of a name and a qualifier (or with a name with the further value of a certain position or task), the scribe will make reference to this background knowledge. He does not need to explain the legal circumstances which enable a person to be a lessee; this information can be inferred by the reader who comes from the same cultural and a similar social background from memory and general world knowledge.

5.7.4.2 *Frame element II: LEASEHOLD*

The type of leasehold takes second position in the text. In the E tablets, four types of landholdings are known: *ke-ke-me-na*, *ki-ti-me-na* (as *ko-to-na* or *o-na-to*), *ka-ma* and *e-to-ni-jo*. As I have mentioned, we do not fully understand the meaning of these words, that is whether they contrast public with private or cultivated with fallow land or something different. We can only rely on our deductions of etymology.

A Mycenaean would have fully understood these terms and been able to deduce several further frames from them such as what type of soil they have, what they are typically used for, who was entitled to own it, what was their value... Our inability to fully grasp the meaning of these terms,

despite being able to deduce their etymological origin, can be attributed to our lack of context. We understand them and do not understand them at the same time. This is because a word is more than just the sum of what was traditionally regarded to be meaning. To understand a word requires a much wider knowledge. Because we are lacking this knowledge, that takes the form of a frame, we cannot fully understand these terms. This is especially true for words that are very specific to a culture. The word *e-ke* can be understood more easily because we can equate it with a word in our language, although we do not understand its full implications. But terms like *ke-ke-me-na ko-to-na* or *ko-to-na ki-ti-me-na* involve a vast amount of juridical, social and cultural background knowledge that is not easy to infer. This is true for many of the words we do not understand in Mycenaean although we know their etymology. Another example is the word *ko-to-no-o-ko*. We do understand that it denotes a person who owns a *ko-to-na*. But we cannot say, for example, what were the prerequisites to own a *ko-to-na*, if it was inherited or bought or granted. Information like this would be included in a frame theoretical study of meaning.

An *o-na-to* apparently is a more general term. The main characteristic of an *o-na-to* seems to be that it is part of a larger whole, a *ko-to-na*. It is defined by its relation to a superordinate category. We understand that an *o-na-to* can be given out of a *ko-to-na* or a larger *o-na-to* on the second or third level of the landholding taxonomy of Pylos. One could infer that *o-na-to* are smaller than *ko-to-na* and they must be a property of less value. It does not automatically evoke a certain type of land. This type of land needs to be explicitly stated (as it is done in the more elaborate Ep and En tablets) or it must be actively inferred (as in the case of the Ea tablets which is, of course, more complicated, but apparently possible). This specification is a necessary part of the OBJECT phrase in the E tablets. As *o-na-to* is a very generic term of a piece of land, that can be applied to *ki-ti-me-na*, *ke-ke-me-na* and *ka-ma* land. A Mycenaean, when reading the word *o-na-to*, would probably have asked: what type of *o-na-to*? In Ep, this is answered with *ke-ke-me-na*, in En with *ki-ti-me-na* and in Ea both are attested. Another question that would have been asked could be: what size of property? This question is answered in the phrase *to-so pe-mo*, the ideogram and the numeral. This

attribute was of central importance to the scribe, as – together with the first name – it is the member of the phrase that can never be omitted (although abbreviated to GRA NUM). It is definitive for the whole series.

Two more types of landholdings are attested: *ka-ma* and *e-to-ni-jo*. Both appear in Eb/Ep and *ka-ma* appears once in Ea 38.⁷⁰¹ Their appearances are very irregular in character. Their association with the Eb/Ep set makes them appear to be sub-groups or variations of *ke-ke-me-na* land. *ka-ma* parcels are often called *o-na-to*. The structure of the *ka-ma* tablets is highly irregular. It can be broken down to the following components:

PN+title *ka-ma-e-u/ka-ma* | *o-na-to* | *e-ke(-qe)* | *wo-ze(-qe)* | *to-so pe-mo* GRA NUM

PN+title *kamaeu/kama* | *onato* | (and) has | (and) works | of so much seed GRA NUM

These reflect the following frame elements

TENANT	LEASEHOLD	HAVE	WORK	SIZE
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Within the expression of each of these elements, the scribe allows himself a certain freedom. *ka-ma-e-u* and *ka-ma* seem to be used interchangeably, but one of them is necessary. *o-na-to* can be omitted. The word order of the central phrase (*ka-ma-e-u/ka-ma o-na-to e-ke(-qe)*) is highly flexible. *wo-ze(-qe)* is written four times, while it is omitted in three entries.⁷⁰² Once (in Ep 613.8) it is substituted by *te-ra-pi-ke*. In general, *ka-ma* land seems to be associated with the word *wo-ze* which probably is an obligation that a *ka-ma-e-u* needs to fulfil similar to the *te-re-ja-e* of a *te-re-ta* (compare below).⁷⁰³

⁷⁰¹ *e-to-ni-jo* might be further read in An 724.12 (cf. Aura Jorro 1985, 259). *ka-ma* appears also in Un 718.11-11a, An 724.11 (cf. Aura Jorro 1985, 309).

⁷⁰² However, these are even more irregular than the other entries as in Ep 613.10 the *ka-ma* of *pe-re-qo-ta* is said to be leased from a person (the only case where this is mentioned), in Ep 613.11, the leaseholder *pa-ra-ko* is explicitly called *ko-to-no-o-ko*, and in Ep 613.12, *po-so-re-ja* is subordinated under *pa-ra-ko*'s entry. The three irregular lines are taken together.

⁷⁰³ Deger-Jalkotzy notes that there is no nomen agentis for *wo-ze*. (Deger-Jalkotzy 1988¹, 38). This would be an argument for the existential connection between *ka-ma-e-u* and *wo-ze-e*, as existential as that of *te-re-ta* and *te-re-ja-e*.

We know even less about *e-to-ni-jo* land. It is mentioned only in Eb 297.1/Ep 704.5 as the *e-to-ni-jo* of *e-ri-ta*, Eb 473.1/Ep 539.14 as the *e-to-ni-jo* of *a-pi-me-de*, and maybe An 724.12.⁷⁰⁴ This type of land might be associated with the religious sphere as *e-ri-ta* has the land ‘*te-o*’ ‘from the god, for the god’.⁷⁰⁵ But the evidence is very scarce and we cannot say this for sure. As *e-ri-ta*, the priestess, claims to have an *e-to-ni-jo* land instead of a regular *o-na-to* we can assume that this type of land had to be similar to an *o-na-to* but for some reason better. Deger-Jalkotzy suggests that it denotes the exemption from the duty to *wo-ze-e*.⁷⁰⁶ This seems to be a legal case so we can infer that there had to be a whole set of regulations embedded in the frame of *e-to-ni-jo* that were not very obvious even to the Mycenaeans.

5.7.4.3 Frame element III: LESSOR

The third element of the *e-ke* frame is the LESSOR. We can ask similar questions about the lessor as we have asked about the lessee such as: which category does the lessor belong to? Which legal prerequisites does he have? Attributes and values might be different from the lessee. For example, a lessee needs to be a living being, concrete a human, or – in rare cases – a god. A lessor in the Ep tablets can be the *damos*. One would now need to think about whether the *damos* was perceived as abstract social entity or as group of people which would again align it with the lessee frame. It is relatively sure that the latter needs to be assumed as *damos* is equated with the *ko-to-no-o-ko* in Eb 297/Ep704.5 thus being equated with a group of people.⁷⁰⁷ The *damos* is the most frequent lessor in the E tablets. Thus, when in the Ea tablets the lessor is omitted, it is always the *damos*. This is true for Ea 59.2, Ea 336, Ea 806, Ea 811, Ea 780, Ea 59.5, Ea 805 from the second level, that is in seven of nineteen texts. In the context of frame theory, this can easily be explained. In the texts, the attribute LESSOR is most often filled with the value DAMOS. The *damos* becomes tightly bound to the prototypical structure of the frame. The rule was: when in doubt about the lessor, fill

⁷⁰⁴ Aura Jorro 1985, 259.

⁷⁰⁵ Milani 1988, 10.

⁷⁰⁶ Deger-Jalkotzy 1988¹, 41.

⁷⁰⁷ Wundsam 1958, 156.

in *damos*. *Damos*, in this context, became a default value. This value would have been automatically evoked for the *ke-ke-me-na* frame in the landholding tablets. It did not necessarily need to be written. If a different value than DAMOS would have been instantiated, this would have been explicitly written down. This value would then substitute the default value. For the LESSOR frame, it is remarkable that – in contrast to the lessees in the Ep tablets – no woman is attested. This is probably due to a complex social system. First, women in the E tablets discussed are attested in the Eo/En and the Eb/Ep tablets. There are no women in the Ea tablets.⁷⁰⁸ As we have seen, these exclusively pertain to the religious sphere. The religious sphere was more present in *pa-ki-ja-na* than in the district of Ea. All the women mentioned are lessees. This makes sense in the Eb/Ep tablets as the lessor in this case is the *damos*. But it is striking in the Eo/En tablets. All the thirteen lessors mentioned are men. It might be inferred that this is due to another attribute of the lessors mentioned in the tablets. Each of the thirteen lessors holds a certain position or has a certain status in society. This status is referred to as *te-re-ta* and *ko-to-no-o-ko*. That this title is to be distinguished in function from other occupational titles can be seen from a small number of Eo tablets where a *te-re-ta* is referred to by a title of occupation. *ti-qa-jo*, for example, is known to be a *po-me*, a shepherd (Eo 278), and a *te-re-ta* (En 467.1). *pi-ri-ta-wo* is a royal potter (*ke-ra-me-wo wa-na-ka-te-ro* in Eo 371) as well as a *te-re-ta* (En 467.3). As one person can be a *te-re-ta* and have a different occupation at the same time and if we assume that one person could not have two professions, we can conclude that *te-re-ta* and the occupation did not occupy the same position in the frame. *te-re-ta* referred to a certain status while the occupation referred to their function. In the case of *te-re-ta*, the attribute might be STATUS while in the case of *po-me*, the attribute might be OCCUPATION.

5.7.4.4 *Non-central frame elements*

Besides the central frame elements that form the frame core, that is those elements that recur in the majority of the En and Ep entries, we might infer two further, non-central frame elements from their appearance in a limited number of tablets. These refer to the obligations attached to the

⁷⁰⁸ Bennett 1956, 130.

holding of a plot of land and its intended usage or the reason for receiving it. Their explicit mentioning in certain tablets must be due to the exceptional character of these entries and the perceived need on the part of the scribe to emphasize this anomaly. Whether, conversely, their absence in other texts is due to their irrelevance in these contexts or due to their implicit presupposition is difficult to answer.

5.7.4.4.1 Non-central frame element I: OBLIGATION

It is not sure, because not directly apparent from the tablets, under which conditions the allocation of land took place, especially what service the lessees were obliged to contribute in return. Killen refers to the Er tablets and to Es 650 where the contributions of tenants to Poseidon are noted. The amount of these contributions seems to depend on the amount of GRA listed at the end of each record. He suggests a similar relation for the other E series as well.⁷⁰⁹ Duhoux expects that the possession of an *o-na-to* required a reciprocal duty.⁷¹⁰ He further emphasizes this due to etymological considerations with the verb *ὀνίνημι*, the base of *o-na-to*, having the inherent connotation of reciprocity.⁷¹¹ Chadwick, with reference to the term *ki-ti-ta* from the same root as *ki-ti-me-na* and used in the fleet tablet An 610 to denote groups of men, argues that holders of *ki-ti-me-na* land were obliged to fulfil a military service.⁷¹² This obligation is not directly mentioned in the tablets, but must be indirectly inferred from world knowledge. Two further clues in the tablets could hint towards the possibility that there was a certain obligation on the side of the tenants: first, the recurrent reference to the occupation of certain tenants and second, the explicit mention of the word *wo-ze*, mostly in connection with *ka-ma* land.

Three types of obligations are known from the E tablets: *wo-ze*, *te-re-ja-e*, and *te-ra-pi-ke*. Thus, the holding of a plot of land might come with certain obligations. These obligations can either be listed as fulfilled (usually denoted by the verb in indicative *wo-ze* 'he/she works' (e.g. Ep 613.6)) or they

⁷⁰⁹ Killen 1985, 244-245.

⁷¹⁰ Duhoux 1976, 44.

⁷¹¹ Duhoux 1976, 62.

⁷¹² Chadwick 1987, 82.

are listed as debt (with the participle *o-pe-ro* ‘being in debt; owing’ (e.g. Ep 613.1)).⁷¹³ Etymologically, *wo-ze* relates to the root of **uerg-* ‘work’. *te-ra-pi-ke* probably refers to θεραπεύω ‘do service’.⁷¹⁴ The etymology of *te-re-ja-e* is not fully clear, but usually a connection to *te-re-ta* is assumed in the sense of ‘fulfil a *telos*’.⁷¹⁵ All three verbs, therefore, have a rather general meaning in later times. As three distinct words are used to denote a certain obligation in the Linear B tablets, we can infer that they had distinct, and probably more specific meanings that might also be further specified by their contextual presence in the land holding tablets. At the same time, the words *wo-ze* and *te-re-ja* seemed to be close enough to be used interchangeably in the case of Eb 149/Ep 613.4.

The type of leaseholder (such as *te-re-ta* or *ka-ma-e-u*) correlates with the non-central frame element of OBLIGATION. Their relation is one of contiguity, of habitual co-occurrence. *ka-ma-e-u* correlates with the verb *wo-ze* and *te-re-ta* with the verb *te-re-ja-e*.⁷¹⁶ In a frame theoretical perspective, *wo-ze* and *te-re-ja-e* would be values of an attribute OBLIGATION for the frames of *ka-ma-e-u* and *te-re-ta* respectively, but at the same time probably part of the frame of LEASEHOLD.

It is interesting to note that, while the few and irregular *ka-ma* entries usually contain a *wo-ze* reference, the majority of the other entries do not mention a *te-re-ja-e* obligation. Deger-Jalkotzy argues that the reason that the verb *te-re-ja-e* only appears in one Ep text (and the appropriate Eb

⁷¹³ It is usually thought that the indicative *wo-ze* refers to an obligation that has been regularly fulfilled and a negation would denote a deficit (Bennett 1956, 127). Del Freo argues that if *wo-ze* is negated (as in Ep 613.4-5 or Ep 704.7-8), this would denote an exemption from the obligations (Del Freo 2009, 34).

⁷¹⁴ Ventris/Chadwick 1973, 263.

⁷¹⁵ Deger-Jalkotzy 1988¹, 45. Aura Jorro 1993, 336-337.

