



ATHENS STUDIES IN AEGEAN SCRIPTS AND ADMINISTRATIONS
(REINFORCING ARCHAEOLOGY-MINDED EPIGRAPHY)

ASASA(RAME) 1

THE WOR(L)DS OF LINEAR A

INTERDISCIPLINARY APPROACHES
TO DOCUMENTS AND INSCRIPTIONS
OF A CRETAN BRONZE AGE SCRIPT

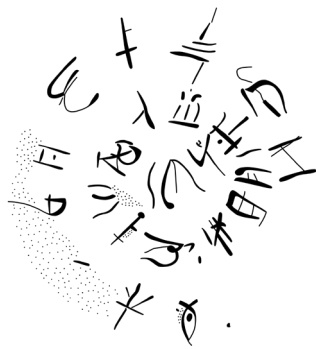
Edited by Ester Salgarella and Vassilis Petrakis



AURA SUPPLEMENT 15 • ΣΕΙΡΑ ΜΟΝΟΓΡΑΦΙΩΝ AURA 15

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REVIEW OF
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ATHENS STUDIES IN AEGEAN SCRIPTS
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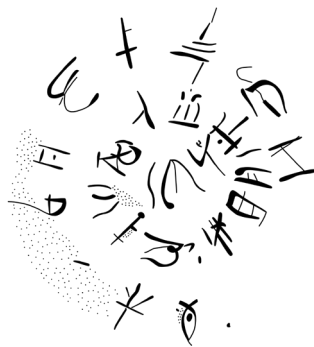
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ATHENS 2025

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Editorial • Εκδοτικό Σημείωμα

The Athens University Review of Archaeology (AURA) is an international, peer-reviewed archaeological journal published by the Faculty of History and Archaeology of the National and Kapodistrian University of Athens. It is dedicated to the publication of original research articles and reports focusing on, or related to the archaeology, art and material culture in the broader Greek world, from the earliest Prehistory to the Modern Era.

Part of the AURA journal is the AURA Supplement series, comprising studies in Greek or English, which, due to their extent, cannot be published in the journal as articles. The series share the same areas of interest with the journal.

AURA is a fully open access journal. Each issue of the journal and each monograph is published electronically as a PDF file. All papers are available on the internet to all users immediately upon publication and free of charge, according to the Creative Commons (BY-NC-ND 4.0). AURA issues and monographs can also be distributed on a print-on-demand basis and posted or collected from the bookstore of the Kardamitsa Publications, 8 Ippokratous str, Athens.

Το Περιοδικό του Τομέα Αρχαιολογίας και Ιστορίας της Τέχνης (AURA) είναι ένα διεθνές περιοδικό με σύστημα διπλής ανώνυμης αξιολόγησης, το οποίο εκδίδεται από το Τμήμα Ιστορίας και Αρχαιολογίας του Εθνικού και Καποδιστριακού Πανεπιστημίου Αθηνών. Στόχος του είναι η δημοσίευση πρωτότυπων εργασιών που εστιάζουν στην αρχαιολογία, την τέχνη και τον υλικό πολιτισμό του ευρύτερου ελληνικού κόσμου, από την απώτερη προϊστορία έως και τη σύγχρονη εποχή.

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It must be really true, as Pia de Fidio once perceptively observed, that interdisciplinarity is “part of the genetic code” of Mycenaean studies. From the earliest pioneering studies of Sir Arthur Evans, through the multifaceted approach which led to the monumental first 1956 edition of *Documents in Mycenaean Greek*, down to the increasing frequency of collaborative efforts among experts in archaeology, epigraphy, linguistics and textual interpretations in specialized articles, as well as edited works of synthesis, the integration of evidence from various fields has been part of the scope and aims of the study of Aegean Bronze Age texts and contexts.

John Chadwick’s famous definition, in his keynote address at the Salzburg Colloquium, of the ideal scholar of Aegean scripts as someone able to command bodies of evidence as distinct as epigraphy, linguistics, economic history and archaeology is becoming increasingly difficult to realise. Our era of hyper-specialization and our finite lives compel us to realize such an ideal primarily through collaborative symbiosis of the different fields.

The purpose of this symbiosis is to allow a realm of mutual understanding to emerge. Knowing everything is utopian; but knowing what (and whom) to ask, what to expect, as well as the basic working assumptions, implications and limitations of an adjacent discipline is (or can be made) feasible. Mutual awareness, rather than panoptic expertise, can give birth to new academic environments that are of seminal importance in any meaningful progress. Separate monologues by polymaths, rare and far between, can be replaced by open-ended dialogues among experts.

It is in this spirit that *Athens Studies in Aegean Scripts and Administrations (Reinforcing Archaeology-Minded Epigraphy)* has been conceived. The series aspires to be a vehicle for distributing the fruits of such symbiotic endeavours. The series is designed to accommodate monographs offering high-quality, unique and original insights into Aegean Bronze Age texts and their material carriers, including, of course, the Cypriot members of the same family of scripts. Once the name of the monograph series begun to emerge, it almost spontaneously spawned the appropriate acronym, ASASA(RAME), a homage to Jean-Pierre Olivier.

ASASA(RAME) includes monographs or edited volumes, published immediately in open-access and always with the print-on-demand option. Published by the Department of History and Archaeology of the National and Kapodistrian University of Athens, it specifically targets original topics and productively provocative approaches related to the study and better understanding of Aegean inscriptions and the contexts of their production and use.

We welcome proposals from colleagues at any stage of their career, to fuel discussions and rethink the problems and questions that the close study of Aegean and related scripts generates. Systematic promotion of the inclusive spirit in which ASASA(RAME) is conceived may, in the future, lead to the consolidation of multiple bridges across disciplinary boundaries -the ultimate goal being, hopefully, a continuum of fields.

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TABLE OF CONTENTS

PREFACE	13
ACKNOWLEDGEMENTS	15
A NOTE ON JOHN YOUNGER'S ELECTRONIC RESOURCES ON LINEAR A	17
CHRONOLOGICAL TABLE AND ABBREVIATIONS	19
LIST OF CAPTIONS	21

INTRODUCTION

0. VASSILIS PETRAKIS AND ESTER SALGARELLA Getting to know Linear A: An historiographic introduction	27
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CONTRIBUTIONS

1. MARIA ANASTASIADOU Names on roundels? The “special” case of Neo-Palatial roundels with incised numerals	35
2. BRENT DAVIS Recent linguistics-based advances in the study of Linear A	43
3. CASSANDRA DONNELLY Cycladic Linear A and connections between scripts	61
4. ROBERT HOGAN Creating a network graph from the Linear A tablets	77
5. CLELIA R. LAMONICA Digital approaches to interdisciplinary Minoan datasets and resources	95
6. MARIE-LOUISE NOSCH AND JÖRG WEILHARTNER The common thread: textiles and wool logograms in Linear A	115
7. ILSE SCHOEP The impact of the Minoan chronological framework on the study of Minoan and Mycenaean writing and sealing practices	137
8. EMILY TOUR Coded in clay: understanding the relationships between the Linear A, Cretan Hieroglyphic and Linear B administrative systems through the application of phylogenetics.....	151

CONCLUDING REMARKS

9. VASSILIS PETRAKIS AND PHILIPPA M. STEELE The Wor(l)ds of Linear A: some concluding thoughts	167
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BIBLIOGRAPHY	177
--------------------	-----

PREFACE

Wor(l)ds.

By words, worlds are created,

By worlds, words are given.

Thus we speak

Wor(l)ds without end.

Yet, words are failing me now – failing to express in writing the joy of seeing this Volume out, with the multiplicity of worlds it contains. Each chapter, drawing its own world, takes us on a heuristic journey from cautious beginnings, through complex meanders of words, to enticing discoveries. This Volume stems from the Conference and round table titled *The Wor(l)ds of Linear A: An Integrated Approach to Linear A Documents and Script (a 2022 Assessment)*, held online on 24–26 May 2022, which I organized and convened during my time as Junior Research Fellow at St. John’s College, University of Cambridge. *The Wor(l)ds of Linear A* has been the first ever Conference solely and fully dedicated to investigating the Linear A script of “Minoan” Crete in all its kaleidoscopic aspects, thus proving unique in its character and of paramount importance for the advancement of this research area as an independent, yet intertwined, disciplinary subject.

The Conference, ambitious as it were, brought together for the first time well-established senior scholars and early-career researchers alike working on Linear A across a broad range of subject areas, with a view to assessing the current scholarly understanding of Linear A. The Conference was aimed at exploring a wide variety of aspects, relating (but by no means restricted) to: administrative and writing systems, linguistic analysis, palaeography and semasiography, pinacology and epigraphy, script origin and connections, the archaeological record and socio-historical settings of the inscribed artifacts. The theme itself invited an “integrated” dialogue between different disciplinary perspectives in order to elucidate the complex subject of Linear A research in the broadest possible sense, thus providing a most comprehensive overview of aims, problems and possible future lines of inquiry. Methodological considerations and interdisciplinary approaches were particularly welcomed, which fostered further interdisciplinary discussion and helped to develop new challenging theoretical frameworks for understanding the many intertwined facets of Linear A writing and administrative systems (*Words*), and the socio-cultural systems that produced the documents (*Worlds*). By pinpointing the analytical problems scholars currently face when investigating all aspects of the *Wor(l)ds of Linear A* and by outlining new promising pathways, the goal of the Conference, as well as the present publication, is to revive the distinctive character of Linear A research and thus to integrate at our best the different disciplinary perspectives in order to break free of often too restrictive disciplinary boundaries.

The wor(l)ds uttered and created in the context of the Conference have now materialized in this much longed-for publication, jointly edited by Ester Salgarella and Vassilis Petrakis. The updated title *The Wor(l)ds of Linear A: Integrated Approaches to Documents and Inscriptions of a Cretan Bronze Age Script* was chosen to better reflect the contents of the submitted contributions (esp. “materiality” of writing and text-based analyses), herein appearing as individual thematic chapters. Featuring as the first Volume of a new series dedicated to the study

of Aegean epigraphy, *Athens Studies in Aegean Scripts and Administrations (Reinforcing Archaeology-Minded Epigraphy)*, aptly acronymed *ASASA(RAME)*, this work is hoped to pave the way to thriving and ever-growing research in this marvelous, as much as mysterious, multi-faceted disciplinary jewel.