⁷¹⁶ It is even more complicated. Why, for example, can *ne-qe-u* be accused of not having fulfilled the obligation of *te-re-ja-e*, when he apparently is not a *te-re-ta*? Did other members of the society have this obligation as well? This would weaken its relation to *te-re-ta*. Wundsam emphasizes the important status of *ne-qe-u* (Wundsam 1958, 138). And Aura Jorro identifies him with the *ne-qe-u* mentioned in Aq 64 who is described with his patronymic *e-te-wo-ke-re-we-i-jo* (Aura Jorro 1985, 470). This patronymic is connected in An 654.8 with *a-re-ku-tu-ru-wo*, an *e-qe-ta* who is probably identical with the possessor of land in Es 650.2 (Aura Jorro 1985, 99.). As both men share the same patronymic (and are explicitly referred to by their father’s name), one can assume that they are closely related, possibly brothers, and that maybe *ne-qe-u* was an *e-qe-ta* as well. The *e-qe-ta* had an elevated position in the Mycenaean society, close to the king (Deger-Jalkotzy 1978, 71). Both persons, *te-re-ta* and *e-qe-ta*, share their elevated status. It is therefore feasible to conclude that *te-re-ja* was an obligation parallel to *wo-ze-e* but for persons of a certain elevated status, probably mainly for *te-re-ta*, but apparently also applicable to certain other high-status people.

tablet) in contrast to the slightly more frequent appearance of the noun *te-re-ta* is that the obligation to fulfil is so closely bound to the noun, that it is basically inherent in its meaning. A *te-re-ta* would always have the obligation to *te-re-ja-e*, otherwise he would not have the status of a *te-re-ta*. For this reason, it is not necessary to explicitly write the verb.⁷¹⁷ Care is taken to mention that a *te-re-ta* has fallen short on his obligation to *te-re-ja-e*. This would mean that the word *te-re-ta* would evoke a certain obligation. The obligation can be seen as an attribute of *te-re-ta* that is filled with the value *te-re-ja-e*. Maybe *te-re-ja-e* was even a default value because without this obligation a *te-re-ta* would not be a *te-re-ta*.

That *te-re-ja-e* is not mentioned in the *te-re-ta* entries of En must be due to the irregular nature of the entry on Ep 613.4-5. It refers to a certain (legal?) case where a *te-re-ta* has not fulfilled his obligation to *te-re-ja-e*. We see in the Ea tablets that the Mycenaean scribes had the tendency to omit information that was not absolutely necessary because it could be inferred from the context. A reader would have had certain expectations when reading a text, a concept of the 'normal' structure. Information that deviated from this, would have been explicitly mentioned. As *te-re-ta* and *te-re-ja-e* seemed to have been closely bonded, we might expect that the normal case was that a *te-re-ta* fulfilled his duty of *te-re-ja-e*. Only in exceptional cases, where he did not so, this would have been mentioned. This aligns well with the known habit of the Mycenaean scribes to write down only those aspects that could not be inferred. I would therefore not, as Carlier does, conclude that the other *te-re-ta* in En managed to get around their obligations for some reason.⁷¹⁸ This would presuppose that there was an obligation and they for some reason gained enough power to ignore this and for that reason their duty was not noted on the tablets. An exemption, in all probability, would have been explicitly written down as was done, for example, in the Pylos Ma tablets. It is much easier to hypothesize that the fulfilment of this obligation was considered the standard and only deficiencies would be noted, especially in a case where the verb and corresponding noun were

⁷¹⁷ Deger-Jalkotzy 1988¹, 45.

⁷¹⁸ Carlier 1987, 70.

so closely related. Speaking from a frame semantic point of view, if *te-re-ja-e* was a default value of a certain type of landholder, it would be immediately inferred and the scribe would not need to mention it in every entry. Additionally, one might assume that the En tablets simply took a different perspective than the highly irregular Ep 613 tablet. A perspective that focused more on the relation between lessee and lessor than on their obligations. This would explain why even in the very detailed En tablets no *te-re-ja-e* was mentioned.

This attribute-value relation between *te-re-ta* and *te-re-ja-e* reflects a rather complicated social pattern that we cannot fully grasp. It is not only a simple property of the *te-re-ta* such as SPECIES or AGE, but reflects an event sequence itself. To fulfil the obligation to *te-re-ja-e*, one would expect the relevant person to go through a whole string of events. It might include working on your plot of land, sowing, caring, harvesting, then paying a certain tribute. It might be a completely different type of work. What the actual nature of these obligations was is not known to us. Their placement in the land holding tablets and their close attachment to plots of land and lessees would, of course, suggest an agricultural task. This is assumed by Duhoux as well as del Freo.⁷¹⁹ Del Freo argues that *ka-ma* land was a specific type of land that was bound to the obligation to make it productive. He sees the different types of verbs used to express obligations as different stages of making formerly unproductive land productive.⁷²⁰ In this sense, one might imagine *wo-ze* to be a more general term, *te-re-ja-e* to be connected to a certain status of lessee and *te-ra-pi-ke* to be a more specific agricultural term. Although their exact meaning escapes our understanding, probably each of the terms was connected to a wider frame of knowledge about how to conduct this kind of work and how to fulfil the obligation. Bennett argues against a normal type of agricultural work because *su-ko po-ro-du-[ma]* is said to owe *te-re-ja-e* twice and it is not sure which agricultural work can be done twice in one year.⁷²¹ This, however, depends also on the very uncertain referent of *du-wo-u-*

⁷¹⁹ Duhoux 1976, 32; Del Freo 2009, 45.

⁷²⁰ Del Freo 2009, 47.

⁷²¹ Bennett 1956, 127-128.

pi: does it refer to the verb *te-re-ja-e* in the sense of ‘fulfilling the telos twice’ or to a plot of land in the sense of ‘on two plots of land’?

The task of *wo-ze-e* (and also *te-re-ja-e* and *te-ra-pi-ke*) is closely bound to the special type of land called *ka-ma*. All the entries in Ep 613 that are connected to *ka-ma* land refer also to a kind of obligation. The only three entries that deviate from this pattern are Ep 613.10-12, placed one after the other. These entries are of irregular nature and refer to two *te-re-ta* with the names *pe-re-qo-ta* and *pa-ra-ko*, and *pa-ra-ko*’s subtenant *po-so-re-ja*. No obligation is mentioned in their case. One can imagine that this is due to the irregular character of their entries and their special status in society that might grant them certain exemptions.⁷²² The obligation could be seen as a central frame element in the *ka-ma* frame that is only omitted under certain circumstances.

If these three verbs denote an agricultural obligation, one might expect them to occur in entries referring to other types of land as well. This, however, is true in only two cases: Eb 862/Ep 613.3 and Eb 338/Ep 704.7-8.⁷²³ Both of these cases are very irregular. In Ep 613.3, the lessee is said to own a *ke-ke-me-na ko-to-na* and be *ka-ma-e-u* at the same time. This would explain why he is stated to have the obligation of *wo-ze-e*. But as our knowledge of the relation between *ka-ma* land and *ke-ke-me-na ko-to-na* is so fragmentary, we can say no more about the structure of the phrase. The second case, Ep 704.7-8, is irregular in that it refers to an owner of two *ke-ke-me-na ko-to-na*. We do, therefore, not know why none of the regular entries comes with an obligation. It is unclear why we do not have any reference to this in the normal tablets. It might be either because it was not important to the scribe at that moment and in that context. Or it was a fixed obligation that always was expected and could be inferred automatically. Or it was a fixed obligation that was fulfilled at the time of the writing of the tablets and therefore needed no mentioning because only exceptional cases would have been mentioned. But as an obligation, fulfilled or not fulfilled, is always mentioned in the *ka-ma* tablets, and as it is very improbable that all of the numerous lessees of the

⁷²² Ventris/Chadwick 1973, 263; Del Freo 2009, 48.

⁷²³ Del Freo 2009, 48.

En and Ep tablets have dutifully fulfilled their obligation up to the satisfaction of the palace, the first two possibilities seem more plausible. It would be only reasonable to assume that there was a certain exchange value attached to normal plots as well. But if this value was more in the sense of a PRICE that was paid when leasing the plot, which would give the leaseholder a certain freedom in the choice of working the land, or in the sense of an OBLIGATION that gave a concrete task to do, is not fully clear.

5.7.4.4.2 Non-central frame element II: PURPOSE

This has to do with the second, non-central frame element of the land holding texts, that of the designated use of a piece of land or the reason for its transfer. As we have seen, this element is not usually mentioned (although one might assume that the verbs in the *ka-ma* texts denoted to certain obligations might at the same time fill this position in the sense of a certain agricultural task to do on this type of land). But in two cases of the Ea tablets, we can read the somewhat enigmatic texts

Ea 59.5	<i>ke-re-te-u e-ke e-ne-ka , i-qa-jo</i>	GRA 5
	Kreteus has for the horse	GRA 5
Ea 805	<i>o-pe-te-re-u e-ne-ka , a-no-qa-si-ja</i>	GRA 2
	Optereus for the expedition (??)	GRA 2

ke-re-te-u is said to have a plot of land ‘for the horse’. The meaning of the phrase is not fully clear. Ventris/Chadwick compare it to entries in the Wilbur papyrus, where a stable-master is assigned a plot of land for the subsistence of his horses.⁷²⁴ Deger-Jalkotzy agrees with that.⁷²⁵ The second entry on Ea 805 is even less understood because we cannot be sure about the etymology of the word *a-no-qa-si-ja*, parallel to *i-qa-jo* in Ea 59.5. Ventris/Chadwick and Aura Jorro prefer to read a noun in -βασία, probably *ἄνο-βασιά ‘expedition’.⁷²⁶ Duhoux agrees with this interpretation and compares

⁷²⁴ Ventris/Chadwick 1973, 260.

⁷²⁵ Deger-Jalkotzy 1988², 113-114.

⁷²⁶ Ventris/Chadwick 1973, 253; Aura Jorro 1985, 69.

it to the parallel texts of Ea 59.5. Both texts would refer to a certain reason for the transaction. Duhoux argues that plots of land were given out in exchange for certain tasks accomplished. He refers these special tasks to the more general working of the *te-re-ta* who were given plots of land for accomplishing their task of being *te-re-ta* and of *te-re-ja-e*.⁷²⁷ In this sense, we might conclude that the reason for the transaction was only mentioned in exceptional circumstances, but that it could be implicitly included in the normal texts through the knowledge of the position of a person in society.

From the exceptional mentioning of these two properties of land, the obligations attached to them and the reasons for handing them over, we can infer that these represented secondary frame elements, that did not need to be mentioned in every case but could be inferred. Both elements are very difficult to distinguish and it is not certain if they should be seen as two distinct frame elements at all or rather referred to one category, that of obligations attached.

In writing and reading the texts, the scribes would have relied on their background knowledge. They would have presupposed that in reading the text the reader would be able to draw on their cognitive resources in order to make reasonable assumptions about possible lacunae in the text. This could only function if writer and reader had a similar world knowledge available. It cannot be answered in how far the Linear B tablets could have been understood by outsiders. For sure, the common social background and similar education of the scribes and their position as palatial officials would have facilitated such a system.

5.7.5 Order in the E tablets - schemata as networks

I have argued how each entry of the E tablets is the result of a careful arrangement of information. Not all of these pieces of information are immediately visible from the text. Rather, they need to be inferred by the reader from their background knowledge that was stored in long term memory in the form of frames. Reading is in this sense an active, constructional process that involves much

⁷²⁷ Duhoux 1976, 59-60.

more than just the deciphering of signs. In Linear B in general, and in the E series in particular, we can see how the single entries, each of these a complex entanglement of different frames, are arranged in larger clusters, that is paragraphs and tablets. Following Bennett's analysis of the Eb/Ep and Eo/En tablets, I have already argued how this arrangement is by no means coincidental but follows a purposeful plan. Various aspects and methods of organization are taken into consideration by the scribe in order to give a sense of order to the texts. We can now think about how these single-entry frames combine to form larger entities. In the same way as Linear B entries and tablets are organized in larger groups, that is sets or series, with various cross-references, we can think of frames being organized in larger epistemic structures. Meaning and knowledge about the world are highly entangled.⁷²⁸ In frame theory, especially in the research of Minsky and Barsalou, frames are thought to be mentally organized in networks. Within these networks, different frames are imagined as nodes that are connected through various relations.⁷²⁹ The human ability for cognitive association enables the creation of these epistemic frame systems.⁷³⁰ Frame systems are generally imagined to be ordered according to the principles of similarity and contiguity. Thus, the definition of similarity and contiguity takes place at two different levels. Ziem's definition refers to inter-frame relations, that is relations between different frames. One can, however, imagine that the ordering of intra-frame relations took place according to similar principles.

The lucky coincidence of having preserved the preliminary Eb and Eo as well as the final Ep and En tablets enables us to combine the insights about the order of the tablets and the research on frame systems. I suggest that the governing principle of order in these sets is that of similarity. The more attributes and fillers two entries shared, the closer they would have been arranged in the tablets. Similarity in the Linear B tablets can refer to form, that is the outer structure of the phrases, as well as content, that is the inner cross-references such as names or qualifiers. Both are highly entangled

⁷²⁸ Schwarz 1992, 86.

⁷²⁹ Minsky 1974, 1; Barsalou 1992, 27.

⁷³⁰ Busse 2012, 637.

and it is not always possible to separate them. The texts referring to *ka-ma* land, for example, are highly irregular, but we do not fully understand what the reason for this irregularity was. Nevertheless, we can observe certain criteria that were applied by Hand 41 and especially Hand 1 when assembling the different pieces of information. These must be seen in hierarchical form. The ordering of tablets would work from more general aspects to very specific ones. Following factors can be observed for the En and Ep tablets as shown in Table 9:

Table 9 Hierarchy of criteria of order in the En and Ep tablets.

Category of landholding (GRA)	
Location (En 609.1: <i>pa-ki-ja-ni-ja</i>)	
En tablets	Ep tablets
Type of landholding (<i>ki-ti-me-na</i>)	Type of landholding (<i>ke-ke-me-na</i>)
Structure (many entries – few entries)	Structure (irregular – regular)
Lessor (name)	
Lessee (name)	Lessee (qualifier)
Lessee (qualifier)	Lessee (name)

The category of landholding marked through the ideogram GRA is the wider frame that not only connects the En and Ep tablets (and through them the Eo and Eb tablets), but also the further tablets of the E series (Ea, Ed, Eq, Er, Es). This is further specified through the use of *e-ke* as expressing a form of tenure in Ea, Ed, Eb/Ep, Eo/En, Eq 146 and Es 650. The next criterion of order seems to have been that of location. It is attested in the heading of the Eo/En texts that refers to a place *pa-ki-ja-ni-ja*. This heading is thought to refer to both sets, En and Ep alike. For the other E sets, this evidence is less secure and we can only rely on deductions and cross-references. This is probably also due to the fact that we do not have land holding tablets for all the provinces of the Pylian kingdom that we know of from other series such as Jn and Ma. This might be a result of the scribes in the archive of the palace of Pylos giving detailed information only for the geographically closest and economically most relevant provinces.