I gratefully acknowledge AIAS – Aarhus Institute of Advanced Study (University of Aarhus, Denmark) and the Aarhus University Research Foundation (AUFF – Aarhus Universitets Forskningsfond) for supporting my academic research (as AIAS-AUFF Research Fellow) during the latest phases of editing *WoLA*.

Last but not the least, special thanks go to the Scientific Committee responsible for evaluating each contribution, that so kindly and willingly offered assistance in assessing the papers submitted for the virtual Conference: Matilde Civitillo (University of Campania), Brent Davis (University of Melbourne), Georgia Flouda (Hellenic Ministry of Culture and Sports), Barbara Montecchi (University of Bologna), Vassilis Petrakis (National and Kapodistrian University of Athens), Ilse Schoep (Katholieke Universiteit Leuven). To them all, to this Volume's brilliant contributors, to generous Vassilis, and to you dear passionate reader, go my most heartfelt thanks. And to all Cretans, of past, present and future: may your beloved Crete, with its rich history, live on until the End of Time.

Ester Salgarella

ACKNOWLEDGEMENTS

The Editors of this volume wish to thank all participants who made *WoLA* possible and, most importantly, enjoyable: truly a κτῆμα ἐς αἰεί.

Special thanks go to the members of the Scientific Committee, who meticulously evaluated paper proposals ahead of the Conference, and offered their feedback so kindly and generously: Matilde Civitillo, Brent Davis, Georgia Flouda, Barbara Montecchi, Vassilis Petrakis, Ilse Schoep. Dr Ioannis Vardaxis provided additional advice that greatly aided the review process. We are in sincere debt to the volume's anonymous external expert reviewer, who offered constructive feedback after so meticulously evaluating the final manuscript of this publication.

This endeavor would never have seen the light of day without all the strenuous and passionate work of its contributors: all authors have been enthusiastic, proactive, hard-working and ever responsive to our comments (including critical ones). We are also extending our gratitude to those few of our esteemed colleagues who were not able, due to various reasons, to submit their papers for this Volume. Additionally, we wish to thank Maurizio Del Freo, Tom Palaima, Massimo Perna and Torsten Meißner for copies of their recent work that significantly aided the preparation of the introduction and the endpiece to this volume

As Editors, we are genuinely thankful to the general editors of *AURA*, Professor Yiannis Papadatos and Professor Kostas Kopanias for accepting and accommodating this publication, as well as the series it inaugurates, *ASASA(RAME)* within the umbrella of the *AURA* Supplement Series.

Ester Salgarella and Vassilis Petrakis

A NOTE ON JOHN YOUNGER'S ELECTRONIC RESOURCES ON LINEAR A

To everyone seriously or more casually interested in Linear A specifically, or Aegean scripts in general, John Younger's electronic resources on Linear A have been a truly invaluable working tool. It had been part of the *habitus* of those working on the script to check <http://people.ku.edu/~jyounger/LinearA/> often, in order to retrieve conventional phonetic transcriptions (based on the *GORILA* readings and the axiom (but well supported, see Steele and Meißner 2017) of the Linear B>A “homography/homophony”), as well as information drawn from an index/lexicon of Linear A texts and an extensive bibliography on the script and related topics.

To cut what could be a very long description full of praises and euphemisms short, John's Linear A page was a first-rate, continuously updated and highly user-friendly resource. It was only natural that such resources were hosted at webspace afforded by John's home institution, the University of Kansas, in a website at a secondary server hosted by the University. In early 2024, and sometime following John's retirement from KU (30 June 2019), the precious URLs became unavailable and “not found” messages turned up on the screens of those who wished to consult these resources. Hearts stopped and breaths were held in the little realm of Linear A studies. To us, as editors of a volume *focused on* Linear A, these were definitely worrying news, not least because many of the papers in the volume cited these very URLs. Repeated attempts over several weeks showed this to be a non-temporary problem.

On 25 April 2024, John used another electronic offspring of his, the Aegeanet discussion list, to inform interested Aegeanists about the fate of this material. The title of the message appeared almost Messianic: “Linear A lives on”. In this message, John plainly and succinctly confirmed the loss of the KU webspace. However, he assured that the material will be made available as downloadable PDF files from his personal Academia website. Not a sudden death then, but a rearrangement and transformation. One may entertain themselves in wondering if the fate of these resources might in fact echo the fate of the Linear A script itself. Since April 2024, as announced and promised by John, pertinent files have been uploaded to <https://kansas.academia.edu/JYounger>. In order to keep up with these developments, we had to eliminate the old unusable URLs from the texts of the papers, and replace them, whenever possible, with hyperlinks that the interested reader might in fact use.

Ester Salgarella and Vassilis Petrakis

CHRONOLOGICAL TABLE AND ABBREVIATIONS

Chronological Table: Absolute and relative dating. Absolute dates are presented here in a simplified manner integrating Warren and Hankey 1989, 169, Table 3.1 and Shelmerdine 2008, 4–5, figures 1.1–1.2. Cultural phases follow Dickinson 1994. The reference to scripts in use in the right column purposefully simplifies the picture, accepting a strict distinction between Cretan Hieroglyphic and Linear A and omitting certain “aberrant” examples (e.g. Phaistos Disk, Arkalochori bronze axe).

Absolute Chronology (in years BCE) different sets of dates indicate divergences between low (<i>left</i>) and high (<i>right</i>) chronologies		Pottery Phase (full spelling and abbreviations commonly used)		Cultural phase	Scripts in use
2200–2000		Early Minoan III	EM III	Late Prepalatial Period	‘Archanean script’
2000–1900		Middle Minoan IA	MM IA		
1900–1800		Middle Minoan IB	MM IB		
1800–1700		Middle Minoan II	MM II	First Palace Period	Cretan Hieroglyphic Linear A
1700–1600		Middle Minoan III	MM III	Second Palace Period	Linear A Cretan Hieroglyphic
1600–1500	1700–1600	Late Minoan IA ≈ Late Helladic I	LM IA LH I		
1500–1450	1600–1450	Late Minoan IB ≈ Late Helladic IIA	LM IB LH IIA		
1450–1400		Late Minoan II ≈ Late Helladic IIB	LM II LH IIB	Third Palace Period (including Final Palatial/ Monopalatial and ‘Post-palatial’ periods)	Linear B?
1400– 1370/1360		Late Minoan IIIA1 ≈ Late Helladic IIIA1	LM IIIA1 LH IIIA1		Linear A (non- administrative, residual?) Linear B
1370/1360– 1320/1300		Late Minoan IIIA2 ≈ Late Helladic IIIA2	LM IIIA2 LH IIIA2		Linear B
1320/1300– 1190/1170		Late Minoan IIIB ≈ Late Helladic IIIB	LM IIIB LH IIIB		

Chronological Abbreviations

EM	Early Minoan
MM	Middle Minoan
LM	Late Minoan
LH	Late Helladic (Mycenaean)
MC	Middle Cypriot
LC	Late Cypriot

Creating a Network Graph from the Linear A Tablets

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ABSTRACT

This paper describes the construction of an interactive online network graph (<https://lineara.xyz/network/>) based on the Linear A tablets found in a number of Bronze Age sites on Crete. As a basis for the graph, it proposes a classification of the tablets according to the type of 'transaction' each tablet is interpreted as recording. This interpretation is based on the identification of a series of syntactical patterns and common structures based on these patterns that are shared by the tablets across sites. The paper describes the syntactical patterns and gives illustrated examples of each. It finally describes the process used to construct the interactive network graph and closes with some tentative observations on the insights the graph may provide to the viewer.

INTRODUCTION

The Linear A clay tablets found in a number of Bronze Age Cretan sites and, occasionally, outside the island (c. 1800–1450 BCE) are generally considered to reflect socio-economic activity in the sites in which they were found. It is often proposed that the tablets represent a preliminary stage in information gathering by palace officials that ultimately resulted in economic records recorded on perishable documents (e.g., Schoep 2002, 25; Tomas 2010a, 347). The focus of this study has been on a specific type of document (the clay page-shaped *tablet*), which is the dominant type of Linear A inscription in most sites dated to the end of the Neopalatial period, especially the phase known as Late Minoan IB (c. 1500–1450 BCE). Their portable form, extensive evidence of erasure and re-use, as well as the frequency of ligatured signs suggests that the use of the documents may have been stenographic in nature (Schoep 2002, 30) and that, rather than acting as a permanent record in their own right, the information contained by the tablets was later collated elsewhere.

There are many possible activities the tablets could record in an administrative context. Nearly all the tablets, regardless of site or find-spot, are concerned with the recording of quantities of commodities. The identification (through respective signs conventionally known as 'ideograms') of specific commodities such as wine, oil, grain and other products in the tablets runs along a spectrum ranging from wide consensus to tentative speculation (Palmer 1995). As the economic nature of these documents seems commonly accepted, we may tentatively identify each Linear A entry as the result of a 'transaction' involving specific agents (*presumably* individuals) and commodities, alongside other possible relevant administrative information.

What is less clear, and can generally only be reconstructed hypothetically (i.e., on the bases of explicitly mentioned assumptions) from the internal structure of the tablets themselves, is the nature of the 'transactions'

the listed commodities were involved in. What we set out to do here is identify common patterns in the structure of the tablets and assign *hypothetical* ‘transaction’ types associated with each pattern, usually involving the movement of goods between two or more entities. We then use this classification to create a network graph (<https://lineara.xyz/network/>) that visualizes the movement of commodities between the entities across all classifiable tablets in the Linear A corpus. We consider our attempt at classification as provisional. The principal aim of this paper is to demonstrate how certain assumptions about the nature of the recorded ‘transactions’ can be used to construct a graphic representation of this material.