From the next stage on, we can find two slightly different proceedings that can partly be explained by the different character of the land holdings. Central to the ordering of the tablets was the type of land holding. The strict separation between *ki-ti-me-na* and *ke-ke-me-na* land was observed immediately after the decipherment of the tablets and Panagl's theory about the "Wortstellungsopposition" further emphasizes the scribes' will to contrast both types of land. The separation into subseries therefore is undertaken mainly on grounds of content with special reference to the LEASEHOLD frame element, that is: land holding, location and type of landholding. Within the subseries, one can observe a first step of ordering according to the outer structure of the tablets. In En, this depends on the length of entries, in Ep on their irregularity. This slight difference in structural approaches can be easily explained by the different characters of the entries: The En entries are highly regular, so an ordering according to regularity would not make sense. Additionally, *ki-ti-me-na* land is owned by various persons, so an ordering according to groups of persons in the frame element LESSOR is highly afforded by the texts themselves. In the Ep texts, on the other hand, we find highly irregular entries in the possessions of the *ko-to-no-o-ko*, of *ka-ma* and of *e-to-ni-jo* land. To set these types of LEASEHOLD with their apparently different legal implications aside would only make sense. No grouping according to LESSOR is feasible, because the lessor is in almost all cases the *damos*, so a grouping according to LEASEHOLD *ke-ke-me-na* automatically involves a grouping according to the default value *damos*. This is why the stage of ordering according to LESSOR, that is so central to the En tablets, is omitted here. The last stage of ordering involves the persons that are involved in the possession of land, first (in En) the LESSOR and then the LESSEE. The lessee can be described through their name and their qualifier. In the Ep tablets, the qualifier seems to be the dominant characteristics, at least when it comes to the *te-o-jo do-e-ro/a* which are all sorted together. But also the identity of the name seems to be relevant to the scribe. In Ep 539.4-5, for example, both mentions of *po-so-re-ja* are placed together. The third mention of *po-so-re-ja*, however, is placed in Ep 613.12 because the lessor of her land is mentioned among the *ka-ma-e-we* which seems more central than sorting her together with her

other entries. The servants of *a-pi-me-de* are listed together in Ep 539.10-12 before his entry in Ep 539.14, so apparently the identity of the superordinate person seems relevant. Finally, in Ep 212.3-5, three persons, *e-ko-to*, *ko-ri-si-ja* and *e-pa-na-sa-ti*, are listed one after the other. All three of them reappear in the second paragraph of En 74 as lessees of *a₃-ti-jo-qo*. If this is coincidental or purposeful cannot be securely determined.

In the En tablets, the central factor seems to be the personal identity of the person. As Bennett has shown, the paragraphs were ordered first according to name of the LESSOR, but second according to personal name of the LESSEE, in that the identities of the lessees rendered possible a smooth transition between the different, otherwise unconnected, paragraphs. Paragraphs that shared one lessee were grouped together. The fact that there is probably more to the personal names than we can understand and their relevance to the ordering and categorizing of tablets was proven by J. Smith. She could show, how in the Jn tablets, occasionally mistakes were made and corrected by Hand 2, one of the most experienced scribes in Pylos. The mistakes involved the listing of personal names and would not even be recognizable as mistakes by use if it was not for the visible erasures. A list of smiths on Jn 605, for example, had originally named *e-do-mo-ne-u* and *mi-ka-ri-jo*. Hand 2 then erased both because it had apparently come to his mind that he needed to put *to-ri-jo* first. He then rewrote *e-do-mo-ne-u* and *mi-ka-ri-jo* in the subsequent lines.⁷³¹ This erasure and rewriting would not have been necessary if the order of the personal names would be irrelevant. Thus, we can deduce that the identity of a person would have been known to the scribes and would have been a relevant and crucial factor in the compilation of the tablets. This kind of information is, however, frequently lost to us. We can reconstruct parts of it by comparing cross-references, but for large parts we must be content with the insight that a name was more than a name to the Mycenaean scribe. The emphasis in the Ep tablets on the position of the person and in the En tablets

⁷³¹ Smith 1992-1993, 194.

on their personal name agrees well with the public and private character of the Ep and En landholdings.

It is evident that the ordering of information on the tablets was not coincidental and took place according to a complicated and highly entangled plan with various levels of information, in structure and content, interacting. But the governing principle of the order of the Eb/Ep and Eo/En tablets, its essence can be reduced to one rather simple law: that of similarity. Entries that were similar would be stored together. This might seem incredibly obvious but it is actually reflective of a highly entangled system of knowledge that enables the scribe to take into consideration structural as well as social and cultural information to reach a harmonic order. The tablets of the Eb/Ep and Eo/En subseries are part of one larger series because they share the same general frame, that of land holding expressed through the ideogram GRA. They share this property with the other subseries of the E series. The four series (as well as Ea) are distinguished by the verb *e-ke* that evokes the HAVE frame. In that, they share the same slots: LESSEE, LESSOR, LEASEHOLD. Within this frame, they are further ordered according to the subdivisions just mentioned. Entries that share values for one or more attributes, are grouped together. Thus, entries that share the value *ki-ti-me-na* for the attribute LEASEHOLD, will be grouped in En. The next level of grouping would be LESSOR and then LESSEE. This does not mean that one or the other frame element is more salient. It is just a matter of frequency. There are only four types of leaseholds known in these subseries, fourteen lessors in En and the damos in Ep, but a vast number of lessees. Thus, the scribe would work from the more general to the more specific.

5.7.6 The brevity of the Ea tablets

Despite certain obvious differences between the Ea and the Eb/Ep/Eo/En tablets (such as Ea's different scribe and different state within the bureaucratic cycle, its different location or its focus on the lessee's name in ordering the tablets) the tablets still display structural similarities. I have analysed the structure of the land holding frames mainly according to the Eb/Ep and Eo/En tablets because they provide us with the most complete formulae. But a similar structure can also be

recognised in the Ea tablets. The general skeleton of the frame HAVE, its frame elements (LESSEE, LESSOR, LEASEHOLD), can be found in these abbreviated texts as well. Additionally, we find the frame element PURPOSE with reference to the plot of land in two cases (we do not know if this would have been inferred in the other cases or was not applicable). But not the frame element OBLIGATION (which is probably due to the lack of *ka-ma* entries except for Ea 28). The main differences lie in the values of the attributes, not only, of course, in the different identities of the persons, but also in their qualifiers such as the lack of religious officers, the non-presence of women or the reference of certain people to the *ra-wa-ke-ta* instead of the *wa-na-ka*. All these are reflections of deeper social differences. In the case of the Ea tablets, the full frame is recognizable to us at first glance only from the more extensive texts such as Ea 480. These more extensive texts are, however, comparatively rare in the Ea series. While Hand 1 in his final compilations of the Ep and En texts took care to write down all pieces of information he regarded as necessary, Hand 43 in the Ea texts chose a more economical approach by abbreviating his tablets to an extent that makes them appear barely understandable. However, he must have been sure enough to assume that a second scribe who would eventually have transferred the text to a final compilation (or even himself, after some time) would be able to supplement the missing links. This might have been facilitated by methods of storage such as the use of two baskets for different types of land holding.

Not all tablets are abbreviated to such an extreme as Ea 810. Why some tablets display the longer formula and others do not, is unclear. Two reasons could be thought of: On the one hand, tablets would have contained a longer formula when their content was irregular, that is when certain pieces of information differed from the majority of tablets so that they could not be inferred but needed to be emphasized. On the other hand, more applicable to Ea, it is imaginable that the length of the text on the tablets depended on their position in the series; the full formula would have been positioned in first place in order to be evocative of the structure of the frame. But this cannot be proven until an analysis of the contiguities of the Ea tablets is undertaken. Ruijgh's analysis of the lacunae in the Ea tablets and the pieces of information that would need to be inferred for every

example is very convincing. He demonstrates how various types of information could be inferred from the general world knowledge of the reader and the knowledge of the textual world. In this way, a reader would be able to even understand very abbreviated texts. However, it seems an arduous task if a reader would have needed to go through this complicated system of if-clauses each time he read a single line of text (it would have been more economic, then, to just write the full formula). One should therefore ask how the Ea texts were processed cognitively. Now, if one combines Ruijgh's analysis with the theory of frames, one meets a much more fruitful approach. The existence of frames can explain how Ruijgh's complicated system could be implemented in the minds of the scribes. In my opinion, the rules of Ruijgh's system were stored and structured in the form of cognitive frames. In the procession of a tablet, each of the entries (and each of the words) would direct a reader towards a frame (one and the same overall frame for all the entries). The frame contains all the necessary frame elements (and many optional ones). The knowledge attached to the frame would incorporate all the different rules that Ruijgh designed but would allow for a much quicker access. A reader would invoke the right frame and be presented with an array of knowledge involving all he has learned from his experience in living in that society, including default values that can be automatically inserted. A reader would thus be able to access the knowledge behind Ruijgh's analysis intuitively and immediately. Hand 43 must have come to the conclusion that it was more economical to infer information than to write it. That Hand 1 did not do so must be due to the different status of the texts with Ea being ad hoc notes and Ep and En being final compilations. Following Hajnal's analysis of the *e-ke/e-ke-qe* problem, one might imagine that it is also a question of oral or written language with Ea representing an oral language use and Ep/En representing the properly written form which took care to leave no ambiguities.⁷³² When I say that Ea is the abbreviated form of the frame where knowledge needs to be inferred, this does not mean that the final compilations Ep/En are inference-free. Inference will take place in every text because there is always more information to a frame than is written out. For us as

⁷³² Hajnal 2004, 244.

archaeologists or historical linguists, it is different to judge what actually is missing in the text and what the ancient reader would have known because we can only rely on what we have. But still, from our inability to fully grasp the meaning of even seemingly simple words (such as *e-ke*: what kind of transaction is it? It is probably not a purchase, that is a complete transfer of ownership with all rights and duties, but rather a usufruct, but what are the conditions of such an usufruct? This would even be difficult to answer for a layman for a modern usufruct without consulting contracts or books or lawyers), let alone more complicated expressions like *ka-ma*, we can deduce that there must have been more knowledge than we understand.

The previous chapter argued how a frame semantic approach to the E tablets from Pylos can give us an understanding of the Mycenaean conception of property in the context of landholding. The single words in the repetitive entries refer back to a pattern that is cognitively and linguistically grounded. Through this pattern, drastically abbreviated texts as are found in the Ea series were still understandable to a Mycenaean. The rigid structure of the Pylos texts provides us with the opportunity to extract the essence of the frame by comparing its re-occurring elements. Elements that are written again and again, patiently in each line, must be seen as essential to the frame. Therefore, a combination of narrowly structural and more speculative considerations will shed light on the cognitive structure of the Mycenaeans, writer and reader alike.

6 Discussion

The sun was already low in the Messenian sky and the walls of the palace threw long shadows on the pavement. Phugegwris was crossing the court, swiftly avoiding the numerous other people occupied with the late duties of the day. Servants were running back and forth in the last preparations for the supper, messengers brought their greetings from the various towns of the kingdom. This time of the year was always a busy one. In a few days, the new Damokoros would be appointed. Everyone knew that the appointment of a new official came with a major feast. The palace was buzzing with excitement. A feast was always a welcome disruption of the daily

businesses. It would mean a large sacrifice and artistic performances that would satisfy the hunger of the people for entertainment and an extensive meal. And, God knows, they could all use a bit of distraction in this turbulent time. But until then, a lot needed to be organized. The servants of the palace were always keen on feasts like this as they would receive special rations of wheat and figs. The kitchens were already engaged in the preparation of the various products that had been brought from the towns of the two provinces to the palace for this occasion: wheat for large loafs of bread, the crumbly goat's cheese that was so popular among all social groups, sweet honey that was taken care of by the various beekeepers of the palace, goats and pigs and cattle to be slaughtered and cooked. And, of course, the dark stained wine that would make the feast even more cheerful. Phugegwris knew that his colleagues had very carefully noted down the various items of food that reached the palace so as to make sure not to overlook any contribution. They had written small lumps of clay and larger clay tablets with names and items contributed. It was an effort taken that reflected the power and influence of the palace.

The highlight of the feast would be the sacrifice of a bull. The Wanaks himself had contributed this precious animal: larger than the average cattle, with immaculate white hair and horns that one would only want to admire from afar. It had been fattened all year long just to be killed on this occasion to ask for the goodwill of Poseidon and to provide the people with sought-after meat. Other offerings would be undertaken to please the gods, libations in the form of wine and perfumed olive oil. Phugegwris and his colleagues had agreed to collect all the necessary documents in the corner of the first room of the archive, where they would have space to sit and write.

But this would all be cared for by the other officials of the palace. Phugegwris was only to concentrate on his task. He just returned from the storerooms with a large basket in his arms, filled with numerous long and slender clay tablets. A servant had offered to carry it, but Phugegwris would rather take care of them himself. The clay was still damp and the writing could be easily obliterated. And it was of immense importance that every sign was clearly readable. The Wanaks himself had sent him to the most sealed-off storeroom, the room where some of the most precious

items of the kingdom were stored. Some of these were needed for the upcoming feast. Especially the ornate furniture for the elite guests to sit on and the intricate metal vases that would set them apart from the wider public with their simple clay vessels. There were also a few tripods, damaged and therefore seemingly useless, but of high symbolic value. They had belonged to famous ancestors of the Wanaks, men, half history, half myth. They would be arranged in front of the Megaron for everyone to see and to testify the glorious past of their kingdom.

Phugegwris' task had been to keep record of these valuable objects. It was his responsibility that nothing vanished or got damaged in the course of the festivities. He was one of the most experienced scribes in the palace. He had taken exceptional care in recording every detail. Luckily, he was very familiar with the different affairs of the palace. He knew enough about the manufacturing of precious items to be able to tell different materials apart, to denote the identity of a certain precious stone or to know the names of all types of decoration. He knew intuitively which aspects were of relevance for the identification. He was sure that he had listed them all correctly and if anyone would check they would be able to recognize each object. They would find it all in best order.

Phugegwris reached the archival room at the entrance of the palace. He nodded to the guard, unlocked the door and placed the basket with the tablets on the floor in the corner of the ante-room next to the other tablets that his colleagues had already brought here. They could dry there; they would be safe. In a few days, after the successful termination of the feast, he would check them once again to prove that every item had returned in its correct state to the storeroom before he would store them away. He threw a last glance at his day's task and with a confident smile he closed the door.

6.1 What do the Ta tablets reveal about the Mycenaean culture?

Somehow like this we might imagine the context of the writing of the Ta tablets. The assembling of the Ta tablets might have been one of the last tasks that Phugegwris – or Hand 2 as he is

conventionally called – managed to fulfil. They might refer to a feast never celebrated. Tablet Un 718, found next to the Ta tablets, announces the contribution of foodstuff and a bull for a major feast by the *wanaks* (see Catalogue 5). It is a rare prospective tablet, giving the future tense of δίδωμι ‘give’ for the contributions. The items were therefore planned to be given. If they ever reached the palace is uncertain. Whether the inhabitants of the Pylian land were aware that they were possibly planning their last feast or not cannot be said. The tablets in any case never made their way into the main archival room. Disaster befell the palace before the scribes could finish their work.

In all their tragedy, the Ta tablets present us with an invaluable testimonial about the proceedings in the palace of Pylos towards its final hours. They show that even in a moment of crisis the officials of the palace tried to keep alive the procedures of the palatial administration with bureaucratic accuracy. Each of the tablet series that were transmitted to us bears witness to one specific area of the Mycenaean culture as it presented itself in the last year of the palace of Pylos. As administrative texts, the Linear B tablets immediately reflect the daily life of the Mycenaeans. Some aspects of Mycenaean culture, such as the feasting paraphernalia in the Ta tablets, are more lucid to us because they refer to concrete objects, objects that can be excavated and objects that we know from our own life. Other areas, such as the system of landholding from the E tablets, are much more difficult to grasp because the tablets are the only evidence we have for this complex juridical procedure. The degree of specific cultural knowledge needed to understand the latter is even more extensive than for the former. We must therefore ask: What did a Mycenaean need to know to speak about and understand these complex cultural references?