CLASSIFYING THE TABLETS

In order to construct a network map from the Linear A tablets, we must first develop a basis on which to recognize ‘transactions’ between entities. To do this we take an approach similar to the classifications of the tablets developed by Ruth Palmer and Ilse Schoep (Palmer 1995; Schoep 2001; cf. also Montecchi 2010), but with an emphasis on identifying entities (human agents or place) as well as commodities (items or objects counted or measured) in the tablets and proposing classes of transactional relationships reflected by consistent structural patterns in the tablets. Our analysis identifies basic units that can be used independently but appearing also as components of other units to construct records of specific ‘transaction’ type. We find evidence that these constructions appear across a number of tablets and across a number of different sites, where these documents have been found.

“Entity Lists” and “Commodity Lists”

The most basic syntactical pattern we find in the tablets is a list of entities (an “Entity List”) or commodities (a “Commodity List”). Here, the working assumption will be that sign-groups (which are commonly identified as sequences of phonograms denoting “words”) denote names of persons or places, while the so-called “ideograms” or “logograms” (signs used isolated and followed by numerals or fraction signs) represent commodities. The assumption is a working one (an axiom) and is here presented as a tool of heuristic value, aimed at constructing a provisional classification. Texts consisting of entries where the sign-groups (“words”) are followed by fractional signs or numbers will be named here “Entity Lists” (e.g., **ZA 14, Fig. 4.1** and **Table 4.1**). In the same manner, any list consisting of “logograms” commonly identified as commodities (such as, for example, AB 131, interpreted as ‘wine’ and transliterated VIN in Linear B) and paired with a numeral as a “Commodity List”. These terms are closely corresponding to classifications of Linear A entries proposed by Ruth Palmer and Ilse Schoep: “Entity Lists” correspond to Palmer’s “Type B” or “Word+Number” entries, while “Commodity Lists” correspond to Palmer’s “Type A” or “Ideogram+Number” (Palmer 1995, 136; cf. Schoep 2002, 80).

Both “Commodity Lists” and “Entity Lists” are found in all the tablets we are discussing here, but some documents only include lists of entities or commodities. In most cases, “Entity List” tablets record whole numbers against the “Entities”, so for the purposes of our network map we interpret them as involving a ‘transaction’ regarding the movement *or* allocation of people between the administrative center and what we interpret as an entity “name” (i.e., the sign-group) specified in the inscription (for example, a person or place). In our presentation, we have also used the conventional phonetic values of Linear A-B homomorphy signs indicated in capital italicized letters (e.g., *ME-KI-DI* instead of AB 13-67-07). This decision aims at facilitating the presentation, and is not related to any assumption of homophony or the identification of the language represented by the Linear A script. In the case of homomorphy Linear A “logograms” (signs for commodities), their identification with the same commodities in Linear B signs is also provisionally accepted. Similarly, as a convention, Linear A signs will be transliterated with their orthographic Linear B values (see Steele and Meißner 2017 for justification). All transliterated signs will appear without *italics* in the Tables accompanying this paper.

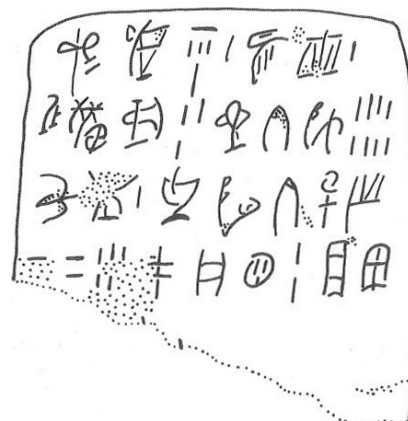


Fig. 4.1: ZA 14 Transcription (facsimile drawing after GORILA 3).

Table 4.1: ZA 14 – a simple “Entity List”, possibly of named individuals.

Tablet Reading		Pattern
ME-KI-DI	1	Entity List
QI ^L *118	1	
PU-NI-KA-*363	3	
QA-TI-JU	8	
KU-PI	1	
TU-MI-TI-ZA-SE	45[
PA-NU-QE	2	
JA-WI[[

There are a reasonably large number of such entity lists, mostly in a fragmentary state: **HT 108**, **HT 146**, **HT 25a**, **HT 29**, **HT 3**, **HT 39**, **HT 63**, **HT 98a**, **HT 99b**, **PE 2**, **ZA 10a**, **ZA 14**, **ZA 20**, **ZA 4a**, **ZA 5b**, **ZA 7a**. There is a disproportionately high incidence of them from Zakros (six examples) compared to Haghia Triada (ten examples), if one considers these occurrences against the total number of tablets found at each site (thirty-three and c. 140 respectively).

It is less obvious how to treat tablet ‘transactions’ that consist solely of lists of commodities (“Commodity Lists”), i.e., lists that contain only ideograms commonly recognized as denoting commodities such as grain, oil, wine or livestock. There are however no clear examples of a tablet containing *exclusively* “Commodity Lists” (instead we find the form contained within “Transfer Lists” in the next section). Of the four examples we might classify as isolated “Commodity Lists”, two occur on documents of a relatively fragmentary state (**HT 24b**, **HT 127b**) and (since both documents are opisthographic) may be related to a text described on the other side of each tablet. **HT 130** contains a much damaged surface and an isolated commodity list of GRA (grain), NI (figs), and VIN (wine) at the lower third of the document, separated from the rest of the tablet by a horizontal line. This feature, listing the same commodities in the same order, is also found on **HT 27a** and **HT 89** (and possibly on the damaged **HT 110a**). In these three aforementioned cases, the same order of commodities is mentioned in the lower part of the tablet, following the “total” of other entries (in all cases indicated by the sign-group KU-RO, which is commonly agreed to have the meaning “total”, see Duhoux 2011). It is not clear what the function of the “Commodity Lists” is in relation to the rest of the text on these tablets. However, they constitute our only evidence of isolated “Commodity Lists” on the Linear A documentation.

“Transfer List”

Commodity lists are by far most common, although not on their own, but as part of a larger syntactical structure we term a “Transfer List”. A “Transfer List” consists of a “Commodity List” (with a variety of ‘ideograms’

presumably representing commodities) as defined in the previous section, but this is preceded by an “Entity”, an assumed movement or ‘transaction’ involving commodities between two entities, one of whom is implicit (perhaps the administrative center itself) and another, which is ‘named’ explicitly in the text. This is the format termed “Mixed Commodities Tablet” by Schoep (2002, 81-87). There is often more than one instance of this “Transfer List” structure on a single tablet. A common feature of these lists is that the “Entity is coupled with a “transaction sign” that may indicate to the scribe some additional feature of the transaction. For the purposes of constructing our network map our working hypothesis is that “Transfer Lists” are recording a ‘transaction’ in the listed commodities between the relevant administrative center and the entity named in the list.



Fig. 4.2: HT 121 (facsimile drawing after GORILA 1).

Table 4.2: HT 121 – two “Transfer Lists” from the Haghia Triada administrative center: One of a quantity of oil product to KI-RI-TA₂ and another of mixed commodities to SA-RA₂.

Tablet Reading		Pattern Level 1	Pattern Level 2
KI-RI-TA ₂		Entity	Transfer List
OLE+QE+DI	10	Commodity Entry	
SA-RA ₂		Entity	Transfer List
GRA	5	Commodity Entries	
OLE	4		
NI	2		
VIN	3		
*23 ^m	3		

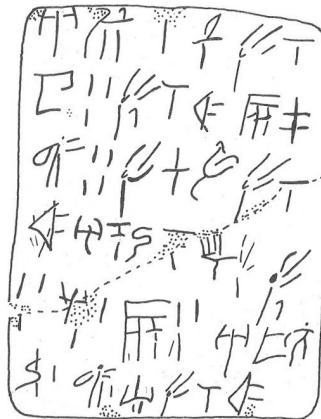


Fig. 4.3: KH 11 (facsimile drawing after GORILA 3).

Table 4.3: **KH 11** – three “Transfer Lists” from the Khania administrative center, each of mixed commodities to *A-DU*, *A-TO-*349-TO-I*, and *A-TA-*350* respectively. Fractional values are as suggested by Corazza et al. (2021).

Tablet Reading		Pattern Level 1	Pattern Level 2
A-DU		Entity	Transfer List
[•]-ZA		Transaction Sign	
CYP	K (1/10)	Commodity List	
SU	3		
CYP+E	K L2 (3/20)		
VIN	A (1/24?)		
*306	4		
CYP	B (1/5)		
*348 CYP	K L2(3/20)		
A-TO-*349-TO-I		Entity	Transfer List
CYP+E	3	Commodity List	
NI	1		
VIN	3		
A-TA-*350		Entity	Transfer List
*301	1	Commodity List	
*306	1		
SI CYP	K L2 (3/20)		

A potential member of this group is **KH 5**, perhaps recording the same transfer to multiple entities: the same quantities of *CYP+E* and *VIN+WI* with each of *A-DA-KI-SA-KA*, *A-RA-U-DA*, and *WI-SA-SA-NE-E*. The rest of the tablet could then consist of two “Transfer Lists”, one of an unspecified quantity of **301-NA* with *WI-NA-DU*, and quantities of *CYP* and *NI* to *KU-RA-ZU*.

The tablets we classify in this group include: **ARKH 3a**, **ARKH 3b**, **ARKH 5**, **HT 100**, **HT 101**, **HT 105**, **HT 106**, **HT 108**, **HT 116b**, **HT 12**, **HT 121** (Fig. 4.2 and Table 4.2), **HT 123+124a**, **HT 125a**, **HT 125b**, **HT 129**, **HT 131a**, **HT 131b**, **HT 132**, **HT 133**, **HT 14**, **HT 18**, **HT 2**, **HT 21**, **HT 23a**, **HT 23b**, **HT 24a**, **HT 27b**, **HT 30**, **HT 32**, **HT 36**, **HT 40**, **HT 42+59**, **HT 44a**, **HT 58**, **HT 91**, **HT 92**, **HT 94a**, **KH 11** (Fig. 4.3 and Table 4.3), **KH 4**, **KH 7a**, **KH 7b**, **KH 9**, **KNZb 35**, **TY 3a**, **TY 3b**, **ZA 15b**, **ZA 1a**, **ZA 6a**, **ZA 6b**, **ZA 9**.