In order to answer this question, I have approached the texts from their structural and formulaic side. It was noted early in the history of Mycenology that the Linear B texts exhibited rigid patterns. For my research, I have argued that these patterns not only facilitate but actually enable understanding because they refer back directly to the cognitive substructure of the texts. The patterns of the Linear B texts include aspects of word order, word formation, grammatical structure

and semantic content. I have examined two series, the Ta series and the E series, which both are comparatively extensive, but very different in their structure with the Ta series referring to a number of objects and the E series describing complex juridical issues.

In the introduction, I stated that the application of frame theory on the study of Bronze Age Mycenaean texts is a valuable endeavour for research on both ancient and modern cognition. What have we learned from the two case studies presented in the present thesis?

From a Mycenological point of view, the analysis of the two tablet series of Pylos, Ta and E, has tried to show how the structure of the texts, which researchers noticed from the beginning of Mycenology, is reflective of deeper cognitive patterns called frames or schemata. This pattern is at first invisible to us, it existed only in the mind of the scribes, it was shared by writer and reader alike. As we are not Mycenaeans who have this pattern intuitively present, we need to reconstruct it from the available sources. By comparing the attributes of single entries on a certain topic (such as feasting or landholding), one can achieve this aim. This provides us with insights about the various pieces of information that were relevant to the Mycenaean scribes in the description and understanding of a certain area of Mycenaean culture. The presence of frames as very basic level cognitive structures can explain why various pieces of information in the texts could be omitted without inhibiting the understanding. The frame structure and the construction of frame systems is mirrored in the materiality of the tablets: scribes found ways to stress this structure by using repetitive formulae, arranging text in columns, stressing important attributes by writing in larger letters or using different formats of tablets. The location of certain tablet groups in the archive suggests that superimposed frames govern the distribution of tablets within the physical space of the archival rooms 7 and 8 (as in the feasting tablets). Further study might reveal how the archive mirrors a frame system with different tablets or tablet series being connected through their frames at a higher level not immediately perceivable to us. Evidence from Linear B thus suggests that one can and should not separate the representational content of the tablets from their material aspects as both are tightly intertwined within what we call archive. To answer how a Mycenaean was

thinking could be: in frames. To answer what they were thinking must refer back to the different cultural schemata as reflected in the written texts. One should expect that certain elements of a frame, if a similar frame existed in a different culture, could stay the same (such as that a verb 'to have', when translated in a different language and society, requires someone who has and something that is had), but how this structure is filled is inherent in the cultural understanding, the habit, of a certain culture. In the same way that a translation of a word will never have exactly the same meaning in two languages, the cultural schema that governs what we call 'meaning' will differ slightly. Frame theory allows for an analysis of the differences as well as commonalities in the cognitive foundations of culture between time periods and across social groups.

The present thesis has also tried to show how we can approach a study of frames in an ancient language in comparison to the various studies of modern frame systems. Counterintuitively to what one might think, the limited textual corpus of the Linear B texts, their repetitive structure and the administrative character of the tablets actually facilitate an understanding of the cognitive substructure. In ancient languages, we are presented with a limited token group from which we can reconstruct the type. This can theoretically be done for all corpora of comparable texts in every language when one finds a suitable *tertium comparandum* as I did with texts of a common Linear B series, that is on a common topic. Research on ancient frames, of course, remains within the limits of our knowledge of the relevant language and our interpretation of meanings. When a new interpretation of a word comes up, we need to adapt the frame. In that, we are less intuitive than researchers on modern frames. But even though we are limited in our study to certain areas of Mycenaean culture while others will remain tacit, and despite our (comparatively) fragmented knowledge of the Mycenaean language, the character of the Linear B texts allows for an in-depth study of ancient cognition that can shed light on areas of the Mycenaean culture that would otherwise be lost to us. Problems of modern frame theory, such as the inherent recursivity of frames, do not apply here to this extent as we deal with a limited textual corpus (although, of course, new texts might be found that add to our knowledge of ancient cognitive structures). The

implications for Cognitive Science are that we can extend our area of interest into cultures and languages whose speakers cannot be heard anymore. To detect patterns of knowledge in such early written texts can enhance our understanding of modern cognitive frames in that it stresses the importance of an epistemological approach in language formation and understanding and unites such distant cultures as the Mycenaean and the modern English under one common framework. An exemplary study of ancient Mycenaean Greek frames might shed a light on the application of frame theory on textual corpora and languages foreign to the researcher. Research on ancient frames must be based on a comparative approach of texts or entries within texts that can be used in the same way in modern texts. This methodology can be applied to a more limited text corpus or take a wider perspective by comparing intertextual relations. It can furthermore refer to the more static conception of frames (as in the present thesis) or the more dynamic concepts of scripts (as in research on the Homeric narratives) or a mixture of both (as when one investigates the narrative of an ancient feast). Finally, research on ancient frames can be applied to textual as well as non-textual evidence and thus add to our understanding of the human mind as one holistic system working according to common principles. In the following, I will highlight various aspects of both tablet series and relate their cognitive structures to our knowledge of Mycenaean culture and writing, beginning with the Ta tablets.

6.1.1 Pictorial and textual evidence for the Mycenaean feast

The Ta series and related tablet series refer to the cultural model of the feast. A Mycenaean, in their upbringing, would gather experiences in this area of culture on multiple occasions. From these experiences, they would be able to construct a general pattern with all the elements that were expected in a proper feast. This pattern would have been shared by a larger social group and thus take the form of a cultural model. Through this, a Mycenaean could, in the process of understanding, match the various elements of a feast in texts or depictions to their cognitive conception. The Linear B texts and the preserved iconographic, artefactual and zooarchaeological evidence allow us to reconstruct these elements.

The written as well as the pictorial and faunal sources suggest that major feasts in the presence of the elite of the palace will always have required certain types of food, a sacrifice, entertainment and special items of furnishing in the same way as a modern party requires certain constituent parts in order to be called a party. These different aspects of a feast were so present to the Mycenaeans that they could even be depicted in the main set of rooms in the palace of Pylos, the megaron and its ante-rooms. As I have laid out in chapter 4.4.2.2, the pictorial programme in this part of the palace consists of different individual depictions, each of them referring to a certain aspect of the Mycenaean feast such as the carrying of furniture or the music played by a lyre player. A learned viewer, that is a person immersed in the Mycenaean culture and acquainted with its different rituals and traditions, would be able to take these singular depictions and integrate them within the larger picture of the Mycenaean feast. The different sections would merge into a whole story, a chronological sequence or, in frame theoretical words, a script, both concrete reference and abstract concept. In their striving for sense, the Mycenaean viewer would give meaning to an otherwise unconnected set of pictures. They did not need a written heading as they were able to construct this heading themselves.

Something similar must be true for the Ta tablets, that refer to one of these depictions, the carrying of items of furniture and vessels into the megaron. The Ta set records a heterogeneous collection of various paraphernalia that – judging from the heading in Ta 711 – were needed for a feast on the occasion of the appointment of the new *damokoros*. That this feast took place with the participation of the elite and probably the *wanaks* himself becomes clear from the heading as well as the high quality of the items listed. Their high value is probably the main reason why these items were recorded in such detail. The Ta texts are remarkable among the Mycenaean corpus due to their comparative length and their detailed description. I have discussed in chapters 4.5 and 4.8 how each type of information has its own place in the formula with similar entries listed underneath each other. These descriptions take the form of a specific pattern with the name of the object in the first place and in some cases the relevant ideogram in the last place. In between, we find a

series of attributes describing the object. These attributes can take the form of different word categories, mainly nouns, adjectives and verbs. To analyse these written patterns allows for inferences about the cognitive substructure of the texts as it will be discussed in the following section.

6.1.2 How the structure of the table entries enables understanding

Hand 2 sees and describes three types of furniture in the Ta tablets: chairs, footstools and tables. An entry is always a concrete exemplar, which in frame theory and general linguistics is called a token, but also reference to a general model, a type. From the comparison of the token patterns, we can reconstruct the type. In chapter 4.8, I have taken as an example the entries regarding tables. The following elements form the cognitive basis for the description of tables in the Linear B texts; every token entry in the Ta tablets is based on this type structure with all the elements that Hand 2 regarded as important in his description of tables:

MATERIAL – CONSTRUCTIONAL PARTS – TYPE – NUMBER OF LEGS – WORKMANSHIP – DECORATION

Hand 2 presents these elements in his various entries in a largely fixed order. This order should be seen as meaningful. The material of the table, for example, is always mentioned first, while decorative details are mentioned last. The part in between, which usually refers to constructional parts, is a bit more flexible. It is striking that the table top is not usually mentioned although one would assume it to be the most basic part of a table. But we do have indirect reference in the form of the word *a-ka-ra-no* ‘without a head’ which is attested in two entries which refer explicitly to tables without a top. It is thus feasible to suggest that in the Mycenaean image of a table, the ‘head’ was indeed an essential part because a table would not be a proper table without the most basic constructional parts: a top and some kind of support. Thus, the word ‘head’ does not need to be explicitly mentioned; a Mycenaean would infer its presence from his knowledge of what tables look like. This is a mirror of world knowledge and semantic knowledge at the same time: it refers to concrete experience of living in the world and to the actual definition of a table as a board with

some kind of support. World knowledge and semantic knowledge can in fact not be separated here. To understand the word ‘table’ is to understand what a table is used for and how it looks. The tight entanglement and mutual dependency of semantic and world knowledge is a general characteristic of the Linear B texts and must be regarded as the main precondition for their abbreviated nature.

The word order in the Ta tablets with the various attributes that describe each entry is determined by the world knowledge of the scribe rather than by a strict grammatical rule. The rigid structure of the entries in the Ta tablets is further emphasized through the various grammatical forms that the attributes – be they nouns, verbs or adjectives – take. In chapter 4.8.1 and Catalogue 2, I have contrasted the single entries. From this ordering, it becomes apparent how the various elements of the description are parallel in word formation in each entry. From this, one can draw inferences about their semantic roles. The word formation is highly significant for the understanding of the entries.

Forms used are, for example,

- the instrumental of nouns to denote parts of furniture (such as *e-ka-ma-pi* ‘with supports’);
- participles in the perfect passive to denote types of workmanship (such as *qe-qi-no-me-na* ‘drilled’), their form suggests that something has been done to the table and a reader will expect it to be bound to a word of decoration or material – it therefore refers to a semantic role such as workmanship;
- or adjectives with the suffix *-eio-* which is used to form adjectives of material from a corresponding noun of material (such as *ra-e-ja* ‘made of stone’ from a root **lāh-* ‘stone’). Regardless of whether this adjective is based on the noun of stone or wood or crystal, the role is always the same: material.

Through this use of grammar, the function of each word is made visible even without understanding the actual meaning of the word. When a word at the beginning of a phrase ends in *-eja-*, one would intuitively recognize it as a word denoting a material. Words such as *ra-e-ja*, *e-re-pa-te-ja* and *ku-*

te-se-ja are all parallel in formation and must therefore refer to a similar function. Form and function are tightly interrelated in these texts. The knowledge needed to understand the table entries is therefore not only semantic or encyclopaedic (that is, world knowledge) but also grammatical in that the form of the words directly reflects their cognitive role.

Order in the Ta tablets refers not only to the sequence of attributes in each entry but also to the sorting of the entries as such. Hand 2 decides to sort the entries into groups according to their main material. He lists all tables made of stone together and all tables made of wood. The first table in Ta 642.1 is set apart due to its particularly intricate decoration and the exceptionally high value of its material. Therefore, after grouping entries according to type of furniture, material is the next important criterion for sorting. As I have set out in chapter 4.8.1.4, the description of the decoration follows a specific system, too. This becomes very apparent from the entries for the vessel *qe-ra-na* in Ta 711. The hierarchy of decorative elements moves from human to animal to plant and abstract motifs. When asking for the system of order in the Ta tablets, it seems that Hand 2 took care to present the most prominent features first. A table made of crystal would be more conspicuous than one of wood. The material of a table would catch one's eye more than the details of construction. But the lack of the table top as most essential part would be more apparent than the material. The number of legs would be experienced earlier than the decoration. In this way, the scribe in his description of the tables depicts a very precise understanding of which element would outmatch the other. He was able to put himself in the position of another person looking at these objects. He knew what a viewer would pay attention to first and most. We can see that the scribe is following a very specific strategy here: to write a description that would seem natural and in agreement with the perception of the viewer, be it a different person or himself after some time. The order of attributes in the description of objects is therefore guided by vision and perception.

6.1.3 The expert knowledge of Hand 2

As I have argued, the writing of the Ta tablets required a very detailed and multifaceted knowledge. Probably every Mycenaean would have been able to tell that a table needed a top and preferably

a certain number of feet. But, in all likelihood, not every Mycenaean would have been able to give such a detailed description. It is a matter of expertise. Hand 2 must have had a good understanding of the manufacturing of precious items as he was able to recognize the different types of material (and even applying specialized knowledge, e.g. on the difference between aquamarine and lapis lazuli instead of writing 'blue stone'). On the other hand, he also had a certain confidence that his description would allow others or himself after some time to refer the entries to a specific item. His knowledge of a table might have been similar to every Mycenaean's knowledge but more detailed, it contained more in number and more sophisticated attributes. Not only did he probably see more details than an average person, he also was able to describe the table in detail and to make it recognizable. His abilities to describe an object are then not too far from the ornate descriptions in texts we know from Homer.

In his mind, he had a picture of a table, its different constructional parts, its possible decorations, its function. Probably, when thinking about tables, he had this one prototypical example in mind. Maybe the table that stood in his home, that already his parents had used, the affordable wooden surface with the three legs and the scratch on the top. In writing the Ta tablets, he was able to refer back to this image and to just fill in the empty slots with the features he saw before him (probably different from his typical exemplar but even more remarkable). This would explain why the entries are so uniform. They refer back to a standard pattern that would provide the scribe with the position, the function and the grammatical structure of a certain element of description. He did not need to think from scratch of what a table consisted of or which elements were most important, this was already established in his mind from his experience of living in the world. He just needed to compare this knowledge to what he saw and to adapt it to the circumstances. This would have saved a lot of cognitive effort. And this is exactly what frames do.

6.1.4 The cognitive basis of the table description

Frames are an instrument of cognitive economy. The knowledge that Hand 2 needed to describe and organize information about tables was structured in a frame which is just another notion for

the pattern that can be deduced from the tablets referring to tables. The frame would be evoked by the central word, the frame core. This central word takes the most important place in the entry. In the case of the table tablets it is *to-pe-za*. The phrase *to-pe-za* is usually written at the start of the phrase.

One would intuitively perceive the different entries starting with *to-pe-za* as belonging together, as referring to the same type of object, to the same frame. The different words that follow are placed into contrast, substituting each other. Hand 2 decided to list the attributes that appeared necessary for the classification of the objects and filled them with the values that he perceived when examining the objects in the storeroom. His perception filled in the cognitive pattern in his mind through the mediation of language and writing. The word formation refers back to the type of frame element. The order of words is not necessarily fixed in a frame, but there is thought by frame theorists to be a tendency that more salient attributes are mentioned first. This is true in the case of the tables as, as we have seen, material must have been one of the immediately perceivable features of the tables.

Usually, frames are shared among a social group, be it a culture or a specific sub-group. In communication, people can make a reference to a frame and expect the other person to understand it and to be able to retrieve portions of their own world knowledge about the frames which should roughly agree with the first person's frame conception. Understanding a word is accessing the world knowledge about this word. This allows for a deep understanding, even of short phrases or single words. For this reason, the Linear B tablets can be short. Information that was lacking was just supplemented mentally. Knowledge could be not mentioned when it was obvious, when it was not relevant in this context or because it reflected the normal standard; other aspects again might escape our attention because we do not fully understand the etymologies of their words. For a Mycenaean, all these types of knowledge would have been presently available.

6.1.5 Making the Ta texts cohere

It is not very complicated to relate tablets that all refer to the same type of object. But it is more difficult to find a common ground in tablets that refer to such heterogeneous objects as chairs, hearths, and tripods. This is the case that we have in the Ta tablets. As I have mentioned in chapter 4.2, from their common find spot, their common hand and the introductory sentence we know that the Ta tablets form a coherent set, meant to be read as one consecutive text. A Mycenaean would have known so, too, and would have tried to make sense of the tablets. One would expect to find a heading for such a set that says something like: “This is an inventory of items used for a feast on the occasion of the appointment of the new *damokoro*.” Ta 711 gives us the occasion, but nowhere is mentioned a feast or that these items were feasting paraphernalia. Hand 2 could have written this, but apparently, he did not see a need to do so. He must have presupposed that a reader simply *understood*. I imagine this understanding in the very same way as the understanding of the pictorial program of the megaron. Each entry of the tablets belongs to a frame, that is represented through the central word such as ‘table’. These frames, however, are subordinate to higher frames: FURNITURE > FEASTING PARAPHERNALIA > FEAST. Each entry is part of a wider system of frames and attributes and values. The different entries in the Ta tablets can be assigned their appropriate place in this network. It might be difficult for a modern observer to conflate these various items under one heading. The insecurities about the interpretation of the Ta tablets are reflected in the long debate among researchers about the purpose of the Ta set. But for someone who has grown up in this culture, it is much easier. In the same way, the various pictures in the megaron, the people carrying furniture and vessels, the bull, the people sitting at tables, the lyre player make sense when one has the frame for feast in mind. This is because they can be accorded with different attributes of this frame.

As pointed out in chapter 4.6, the relation between the single tablets of the Ta set is one of contiguity, of the habitual cooccurrence of items within a certain cultural context, that of the feast. Because a reader of the texts would know this cultural context and would recognize the items, they

would be able to make sense of the heterogeneous text and to assign coherence to it. The system of contiguity pertains not only to the single tablets within the Ta set but also connects the Ta set to other feasting texts at Pylos, the types of which I have summed up in chapter 4.4.1. The Ta tablets are related to these texts in the same way as the single Ta texts are related to one another. Texts with tables and tripods are coherent because they all can be subsumed under the heading of 'feasting paraphernalia'. The Ta texts and texts of sacrificial animals, for example, are connected because they habitually cooccur in the context of the larger 'feast' frame. This cultural co-occurrence is also reflected in the storage of the tablets in the archive, with the Ta set being associated with texts relating to contributions of foodstuff (Un 718), sacrificial animals (Cn 643, Cn 719) and wine (Gn 720). They can be placed together in the archive, because they relate to a common frame of the feast, similar to the different symbols in the pictorial representation in the megaron. To read the written symbols or to see the painted one functions in the same way. Humans can understand them and perceive them as coherent even without a heading because they can relate them to cognitive structures of knowledge called frames. Thus, it appears that the archive at Pylos was ordered according to the similarity and contiguity of its frames.

In the next section, I will discuss the cognitive aspects of the second series of tablets that I have treated in chapter 5, the E tablets.

6.2 The E tablets

I have suggested how the feast frame in the minds of the scribes facilitated the arrangement and understanding of the various pieces of information in the Ta tablets and how it bestows coherence upon the set as a whole. But feasting is only one aspect of the wider cultural horizon of the Mycenaeans. For a study of Mycenaean cognition, it is useful to compare another sub-field of Mycenaean culture, that of landholding. Landholding is a further cultural model. The E series gives evidence for the lease of land in Mycenaean times. We are presented with the different types of landholdings as well as the relations between the parties involved.

6.2.1 The abbreviated nature of the E tablets

The topic of landholding in the Mycenaean or Pylian culture is more difficult to grasp than that of furniture from the Ta tablets. In contrast to the object descriptions in the Ta tablets where we have exemplars of these objects in Mycenaean graves or depictions of them in wall paintings, we need to rely completely on the texts when it comes to landholding. Furthermore, the E tablets reflect abstract and highly complex juridical situations. They refer to a system that has probably been developed and refined over a long time span. Meanings have been established and related to their social context. One can assume that these texts contained a large amount of implicit knowledge, much more than the detailed object descriptions in the Ta tablets. While Hand 2 took much care to give a detailed account of the objects in the Ta tablets in order to make them recognizable, the scribes of the E tablets, especially sub-series Ea, are more determined to give the minimum pieces of information and they make use of various abbreviations. The abbreviated nature of the Ea tablets is probably afforded first, by the highly repetitive character of the texts which induces especially the scribes who were taking ad hoc notes and therefore might have been under time pressure (as in Eb, Eo and Ea) to omit the more repetitive pieces of information. And second, because of the juridical knowledge that was presupposed in the officials of the palace. Hand 2, as we have seen, would expect the reader to know how a table looked like, but the general look of tables was not the aim of his texts, hence his long descriptions. The aim of the E texts was not to explain what a *ko-to-na ki-ti-me-na* was or how it looked like or how it was used, but to record the tenants and the type and size of their tenancy. For this reason, the actual terms of landholding, that are so fundamental to these texts, are never explained. We have an idea of their supposed etymologies, but we do not understand their meaning, because this was attached to a wider socio-cultural knowledge that had been available to the reader of the texts. This is not to say that this knowledge would have been available to every Mycenaean. It might have been more specialised juridical knowledge that only educated persons had acquired. But the scribes of the E series were apparently

sure that a reader would understand the texts. In the following section, I will discuss the differences in structure between the Ta set and the E series more closely.

6.2.2 Structural differences between the Ta and the E tablets

The E tablets have a very different structure than the Ta texts and they illustrate how different styles of writing and categories of text and syntax can be related back to the same cognitive structure. As I have pointed out earlier, the Ta tablets consist of single entries, each of which is composed of a central noun and a chain of attributes that refer to this noun and describe its properties in detail. The focus is totally on the noun which is in certain cases emphasized by the presence of a corresponding ideogram which would have facilitated the quick understanding of the noun. There is no predicate and the only verbs used are participles that function as adjectives. The E tablets are more extensive in length than the Ta tablets, but their single entries are arranged around a central verb that connects all the entries and refers to the purpose of the whole series. The central verb is *e-ke* 'he/she has' and it allows us to place the tablets in the context of ownership. A noun such as 'table' could stand on its own (as, in fact, many nouns in the Mycenaean lists do), but a verb such as 'he/she has' will automatically induce questions in the reader. This has to do with world knowledge on the one hand, and with grammar on the other.

Grammatically, a verb, unless in the imperative, needs dependant nouns or pronouns around it. This has to do with the grammatical notion of verbal valency. As I have illustrated in chapter 3.2.2.2.2, Tesnière compares the sentence to a stage with the verb being the star of the show and the other members of the sentence its supporting actors.⁷³³ Depending on the valency of a verb, a human will intuitively know how many and which supporting actors would be expected because they have learned this in their language acquisition. Verbs in this sense have slots of which some are obligatory and some are optional. In the verb *e-ke*, similar to the English 'to have', one would at least expect someone who is the agent of having and something that is the object of having. The

⁷³³ Tesnière 1965, 97.

object is specified by the type of landholding which again is described by its size. The agent takes the first and most important place in the entries together with the ideogram and number denoting the size of the plot at the end. These two pieces of information are the most variable and most important in the E texts and they cannot be omitted. From a grammatical point of view, agent and object of the verb ‘to have’ are obligatory. This basic core of the sentence can be complemented through other pieces of information. Not all of these need to be explicitly written. This combination of world knowledge and grammatical knowledge is mirrored in Fillmore’s conception of the cognitive frame of verbs.⁷³⁴ The main difference between the Ta tablets and the E tablets from a frame theoretical point of view is that they refer to two different conceptions of frames in the historical development of frame theory: the Ta series is an example for object frames as discussed by Barsalou, while the E series is more typical for Fillmore’s verbal frames.⁷³⁵ More recent approaches in frame theory should aim for an integration of both types of frames.

6.2.3 The role of the verb in the E tablets

Although *e-ke* appears to be a very basic and simple word, we must assume that it came with certain requirements that were dictated by world and cultural knowledge. When we hear a sentence such as ‘he has a house’, we know that this means more than just being in possession because we know this person must have acquired or inherited or otherwise received this house, because we know they must fulfil certain legal criteria for this possession, because we know they might be in debt for this house for several years. Similarly complex conditions must apply to the simple Mycenaean *e-ke*. These conditions are expressed in certain syntactical roles. The most basic elements of the landholding entries of the E tablets are

LESSEE – LEASEHOLD – HAVE – LESSOR – SIZE

⁷³⁴ Fillmore 1982, 376.

⁷³⁵ For the contrasting approaches see for example Barsalou 1992 and Fillmore 1968.

Other aspects of the landholding model such as the purpose of the lease or its location are occasionally mentioned but apparently not central to the scribes' conception of landholding. Fillmore has shown in his early research on frames that these cognitive structures closely interact with the grammatical structure of a sentence centred around a verb.⁷³⁶ In the same way as a verb in valency theory has dependents in the form of other words, a frame core has attributes and values. If one sees the verb *e-ke* as frame core, this would evoke a number of questions relating to its dependants such as: Who is having? What is had? From whom is it had? Each attribute of the frame refers to one of these questions and each attribute can be filled with different values. Like in the Ta tablets, the parallel structure of the E tablets, especially in Ep and En, allows for deductions about the character of the attribute and its possible restrictions. The agent of *e-ke*, for example, equates with the attribute LESSEE which is filled in the E texts with names and/or occupational titles.

Additionally, a scribe would know that not everyone can take the role of every supporting actor. Grammar and world knowledge restrict the choice of word insertion. Grammar forbids sentences such as "From has a piece of land" because 'from' is not a noun or a pronoun that can fill this gap. And although sentences such as "The stone has a piece of land" are possible in theory, world knowledge will intervene because owning a property will presuppose a certain state of mind (unless it is a poetic text). A Mycenaean would have known that only a person and only certain persons or in exceptional cases also gods can own a piece of land. And although this is not explicitly mentioned, we can deduce these restrictions from the tablets. As I have argued in chapter 5.7.4.1, the E tablets suggests that theoretically men and women and in unclear circumstances also gods can own a piece of land, but women mainly in the sacral sector; they should be grown-up in the view of their culture and of a certain elevated social status. These restrictions in the usage of certain categories of nouns describe the different arguments in the entries more closely, not because they are prescribed by grammar, but because they were established in the formation of the Mycenaean culture and have

⁷³⁶ Fillmore 1982, 376.

found their way into the Mycenaean world knowledge. The understanding of the texts is further facilitated by the syntax. Every word has its fixed position in the text and when one sorts the different entries underneath each other (as, in fact, the scribes did), one will see how parallel they are and how the various types of roles mirror each other. In this way, grammar and syntax and world knowledge and design of the tablets act jointly in order to support the understanding of the texts.

6.2.4 The entanglement of writing and thinking in the Ea tablets

The parallel structure is very much true for the Eb and Eo series and especially the more extensive and carefully arranged En and Ep texts. But as I have discussed in chapter 5.7.6, the situation for the Ea texts is more complicated and not easily explained by grammar or syntax. The Ea texts are early notes of text. It is thus not astonishing that Hand 43 made use of various abbreviations as we would do when we write a short note. Some of the texts are longer and some shorter, maybe he started with the long texts and, after getting weary of the repetitive character of the entries, contented himself with abbreviated notes. Whatever the reason for the abbreviations was, he must have been sure that he or any other scribe who would transcribe them would be able to make sense of even the shortest of these texts without any difficulty.

Ruijgh has in full detail argued for how each piece of information could be inferred in even the shortest texts by a careful analysis of all comparable tablets and by the use of frequency patterns in the words that would have been inserted in every position.⁷³⁷ When a certain piece of information could not be inferred from the other texts, one would insert the most frequent type of information, for example the *damos* as lessor. His argument is very conclusive, but – as I have set out in chapter 5.7.6 – it is based on a rather complicated calculation of various factors and it does not explain how a Mycenaean scribe saw this system as more economical than just writing out the information. It would mean that each time a scribe read one of the shortest tablets, they would

⁷³⁷ Ruijgh 1984, 478.

have to think about all other tablets and group them in categories and make deductions and calculations about the probability of each possible word in the same way as we need to do. But there is a very simple explanation for how this could have been done without any effort but agreeing totally with Ruijgh's analysis, and this is the cognitive structure of frames.

A reader, upon reading the word *e-ke*, would be able to refer the text to some kind of state or transfer of possession. This general meaning would have been further specified by the ideogram GRANUM together with a number at the end of the table which is a definite feature of landholding tablets. This would raise expectations towards the other elements of the tablet, learned in the reader's upbringing in the Mycenaean culture. Not only the character of the attributes would have been available but also a set of standardized values which reflect the most common answer to any of these questions. In frame theoretical language, these are called default values. And this equates exactly with what Ruijgh for his 'schéma cadastral' supposes: that, if a certain word cannot be inferred, it would be filled out with the most common version that is stored in long term memory.⁷³⁸ For this reason, the texts can be highly elliptic. Actually, the only two really essential words in these texts, that is, those words that need to be written, are the name of the lessee and the size of the leasehold. These cannot be inferred and indeed the purpose of the whole series is to provide the reader with this information. A frame would provide the writer and reader with a standardized pattern of attributes and default values. These default values are closely attached to the frame and each time the frame gets evoked, these values are activated.

Furthermore, the grammar helps with understanding the short texts. The nominative of a person is in these texts always used to denote the lessee. Only to read a nominative together with the ideogram would enable the reader to assign the word its rightful place in the structure of the text and allow for inferences about its semantic role. The cognitive structure of a frame with its default values and the grammatical and world knowledge specification of each of its attributes enables the

⁷³⁸ Ruijgh 1984, 478.

reader to quickly process even very short sentences because every attribute that is typically connected to the verb is already pre-structured in the mind of the reader and filled with the most typical value.