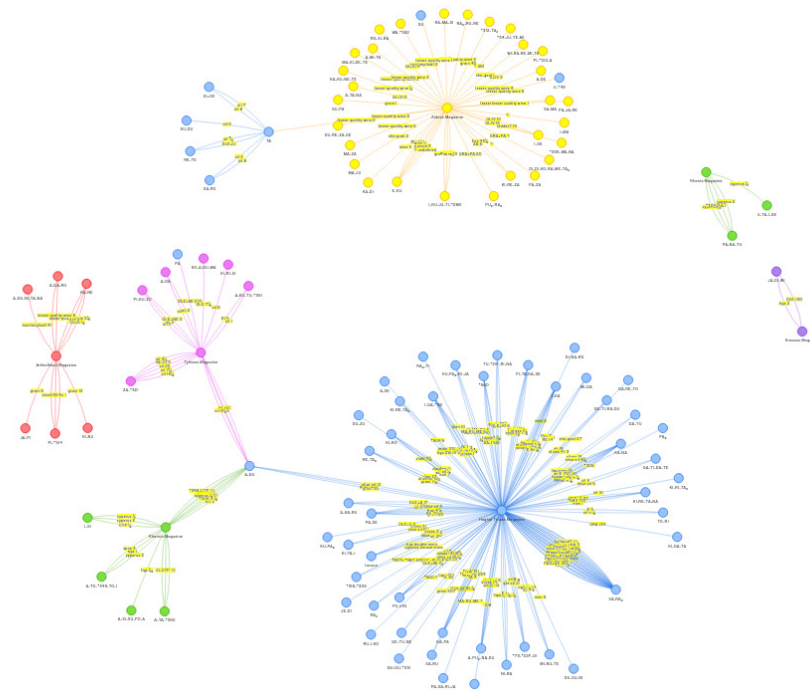


Fig. 4.4: “Transfer Lists” visualized ([https://lineara.xyz/network/?search=\[\"Transfer%20List\"\]](https://lineara.xyz/network/?search=[\)).

Single-Commodity Transfer List

We find a more complex composition of a single-entry Commodity List and “Entity List” (together with a Named Entity and a ‘transaction’ Sign) used in a number of tablets in Haghia Triada. We propose that this structure is used to record the transfer of a single commodity to one or more entities from the administrative center.

In **HT 8a** for example (**Fig. 4.5** and **Table 4.4**) we read a transfer of OLE+KI from the administrative center to seven different entities, beginning with JE-DI. The commodity being transferred is only named once in the tablet, so remains implicit when the amounts are recorded against the remaining entities.



Fig. 4.5: **HT 8a** (facsimile drawing after GORILA 1).

Table 4.4: **HT 8a** – a transfer list of various quantities of the oil product OLE+KI between the administrative center and seven named entities.

Tablet Reading		Pattern Level 1	Pattern Level 2
JE-DI		Entity	Single-Commodity Transfer List
OLE+KI	10	Commodity List	
*56-KA-RA-TI	1½	Entity List	
PA	3 ½		
TE-*301	2		
QA-*310-I	¾		
SI-KI-RA	¼		
KI-RE-TA-NA	½		

HT 19 (**Fig. 4.6** and **Table 4.5**) has a similar structure to **HT 8a**, but with the addition of a “transaction sign”, denoting some feature of the ‘transaction’ of interest to the scribe.

Table 4.5: **HT 19** – a transfer list of wine (VIN) between the administrative center and the three named entities: RA-*164-TI, SA-RO, and DU-ME-DI.

Tablet Reading		Pattern Level 1	Pattern Level 2
RA-*164-TI		Entity	Single-Commodity Transfer List
, TE ,		Transaction Sign	
VIN	30	Commodity List	
SA-RO	5½	Entity List	
DU-ME-DI	43½		



Fig. 4.6: HT 19 (facsimile drawing after *GORILA* 1).

The tablets we classify in this group are: HT 8a, HT 17, HT 19, HT 89, HT 97a, HT 103, HT 110a, KH 88.

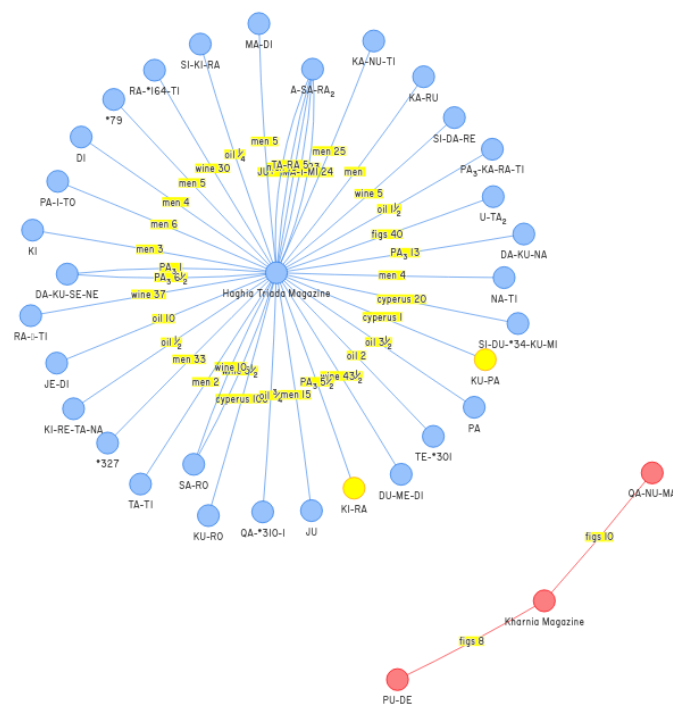


Fig. 4.7: Single commodity transfer lists visualized
([https://lineara.xyz//network/?search=\["Single-Commodity%20Transfer%20List"\]](https://lineara.xyz//network/?search=[)).