In the comparison of the various entries in the E tablets, we can clearly observe how the knowledge about landholding was cognitively rooted in frames. These frames contain and organize hierarchically all elements of world knowledge about landholding that were available to the scribes. When discussing the properties of land, we can see that various persons were involved. Basically, there were lessees and lessors and the lessor could be a person or the *damos* (which probably was to be understood as a congregation of persons). For the purpose of these series, it was important not only to mention the lessee and the size of land, but also from whom they would lease it and under which conditions. The type of land was also important and in fact the Eb/Ep and Eo/En tablets are sorted according to this factor. Each of these attributes of the frame for landholding was further connected to a wider network of knowledge in the form of frames. We understand only parts of these further implications because many of them are not made explicit in the texts. These aspects were part of the world knowledge of the scribes and, if they were not of special importance and explicitly mentioned, could be supplemented from memory.

6.3 Summary

I have argued that the concept of frame is helpful to gain a fuller picture of the the writing and understanding of the Linear B tablets. It is known that the tablets follow a very rigid and symmetric structure. This structure is important for understanding because it interrelates different entries through one uniform pattern. This pattern can also be called a frame. Frames explain how the scribes could be confident that even shorter notes will be understood and are able to convey complex messages, even between different people or spatial and temporal intervals.

The various Mycenaean scribes had a clear understanding of which information to include and which to omit. This demonstrates the ability to put themselves in the position of their colleagues

when making word judgements because they would have needed to be able to infer the missing pieces of information. The scribes seemed to have had a certain intuitive view on the texts that allowed them to understand their formation. Bourdieu called this, with reference to his notion of 'habitus' which shares various aspects with the notion of frames, the "feel for the game".⁷³⁹ This might be one reason why the more experienced scribes Hand 1 and Hand 2 were often responsible for the more complex, more extensive and final compilations of texts. It must have required a certain skill to be able to align the different ad hoc tablets, to supplement the missing pieces of information despite not having been there when they were collected, and even to correct the entries of their colleagues. Most scribes of the Pylian palace (and the palace of Knossos as well) specialize in one or a few areas of the economy. They would have had a detailed understanding of this specific area. But Hand 2 and especially Hand 1 would have needed to have a broad and yet deep understanding of various areas of the economy. This would speak for the position of the scribes in general as officials rather than specialized scribes recording for officials as one finds in the Near East. As we have seen, Hand 2 needed to have a clear knowledge of the manufacture of precious items and Hand 1 needed to fully understand the complexity of Pylian landholding. This is more probable for officials whose general task it was to supervise various parts of the palace economy rather than just note down information that they were given. The scribes whose frames we can reconstruct must have been an integral part of the palace administration at Pylos, responsible themselves for different types of tasks.

We also see that writing as a cultural technique was not the only and main goal of the Mycenaeans. This is not due to an inability on their side. They used script as a tool to refer to their minds. The scribes took ad hoc notes to remind them of what they had heard, especially the new pieces of information, while they omitted information that was obvious. The more spontaneous a text was, the more it relied on memory and world knowledge in the form of frames. Only in the final compilations that were meant to be stored for one year, the scribes took care to be more explicit.

⁷³⁹ Bourdieu 1990, 76.

Everyone who has tried to make sense of a note they have written a year ago will be able to relate to this. The main goal of writing in Mycenaean times is not explicitness. On the contrary, the implicit nature of the Mycenaean texts (even of the rare longer texts that I have used as a first piece of evidence) displays a tight interdependence of writing and the mind of the scribes. Texts functioned as aides-mémoire, they are indices towards a wider knowledge. The layout of the texts might already have raised certain expectations towards which state the text had and how much information would have been needed to be inferred. The page-shaped tablets in this sense are contrasted with the palm-leaf texts that often contain shorter, ad hoc texts. In frame theory, it is argued that this implicit nature of language is normal, for spoken as well as written language. To understand a text is more than just understanding its single parts. This is the main problem for our understanding of the Linear B texts. Often, we do understand the etymology of a word as in *ko-to-na ki-ti-me-na*, but we do not understand its meaning, that is its wider cultural implications. What we have to deduce and speculate on, was immediately present to an educated Mycenaean. The fact that, so far, we do not have any private texts in Linear B attests that script was not seen as absolutely necessary but rather as a tool and measure of proof to be used for extremely complex situations involving numerous items or persons. It could have been also an instrument of power. To write is to store information outside one's own mind. This would increase the cognitive capacity of each human because they must not really remember new facts but only retrieve information that is already stored in long term memory. Additionally, as I have demonstrated, probably not every Mycenaean would have been able to make full sense out of these texts. They required certain experience and expertise and probably a longer training within the palace economy. Having access to this knowledge and understanding the texts would mean being part of a selective and elite group. Considering the notion of power, one could see the archive as a form of discourse in Foucault's sense. It would then be interesting to ask for the discursive mechanisms that governed its formation.

The acquisition of frames was probably facilitated by the fact that frames extend into the physical world and thus occupy cognitive abilities apart from language. Research on frames in language can shed light on other forms of cognition and on the general human ability to assign order to the world around them. I have argued how the frescoes in the megaron of Pylos make use of similar attributes of the feasting frame as the tablets. Additionally, Hruby has shown that the actual sorting of vessels in the pottery storeroom in Pylos functioned according to similar main attributes of vessels as are described in the Ta tablets.⁷⁴⁰ Thus, sorting objects and categorizing them, learning which attributes are most central to this object and how different objects relate to each other, must have been done according to linguistic but also extra-linguistic experience, that is seeing or touching objects. This manipulation of objects according to criteria of world knowledge stored in the form of frames extends further to the storage of the tablets in the Archives Complex at Pylos which I argue to be ordered according to similarity and contiguity. The assignment of single tablets to sets and series was facilitated through the use of various categorization devices such as ideograms, wooden boxes or baskets and labels that grouped tablets and assigned them a certain superordinate frame. Similar cognitive abilities therefore command different fields of cognition such as language processing and understanding, visual perception and categorization. To separate language from other fields of cognition as a separate module in the mind, as had been assumed in the generative grammar of early cognitive linguistics, seems to be in disagreement with the evidence from Linear B and the Mycenaean society as such where similar principles of order can be found in different fields of culture, be it language, archiving or iconography.

Research on cognitive structures of ancient people will have implications for the present and even the future of research on human knowledge and intelligence. The insight that knowledge in the mind of the Mycenaeans was structured according to certain schemata stored in long term memory is very relevant for an understanding of ancient cognitive processes. The schematic nature of knowledge is to be seen as fundamental for various domains of cognition. In this sense, frames are

⁷⁴⁰ Hruby 2010, 200.

a very basic level category that relates further to other cognitive abilities and procedures such as embodiment or categorization. I would even consider the cognitive ability to store knowledge in the form of frames as a prerequisite for the development of writing and maybe even language. No single utterance expresses everything that is meant. In using language, be it in spoken or written form, we always refer back to tacit forms of knowledge. This is also the main source for misunderstandings. The finding that three-thousand-year distant Bronze Age people like the Mycenaeans have relied on schemata in their writing and understanding of texts and probably also language similar to us allows for projections into the future. Cultures have undergone massive transformations since their period, language and writing systems and the content of frames have changed. But the basic cognitive abilities and structures have been stable. One might extrapolate that in three thousand years' time, these fundamental organizational principles will be similar to ours now due to a continuity in this area of human cognitive abilities.

6.4 Future prospects

Frames can be an instrument to ask questions about the wider cultural landscape of a certain civilization. They enable us to tell which element of a certain aspect of culture was most important to its members and thus allow us to gain an emic perspective on various areas of interest. We can see how culture is not just a surface phenomenon, taught and performed according to certain superficial rules, but how these rules themselves are cognitively grounded. They are internalized by people. To access frames of an ancient language means to deduce what these people were required to know themselves to understand a certain aspect of culture. An understanding of the elements that were important in certain areas to the Mycenaeans or other ancient cultures and the analysis of the composition of texts can shed light on the structure of cultural knowledge. The tight entanglement of cognition, language knowledge and application as well as material objects allows for a multifaceted and deep understanding of these epistemological fields. It means an access to culture as direct as through material objects.

For my research, I have focused on two Linear B series with longer texts because they provide us with comparatively much information. A study of these descriptions of objects and juridical situations allows us to reconstruct several of the aspects of world knowledge involved in their arrangement. In other series that are less extensive and detailed in their content, we must expect even more implicitness. It would be promising to engage with different areas of the Mycenaean culture as they are expressed in the tablets. The interrelations and cross references between different series should be taken into consideration as well as the distribution of tablets in the archive of Pylos or the Northeastern Building or the palace of Knossos. Through a study of text and intertextual relations, we might better understand the knowledge that was not written.

Egbert Bakker and Elizabeth Minchin have applied similar questions to the Homeric epics. Bakker's focus is on the aspect of frames as scripts mirrored in the standardized formulae and scenes in the *Iliad* and *Odyssey*.⁷⁴¹ A similar approach is taken by Minchin in her discussion of the interplay between world knowledge and text in the understanding of the Homeric epics.⁷⁴² These studies suggest that similar mechanisms can be found in the economic Linear B texts and the literary Homeric epics despite their differences in layout, writing system, time period and textual genre. It would be a valuable approach to further compare the frames of very 'rational' texts such as the Linear B texts and their object descriptions with more embellished literary texts as in the Homeric epics that are based on the oral tradition of this time period.

Aside from the interest in Homeric frames, frame theory has never been applied to ancient languages. This is probably due to the main problem: that we do not have any native speaker left. Frame theory is a field of linguistics that works by asking people about their intuitive understanding of frames. This is, of course, impossible for ancient people. However, even today it is difficult if not impossible to grasp the full extent of a frame, because, depending on the social, educational or even familiar upbringing of a person, each person will have slightly different variations of a frame.

⁷⁴¹ Bakker 1997, 100.

⁷⁴² Minchin 1992, 232.

Additionally, due to the innate recursivity of frames, research on concrete frames is difficult because potentially never-ending which especially affects the graphic representation of frames. This is a major problem for frame research on modern languages. In ancient languages, we are not confronted with this problem because we only have a limited repertoire of texts. For an ancient language, one can approach concrete frames and ask which attributes were closely attached to them. This requires a close analysis of the structure of texts and each of their elements. In Linear B, because we are confronted with a limited corpus of concrete texts, one is able to even illustrate certain frames as long as one does not claim this to be the full frame of every Mycenaean. If one supposes the existence of frames for the cognition of the scribes, they must also be supposed for the rest of the Mycenaean population. Their frames were probably similar to some extent, but maybe less differentiated. Unfortunately, we can only speculate about that.

If one has now established a closer picture of the cognitive foundations of culture, one can try to apply and compare this to other cultures, in other geographical regions, with other languages and scripts, other social systems or even other time periods. The neighbouring Ancient Near Eastern cultures would suggest themselves for such an approach. Roughly contemporary to the Mycenaean palaces, we find similar palaces along the Mediterranean coast, especially Alalakh, Nuzi and Ugarit. It would be highly interesting to ask how the frames of cultures and languages that belong to a different language family looked like in the palace or in temples or in private archives, in texts and in objects. From this, one could move even further away into different centuries or distant cultures such as the Mesoamerican. One might also ask how the existence of frames influenced the writing habits of earlier cultures such as the Minoan. The use of frames in Minoan cognition might explain the extreme brevity and scarcity of their written record. One might assume that the relation between written record and mental knowledge, or book to mind, was just shifted to a different proportion. Possibly, an entry noted only the most important piece of information and everything else would be inferred.

A study of Mycenaean administrative texts touches various interesting aspects of Bronze Age cognition: the diachronic development of writing, the complex interrelations between human mind and written record, the human striving for order in their surroundings, the ability of man to create epistemic networks and the significance of these networks of knowledge for people's active participation in culture. To understand the reciprocal relationship between the texts as pieces of written language and as material objects that were designed and handled to create order at the same time, is essential for an understanding of Mycenaean culture and cognition.

7 Conclusion

In the introduction, I stated that the application of frame theory on the study of Bronze Age Mycenaean texts is a valuable endeavour for research on both ancient and modern cognition. What have we learned from the two case studies presented in the present thesis?

From a Mycenological point of view, the analysis of the two tablet series of Pylos, Ta and E, has tried to show how the structure of the texts, that researchers noticed from the beginning of Mycenology, is reflective of deeper cognitive patterns called frames or schemata. This pattern is at first invisible to us, it existed only in the mind of the scribes, it was shared by writer and reader alike. As we are not Mycenaeans who have this pattern intuitively present, we need to reconstruct it from the available sources. By comparing the attributes of single entries on a certain topic (such as feasting or landholding), one can achieve this aim. This provides us with insights about the various pieces of information that were relevant to the Mycenaean scribes in the description and understanding of a certain area of Mycenaean culture. The presence of frames as very basic level cognitive structures can explain why various pieces of information in the texts could be omitted without inhibiting the understanding. The frame structure and the construction of frame systems is mirrored in the materiality of the tablets: scribes found ways to stress this structure by using repetitive formulae, arranging text in columns, stressing important attributes by writing in larger letters or using different formats of tablets. The location of certain tablet groups in the archive

suggests that superimposed frames govern the distribution of tablets within the physical space of the archival rooms 7 and 8 (as in the feasting tablets). Further study might reveal how the archive mirrors a frame system with different tablets or tablet series being connected through their frames at a higher level not immediately perceivable to us. Evidence from Linear B thus suggests that one can and should not separate the representational content of the tablets from their material aspects as both are tightly intertwined within what we call archive. To answer how a Mycenaean was thinking could be: in frames. To answer what they were thinking must refer back to the different cultural schemata as reflected in the written texts. One should expect that certain elements of a frame, if a similar frame existed in a different culture, could stay the same (such as that a verb 'to have', when translated in a different language and society, requires someone who has and something that is had), but how this structure is filled is inherent in the cultural understanding, the habit, of a certain culture. In the same way that a translation of a word will never have exactly the same meaning in two languages, the cultural schema that governs what we call 'meaning' will differ slightly. Frame theory allows for an analysis of the differences as well as commonalities in the cognitive foundations of culture between time periods and across social groups.

The present thesis has also tried to show how we can approach a study of frames in an ancient language in comparison to the various studies of modern frame systems. Counterintuitively to what one might think, the limited textual corpus of the Linear B texts, their repetitive structure and the administrative character of the tablets actually facilitate an understanding of the cognitive substructure. In ancient languages, we are presented with a limited token group from which we can reconstruct the type. This can theoretically be done for all corpora of comparable texts in every language when one finds a suitable *tertium comparandum* as I did with texts of a common Linear B series, that is on a common topic. Research on ancient frames, of course, remains within the limits of our knowledge of the relevant language and our interpretation of meanings. When a new interpretation of a word comes up, we need to adapt the frame. In that, we are less intuitive than researchers on modern frames. But even though we are limited in our study to certain areas of

Mycenaean culture while others will remain tacit, and despite our (comparatively) fragmented knowledge of the Mycenaean language, the character of the Linear B texts allows for an in-depth study of ancient cognition that can shed light on areas of the Mycenaean culture that would otherwise be lost to us. Problems of modern frame theory, such as the inherent recursivity of frames, do not apply here to this extent as we deal with a limited textual corpus (although, of course, new texts might be found that add to our knowledge of ancient cognitive structures). The implications for Cognitive Science are that we can extend our area of interest into cultures and languages whose speakers cannot be heard anymore. Research on ancient frames must be based on a comparative approach of texts or entries within texts that can be used in the same way in modern texts. This methodology can be applied to a more limited text corpus or take a wider perspective by comparing intertextual relations. It can furthermore refer to the more static conception of frames (as in the present thesis) or the more dynamic concepts of scripts (as in research on the Homeric narratives) or a mixture of both (as when one investigates the narrative of an ancient feast). Finally, research on ancient frames can be applied to textual as well as non-textual evidence and thus add to our understanding of the human mind as one holistic system working according to common principles.

In my study of Mycenaean cognition, I followed John Chadwick's opinion that:

"Every single scrap of a Linear B tablet is an authentic document containing the very words of a long-dead Mycenaean scribe. In so far as we are able to understand and translate it, and much more to relate it to its background, it is an unimpeachable source of hard fact."

It cannot be said too clearly: we do not have any more direct access to the cognition of Mycenaean scribes than the small signs of writing inscribed in clay and baked in the fires that destroyed the palace of Pylos and the other palaces of the Mycenaean period. These texts were not preserved intentionally for future generations, they were not copied or transmitted orally in order to prevent their knowledge from being forgotten, they were not covered in captivating words in order to

please a wider audience. They are simply the momentary expression of thoughts of a few individuals of a long-gone culture, written for a limited circle of persons or maybe even only themselves, noted down to act as reminder in the swift daily activities of the palace administration. To understand these texts – their meaning, their cognitive structure and their storage and order in the archival rooms – it is necessary for an understanding of the cognitive processes of a culture that only just discovers the advantages of the written word. A study of these texts not only sheds light on what these scribes were thinking, but also on how they were thinking. To answer these questions, one can and should make use of the central features of the Linear B texts – those features that were long seen as its major inconvenience: their brevity and repetitive character. In the present thesis, I have argued that this ‘how they were thinking’ took the form of cognitive structures called ‘frames’ or ‘schemata’ that refer back to tacit knowledge and are formed through repeated experience of living in the world. One can come to the following conclusions

1. The rigid linguistic structure of the texts and their outward appearance afford an understanding and contextualization of their epistemic content that reaches beyond the brief and seemingly limited character of the writing: an experienced scribe could make sense even of short pieces of text.
2. General cognitive abilities such as pattern recognition, typicality judgements and categorization together with the ability of linguistic expression allow for a structuring of knowledge based on experience in living in the world and a shared culture.
3. This is achieved through the intertwining of written language, material tablet and cognition of the scribes through the employment of cognitive structures called ‘schemata’ or ‘frames’.
4. Frames give order to the world as perceived by the scribes; in these cognitive structures, world knowledge and linguistic knowledge become inseparable.
5. The repetitive character of the texts allows for a reconstruction of the cognitive schemata that reflect the scribe’s emic knowledge of a certain area of the Mycenaean culture.

According to these insights, to ask for one or the other – cognition, culture or language – means to ask for the others as well. As such, the Linear B tablets, although different in character and appearance, should be treated together with other types of material objects in research on Mycenaean cognition. They enable us not only to take a unique perspective on various areas of the Mycenaean culture, but also to reconstruct the cognitive structures that formed the basis for an understanding of every form of epistemic content, be it in the shape of written words or objects or pictures.

For future research, it would be promising to integrate the concept of frames into the wider area of cognitive archaeology and to connect it to prominent theories such as 4E cognition in order to show how texts as carriers of language and material objects should be seen as embedded, embodied, extended and enacted in a similar way as other cognitive artefacts. To fully understand a text and its background, we need to try to take the perspective of a Mycenaean. We need to disentangle the complex network of epistemic relations that allowed a Mycenaean to understand even those pieces of knowledge that were not written. A Mycenaean would have obtained this knowledge in their growing up in the Mycenaean society. By learning the cognitive, linguistic and cultural patterns – all of which come together in the concept of frames –, they would have become part of the community of mind. We, three thousand years apart, need to carefully decode these patterns. Modern approaches in Cognitive Linguistics (in contrast to Chomsky's cognitive linguistics), cognitive archaeology and epistemology are able to assist with this endeavour. To study the structure of ancient writing as expression of long-gone cultural knowledge blends in with the centuries-long desire of humans to disentangle the patterns of thought that govern our understanding of the world, be it in language, mythology, or art.

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List of figures

Figure	Title	Source
Figure 1	A scribe at work.	Chadwick 1976, 19. Painted by Henry Hankey.
Figure 2	Linear B. Simple syllabograms.	Palmer 2008, 62, Fig. 2.2a.
Figure 3	Examples of Linear B ideograms.	Palmer 2008, 64, Fig. 2.3a.
Figure 4	Pylos Tablet Ta 641: photograph, sketch, transliteration, transcription and translation.	https://calibra.classics.cam.ac.uk/Tablet/PY/641 [27.06.2023]; sketch from Bennett 1955, 99; transliteration from Bennett/Olivier 1973.
Figure 5	Map of the kingdom of Pylos with the Hither and Further Provinces and the site of the Mycenaean palace marked red.	Bennet 1999, 10, Fig. 2.1 [Map by J. Bennet and M. Galaty].
Figure 6	The chronology of the Aegean Late Bronze Age.	Shelmerdine 1997, 540, Table 1.
Figure 7	Plan of the Palace of Pylos with the Archives Complex marked red.	Shelmerdine/Palaima 1984, Fig. 2 [Plan by J.C. Wright].
Figure 8	View at the palace: to the right the Propylon with its two central columns and to the left the Archives Complex with the bench in Room 8. In the background the Court and Megaron.	Blegen/Rawson 1966, Fig. 9.
Figure 9	The Archives Complex: possible reconstruction with one or two doors.	Palaima 1988, 185.
Figure 10	Archives Room 7: sherds of the broken pithos.	Blegen/Rawson 1966, Fig. 77.
Figure 11	Archives Room 7: the reconstructed pithos.	Blegen/Rawson 1966, Fig. 381.
Figure 12	Archives Room 8: clay tablets near Northwestern bench.	Blegen/Rawson 1966, Fig. 79.
Figure 13	Detailed plan of the Archives Complex with distribution of tablets. Plan is superimposed with a grid in metre and decimetre squares. Tablet fragments marked red were dislocated in the Chasm.	Plan from Palaima 2011, 61, Fig. 12.15
Figure 14	Pluta's plan of the Archives Complex with distribution of tablets. Above: the original grid. Below: the revised grid.	Pluta 1996-1997, 233, Fig.2 and 239, Fig.7.
Figure 15	Different types of Linear B documents.	
Figure 16	The Knossos Pp series in its original order as merged from the fire.	Chadwick 1976, 22, Fig. 13.
Figure 17	Examples for doodles on Linear B tablets: drawing of a standing figure on Oe 106 verso from Mycenae, drawing of a pig's head on Un 1320 verso from Pylos, the so-called 'Gem Engraver's	Palaima 1992, Plate XX, c, d, e.

	Sketches from unclear context at Knossos.	
Figure 18	Seal with depiction of sacrificial table with three legs (CMS I 080).	Corpus of Minoan and Mycenaean Seals I 080.
Figure 19	Seal with depiction of sacrificial table and dagger (CMS XI 052).	Corpus of Minoan and Mycenaean Seals XI 052.
Figure 20	Map of the Palace of Pylos with feasting zones and adjacent pottery pantries.	Bendall 2008, 101.
Figure 21	Drinking set of silver from Dendra tomb 10, shaft II. From LH IIIA.	Persson 1942, p. 88, fig. 99.
Figure 22	Drawing of the fresco in the Vestibule at the palace of Pylos - Procession and Sacrificial Bull.	Lang 1969, Plate 119.
Figure 23	Detail of the Vestibule Fresco at the palace of Pylos: Men carrying supplies.	Lang, 1969, Plate 120.
Figure 24	Drawing of the fresco in the Megaron at the palace of Pylos - Feasting scene and heraldic animals.	Lang 1969, Plate 125.
Figure 25	Megaron Fresco at the palace of Pylos - Feasting scene: fragments of lyra player and bird.	Lang 1969, Plate 125.
Figure 26	Megaron Fresco at the palace of Pylos - Feasting scene: reconstruction of lyra player and bird.	Lang 1969, Plate 126.
Figure 27	Megaron fresco at the palace of Pylos - Feasting scene: men seated at three-legged table.	Lang 1969, Plate 126.
Figure 28	Reconstruction of the Miniature Frieze at the Northeast Bastion in Kea.	Morgan 1990, p. 255, Fig. 2.
Figure 29	A possible frame representation of the Mycenaean table (<i>to-pe-za</i>) frame.	
Figure 30	The palm leaf shaped tablet Eb 294 that was later copied to Ep 704.	https://calibra.classics.cam.ac.uk/Tablet/PY/294 [10.11.2023].
Figure 31	The page-shaped tablet Ep 704. The text from Eb 294 was copied to line 1.	https://calibra.classics.cam.ac.uk/Tablet/PY/704 [10.11.2023].
Figure 32	The distribution of the Ea tablets in the Archives Complex of Pylos.	Map from Palaima 2011, 61, Fig. 12.15.
Figure 33	Tablet Ea 59 verso with calculation.	https://calibra.classics.cam.ac.uk/Images/Tablets/Pylos/Large/112.1.jpg [10.11.2023].
Figure 34	Reverse of Ea 59.	Bennett/Olivier 1976, 83.

List of tables

Table	Title	Source
Table 1	The order of the Ta tablets.	
Table 2	The system of land distribution at Pylos	Cf. Ruijgh 1984, 477.
Table 3	Distribution of land between <i>ko-do</i> , <i>ta-ra-ma-ta</i> and <i>ti-ri-da-ro</i> in the Ea tablets.	
Table 4	Series Ea - Distribution of fragments in the Archives Complex.	After Del Freo 2005, 73.
Table 5	Texts of level I A (<i>ki-ti-me-na</i> land; text in bold letters is the standard formula).	Table based on Ruijgh 1984, 478
Table 6	Texts of level II B (<i>ke-ke-me-na</i> land; text in bold letters is the standard formula).	Table based on Ruijgh 1984, 479-480
Table 7	Texts of level III A (<i>ki-ti-me-na</i> land; text in bold letters is the standard formula).	Table based on Ruijgh 1984, 482
Table 8	Texts of level III B (<i>ke-ke-me-na</i> land; text in bold letters is the standard formula).	Table based on Ruijgh 1984, 482-483
Table 9	Hierarchy of criteria of order in the En and Ep tablets.	

Catalogue

1. Ta series: the tablets in their possible order of reading

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(tablets from Bennett/Olivier 1976), 230-231)

2. Ta series: entries regarding tables (*to-pe-za*) in their order of writing with interlinear transcription

- Ta 642.1** *to-pe-za , ra-e-ja , we-a-re-ja , a-ja-me-na , a₂-rə[]u-do-pi , ku-wa-no-qe , pa-ra-ke-we-qe[]e-ne-wo , pe-[*
tórpedza lā(h)eí(i)ā we(h)aleí(i)ā aiai(s)ménā/aiāménā hálos hudó(t)phi kuwanōikūe barákūeikūe (?) []e(n)newópe[dza
Table, of stone, crystal-type, inlaid with aquamarines and lapis lazuli and silver [], nine feet
- Ta 642.2** *to-pe-za , ra-e-ja , me-no-e-ja , e-re-pa-te , a-ja-me-ŋa , qe-qi-no-to , au-de-pi , ko-ru-pi-qe 1*
tórpedza lā(h)eí(i)ā mēnoeí(i)ā elephātei aiai(s)ménā/aiāménā guēguīnōtoi au-de-phi korú(p)phikūe 1
Table, of stone, moon-type, inlaid with ivory which is carved into *au-de-pi* and helmets 1
- Ta 642.3a** *e-ne-wo , pe-za*
.3 *to-pe-za , ra-e-ja , a-pi-qo-to , e-re-pa-te-jo , po-pi , e-ka-ma-te-qe , qe-qi-no-to-qe , to-qi-de*
e(n)newópedza
tórpedza lā(h)eí(i)ā amphigúotos elephanteí(i/h)ois popphí ékhmateikūe guēguīnōtoikūe torkūidei
Table, of stone, free-standing, nine feet, with ivory feet and a strutting and a carved spiral
- Ta 713.1** *to-pe-za , ra-e-ja , ku-te-se-jo , e-ka-ma-pi , e-re-pa-te-jo-qe , a-pi-qo-to , e-ne-wo-pe-za , qe-qi-no-me-na , to-qi-de 1*
tórpedza lā(h)eí(i)ā kuteseí(i)ois ékhma(p)phi elephanteí(i)ois kūe amphígutos en(n)ewópedza guēguīnōménā torkūidei 1
Table, of stone, with strutting of ebony and ivory, free-standing, nine feet, carved with a spiral 1
- Ta 713.2** *to-pe-za , e-re-pa-te-ja , po-ro-e-ke , pi-ti-ro₂-we-sa , we-pe-za , qe-qi-no-me-na , to-qi-de 1 [to-pe-za]*
tórpedza elephātei(i)ā proekhēs ptilióyessa (h)ūespedja guēguīnōménā torkūidei 1 [tórpedza]
Table, of ivory, projecting, with feather pattern, six feet, carved with a spiral 1 [table]

- Ta 713.3** *to-pe-za , ku-te-se-ja , e-re-pa-te-jo , e-ka-ma-pi , a-pi-qo-to , e-ne-wo-pe-za , ko-ki-re-ja*
- tórpēdza kuteseí(i)ā elephanteí(i)ois ékhma(p)phi amphígūotos en(n)ewópedza konkhileí(i)ā
- Table, of ebony, with strutting of ivory, free-standing, nine feet, with sea shells
- Ta 715.1** *to-pe-za , ku-te-se-ja , e-re-pa-te-jo , e-ka-ma-pi , a-pi-qo-to , e-ne-wo-pe-za , ko-ki-re-ja*
- torpedza kuteseí(i)ā elephanteí(i/h)ois ekhma(p)phi amphiguotos en(n)ewopedza konkhileí(i)ā
- Table, of ebony, with strutting of ivory, free-standing, nine feet, with sea shells
- Ta 715.2** *to-pe-za , a-ka-ra-no , e-re-pa-te-ja , a-pi-qo-to 1 to-pe-za , a-ka-ra-no , e-re-pa-te-ja , po-ro-e-ke 1*
- torpedza akaran(n)os elephanteí(i/h)ā amphiguotos 1 torpedza akaran(n)os elephanteí(i/h)ā proekhēs (??) 1
- Table, without top, of ivory, free-standing 1 Table, without top, of ivory, projecting 1
- Ta 715.3** *to-pe-zo , mi-ra₂ , a-pi-qo-to , pu-ko-so , e-ke-e , e-ne-wo-pe-zo , to-qi-de-jo , a-ja-me-no , pa-ra-ku-we 2*
- torpedzō (s)miljās amphiguotō pukso-ekhe(h)e en(n)ewopedzō torkūideí(i)ō aīaimenō/aīāmenō barakūei 2
- [two] tables, of yew, free-standing, having pieces of box-wood, nine feet, with spirals, inlaid with silver 2

3. Ta series: entries regarding chairs (*to-no*) in their order of writing with interlinear transcription

Ta 707.1a	<i>ku-te-ta-jo</i>
.1	<i>to-no , ku-ru-sa-pi , o-pi-ke-re-mi-ni-ja-pi , o-ni-ti-ja-pi 1</i>
.1a	kutesej(i)os
.1	thronos khrūs(s)āphi opikelemnīāphi (?) ornithiāphi 1 Chair, of ebony, with golden <i>shoulders</i> , with birds 1
Ta 707.2	<i>to-no , ku-te-se-jo , e-re-pa-te-ja-pi , o-pi-ke-re-mi-ni-ja-pi , se-re-mo-ka-ra-o-re , qe-qi-no-me-na , a-di-ri-ja-te-qe , po-ti-pi-qe 1</i> thronos kutesej(i)os elephantei(i)āphi opikelemnīāphi (?) ser(r)emo-k(a)ra(h)orei (??) gu̱egu̱inōmenā[phi] (?) andriantei-ḵe portiphi-ḵe 1 Chair, of ebony, with ivory <i>shoulders</i> , drilled with <i>se-re-mo-ka-ra-o-re</i> , with a man's figure and calves 1
Ta 708.1	<i>to-no , ku-te-se-jo , a-ja-me-no , o-pi-ke-re-mi-ni-ja , e-re-pa-te 1</i> thronos kutesej(i)os a̱ai(s)menos/a̱āmenos opikelemnians elephantei 1 Chair, of ebony, <i>shoulders</i> inlaid with ivory 1
Ta 708.2	<i>to-no , ku-te-se-jo , e-re-pa-te-ja-pi , o-pi-ke-re-mi-ni-ja-pi , se-re-mo-ka-ra-a-pi , qe-qi-no-me-na , a-di-ri-ja-pi-qe</i> thronos kutesej(i)os elephantei(i)āphi opikelemnīāphi ser(r)emo-k(a)ra(h)āphi (??) gu̱egu̱inōmenā andriāphi-ḵe Chair, of ebony, with ivory <i>shoulders</i> , drilled with <i>se-re-mo-ka-ra-a</i> and a man's figure
Ta 714.1	<i>to-no , we-a₂-re-jo , a-ja-me-no , ku-wa-no , pa-ra-ku-we-qe , ku-ru-so-qe , o-pi-ke-re-mi-ni-ja</i> .2 <i>a-ja-me-na , ku-ru-so , a-di-ri-ja-pi , se-re-mo-ka-ra-o-re-qe , ku-ru-so , ku-ru-so-qe , po-ni-ki-pi 1</i> .1 thronos ̱ehalei(i)os a̱ai(s)menos/a̱āmenos ku̱anōi baraḵei-ḵe (??) khrūsōi-ḵe opikelemnians .2 a̱ai(s)menā/ai/a̱āmenā/ai khrūsōis andriāphi ser(r)emo-k(a)ra(h)orei-ḵe khrūsōi khrūsōis-ḵe phoinīkhphi (?) 1 Chair, of crystal, inlaid with lapis lazuli and <i>silver</i> and gold on the shoulders, which are inlaid with a golden figure of a man and with gold <i>se-re-mo-ka-ra-o-re</i> and with gold <i>palm trees</i> 1

Ta 714.3 *ku-qa-ni-jo-qe , po-ni-ki-pi 1*
kuṽaniois-kṽe phoinīkhphi 1
and with lapis lazuli *palm trees* 1

4. Ta series: entries regarding stools (*ta-ra-nu*) in their order of writing with interlinear transcription

4.1. Stools paired with chairs

- Ta 707.1** *ta-ra-nu-qe , a-ja-me-no , e-re-pa-te-jo , au-de-pi 1*
thrānu-k̄ue ājai(s)menos/ājāmenos elephanteī(i)/(h)ois *au-de-phi 1*
And a stool, inlaid with ivory *au-de-pi 1*
- Ta 707.3** *ta-ra-nu , ku-te-so , a-ja-me-no , e-re-pa-te-jo , au-de-pi*
thrānus kutesos ājai(s)menos/ājāmenos elephanteī(i)ois *au-de-phi*
Stool, of ebony, inlaid with ivory *au-de-pi*
- Ta 708.1** *[[ta-r̄a-n̄u , ku-te-se-jo , a-ja-me-no , e-r̄e-p̄a-te-jo , āu-de-pi]]*
[[thrānus kuteseī(i)os ājai(s)menos/ājāmenos elephanteī(i)ois *au-de-phi*]] [
[[Stool, of ebony, inlaid with ivory *au-de-pi*]]
- Ta 708.3** *ta-ra-nu , ku-te-se-jo , a-ja-me-no , e-re-pa-te-jo , a-di-ri-ja-pi ,*
re-wo-pi-qe 1
thrānus kuteseī(i)os ājai(s)menos/ājāmenos elephanteī(i)/(h)ois andriāphi
lēuom(p)phi-k̄ue 1
Stool, of ebony, inlaid with ivory men
and lions 1
- Ta 714.3** *ta-ra-nu , a-ja-me-no , ku-wa-no , pa-ra-ku-we-qe , ku-ru-so-qe ,*
ku-ru-sa-pi-qe , ko-no-ni-pi 1
thrānus ājai(s)menos/ājāmenos kūanōi barak̄uei-k̄ue (??) khrūsōi-k̄ue
khrūs(s)āphi-k̄ue kanonipphi (?) 1
Stool, inlaid with lapis lazuli and *silver* and gold
and with golden *belts* 1

4.2. Stools on their own

- Ta 721.1** *ta-ra-nu , a-ja-me-no , e-re-pa-te-jo , au-de-pi , to-qi-de-qe*
ka-ru-we-qe *220 1
- thrānus aḵai(s)menos/aḵāmenos elephanteḵois *au-de-phi* torkḵidei-kḵe
karuḵei-kḵe *220 1
- Stool, inlaid with ivory *au-de-pi* and a spiral
and nuts *220 1
- Ta 721.2** *ta-ra-nu-we , a-ja-me-no , e-re-pa-te-jo , au-de-pi , so-we-no-qe ,*
to-qi-de-qe *220 3
- thrānu(ḵ)es aḵai(s)menoi/aḵāmenoi elephanteḵois *au-de-phi* soluḵēnōi/ois-kḵe (?)
torkḵidei-kḵe *220 3
- Stools, inlaid with ivory *au-de-pi* and grooves
and a spiral *220 3
- Ta 721.3** *ta-ra-nu , a-ja-me-no , e-re-pa-te-jo , au-de-pi ,*
so-we-no-qe , *220 1
- thrānus aḵai(s)menos/aḵāmenos elephanteḵois *au-de-phi*
soluḵēnōi/ois-kḵe (?) *220 1
- Stool, inlaid with ivory *au-de-pi*
and grooves *220 1
- Ta 721.4** *ta-ra-nu , a-ja-me-no , e-re-pa-te-jo , au-de-pi ,*
so-we-no-qe , *220 1
- thrānus aḵai(s)menos/aḵāmenos elephanteḵois *au-de-phi*
soluḵēnōi/ois-kḵe (?) *220 1
- Stool, inlaid with ivory *au-de-pi*
and grooves *220 1
- Ta 721.5** *ta-ra-nu , a-ja-me-no , e-re-pa-te-jo , au-de-pi* *220 1
- thrānus aḵai(s)menos/aḵāmenos elephanteḵois *au-de-phi* *220 1
- Stool, inlaid with ivory *au-de-pi* *220 1

- Ta 722.1** *ta-ra-nu , a-ja-me-no , e-re-pa-te-jo , a-to-ro-qo , i-qo-qe ,
po-ru-po-de-qe , po-ni-ke-qe *220 1*
- thrānus aḵai(s)menos/aḵāmenos elephanteḵois anthrōkūōi-kḵe (h)ikkūōi-kḵe
polypodei-kḵe phoinīkei-kḵe *220 1
- Stool, inlaid with ivory man and horse
and octopus and palm tree *220 1
-
- Ta 722.2** *ta-ra-nu , a-ja-me-no , e-re-pa-te-jo , ka-ra-a-pi , re-wo-te-jo ,
so-we-no-qe , *220 1*
- thrānus aḵai(s)menos/aḵāmenos elephanteḵois k(a)rā(h)a(p)phi leḵonteḵois
solūēnōi/ois-kḵe (?) *220 1
- Stool, inlaid with ivory lion's heads
and grooves *220 1
-
- Ta 722.3** *ta-ra-nu , a-ja-me-no , e-re-pa-te-ja-pi , ka-ru-pi *220 1*
- thrānus aḵai(s)menos/aḵāmenos elephanteḵāphi karuphi *220 1
- Stool, inlaid with ivory nuts *220 1
-
- Ta 722.3/2** *ta-ra-nu , a-ja-me-no , e-re-pa-te-ja-pi , ka-ru-pi *220 1*
- thrānus aḵai(s)menos/aḵāmenos elephanteḵāphi karuphi *220 1
- Stool, inlaid with ivory nuts *220 1

5. Other feasting tablets from Pylos

Un 2 .1 *pa-ki-ja-si , mu-jo-me-no , e-pi , wa-na-ka-te ,*
 .2 *a-pi-e-ke , o-pi-te-ke-e-u*
 .3 HORD 16 T 4 CYP+PA T 1 V 3 o V 5
 .4 FAR 1 T 2 OLIV 3 T 2 *132 S 2 ME S 1
 .5 NI 1 BOS 1 OVIS^m 26 OVIS^f 6 CAP^m 2 CAP^f 2
 .6 SUS+SI 1 SUS^f 6 VIN 20 S 1 *146 2

Un 138 .1 *pu-ro , qe-te-a₂ , pa-ro , du-ni-jo*
 .2 HORD 18 T 5 *po-qa* OLIV 4 T 3 V 5
 .3 VIN 13 OVIS^m 15 WE 8 OVIS^f 1 CAP^m 13 SUS 12
 .4 SUS+SI 1 BOS^f 1 BOS^m 2
 .5 *me-za-wo-ni* HORD 4 T 8 V 1 *ka-pa* OLIV 7

Un 718 .1 *sa-ra-pe-da , po-se-da-o-ni , do-so-mo*
 .2 *o-wi-de-ta-i , do-so-mo , to-so , e-ke-ra₂-wo*
 .3 *do-se ,* GRA 4 VIN 3 BOS^m 1
 .4 *tu-ro₂ ,* TURO₂ 10 *ko-wo ,* *153 1
 .5 *me-ri-to ,* V 3
 .6 *vacat*
 .7 *o-da-a₂ , da-mo ,* GRA 2 VIN 2
 .8 OVIS^m 2 TURO₂ 5 *a-re-ro ,* AREPA V 2 *153 1
 .9 *to-so-de , ra-wa-ke-ta , do-se*
 .10 OVIS^m 2 *me-re-u-ro ,* FAR T 6
 .11 { a *-ma*
 .11 { VIN S 2 *o-da-a₂ , wo-ro-ki-jo-ne-jo , ka-*
 .12 GRA T 6 VIN S 1 TURO₂ 5 *me-ri[*
 .13 *vacat []* 1 V 1

6. E series: the leases of *ko-do* and *ta-ra-ma-ta*

6.1. The leases of *ko-do*

ko-to-na ki-ti-me-na

Ea 71 { .a *po-me*
ko-do-jo ko-to-na ki-ti-me-na GRA 1 T 4 V 3

Ea 71 { .a shepherd
 Of *ko-do*, a *kotona kitimena* GRA 1 T 4 V 3

Ea 754 { .a *ra-pte*
ti-ri-da-ro e-ke, o-na-to, ko-do-jo, ko-to-na GRA T 6[]vacat

Ea 754 { .a saddler (?)
 Tridaros (?) has an *onato* from *ko-do*, a *kotona* GRA T 6[]vacat

Ea 825 { .a *po-me-ne*
ta-ra-ma-ta, e-ke, o-na-to, pa-ro, ko-do GRA T 1

Ea 825 { .a the shepherd [Dat]
 Thalamatias has an *onato* from *ko-do* GRA T 1

ke-ke-me-na ko-to-na

Ea 824 { .a *po-me*
ko-do, e-ke, o-na-to, pa-ro, da-mo GRA T 4 [

Ea 824 { .a the shepherd
ko-do has an *onato* from the *damos* GRA T 4[

Ea 803 *ko-do, e-ke, da-mi-jo* GRA T 6 V 2[

Ea 803 *ko-do* has from the *damos* GRA T 6 V 2[

6.2. The leases of *ta-ra-ma-ta*

ko-to-na ki-ti-me-na

Ea 821	<i>ta-ra-ma-ta-o , ko-to-na ki-ti-me-na</i>	GRA 5 T 7 V 3
Ea 821	Of Thalamatas, a <i>kotona kitimena</i>	GRA 5 T 7 V 3

Ea 825	<i>po-me-ne</i> <i>ta-ra-ma-ta , e-ke , o-na-to , pa-ro , ko-do</i>	GRA T 1
Ea 825	the shepherd [Dat] Thalamatas has an <i>onato</i> from <i>ko-do</i>	GRA T 1

ke-ke-me-na ko-to-na

Ea 778	<i>ta-ra-ma-ta , e-ke , o-na-to , pa-ro , da-mo</i>	GRA T 9
Ea 778	Thalamatas has an <i>onato</i> from the <i>damos</i>	GRA T 9

7. E series: the alternation between *te-re-ja-e* ‘fulfil the *telos*’ and *wo-ze* ‘work’

Eb 149[+]940

Eb 149[+]940.1	<i>te-re-ta , su-ko[po-ro-du?]o-pe-ro-qe , te-re-ja-e , o-u-qe , te-re-ja</i>	
Eb 149[+]940.2	<i>du-wo-u-pi-de , [to-so-de pe-mo GRA 10?]</i>	<i>vacat</i>
Eb 149[+]940.1	The <i>telestas</i> Sukos (?), the <i>po-ro-du-ma</i> (??), and he is in debt in fulfilling the <i>telos</i> , and he does not fulfil the <i>telos</i>	
Eb 149[+]940.2	twice [of so much seed GRA 10?]	<i>vacat</i>

Ep 613 (Copy of Eb 149[+]940 above)

Ep 613.4	<i>te-re-]ta , su-ko , po-ṛo-du[o-pe-ro-qe]du-wo-u-pi , te-re-ja-e , o-u-qe , wo-ze[</i>	
Ep 613.5	<i>to-]ṣo-de , pe-mo GRA 10[]</i>	<i>vacat</i>
Ep 613.4	The <i>telestas</i> Sukos (?), the <i>po-ro-du-ma</i> (??), and he is in debt in fulfilling the <i>telos</i> twice, and he does not work	
Ep 613.5	so much seed GRA 10[]	<i>vacat</i>

8. E series: the tablets of the En series in their order of writing

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(tablets from Bennett/Olivier 1976, 111-113)

9. E series: the tablets of the Ep series in their order of writing

IMAGE REMOVED

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