Multiple-Commodity Inter-Entity Transfer List

This structure builds on the “Transfer List” by pre-pending an additional entity to the “Transfer List” structure. We assume that in this case the tablet is recording a ‘transaction’ between two third parties rather than a transfer of the same amount of goods between the administrative center and two distinct entities. Our basis for this preference is subjective: it will allow the graph we construct to explore the potential for relationships between entities rather than just with the administrative center. As with the Transfer List, this pattern can also accommodate the use of ‘transaction’ signs in its heading.



Fig. 4.8: HT 114a (facsimile drawing after GORILA 1).

Table 4.6: HT 114a – a transfer list of multiple commodities between KI-RI-TA₂ and SA-RA₂.

Tablet Reading		Pattern Level 1	Pattern Level 2	Pattern Level 3
KI-RI-TA ₂		Entity	Entity	Multiple-Commodity Inter-Entity Transfer List
SA-RA ₂		Entity	Transfer List	
GRA	10	Commodity List		
OLE	7			
NI	1			
VIN	1			
*23 ^m	3			

The tablets we classify in this group are: HT 114a (Fig. 4.8 and Table 4.6), HT 116a, HT 11b, HT 120, HT 125b, HT 128a, HT 16, HT 20, HT 28a, HT 28b, HT 31, HT 33, HT 34, HT 35, HT 43, HT 90, HT 91, HT 96b, HT 99a, KH 7a, PE 1, ZA 11a, ZA 11b.

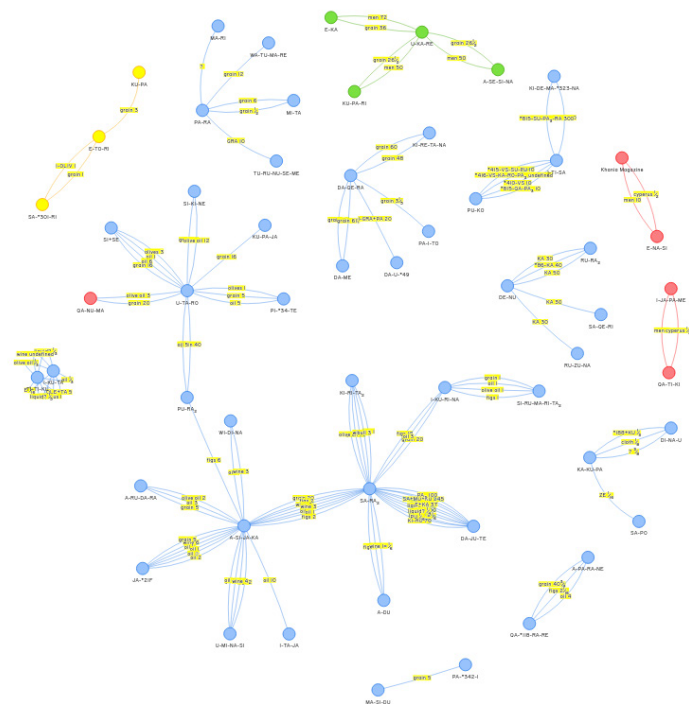


Fig. 4.9: Network diagram visualizing the relationships between entities included in the multiple-commodity group.
([https://lineara.xyz/network/?search=\['Multiple-Commodity%20Inter-Entity%20Transfer%20List'\]](https://lineara.xyz/network/?search=['Multiple-Commodity%20Inter-Entity%20Transfer%20List'])):

Single-Commodity Inter-Entity Transfer List

This is a syntactical pattern built on the “Entity List” pattern rather than the “Commodity List”. It displays the same basic combinatorial pattern as the “Transfer List” of a named entity, but with an “Entity List” instead of a “Commodity List”. As with the other structures we have so far encountered it accommodates the use of a ‘transaction’ sign in the headwords. For the purposes of our network map, we propose that this type of list is recording a movement of some sort between the entity named in the head words and the entities named in the list. In a common form of the pattern there is no indication of the commodity that is being transferred between the entities.



Fig. 4.10: HT 1 Transcription (facsimile drawing after GORILA 1).

Table 4.7: HT 1 – a transfer of an unspecified commodity between $QE-RA_2-U$ and five named entities.

Tablet Reading		Pattern Level 1	Pattern Level 2
QE-RA ₂ -U		Entity	Single-Commodity Inter-Entity Transfer
KI-RO	197	Entity List	List
ZU-SU	70		
DI-DI-ZA-KE	52		
KU-PA ₃ -NU	109		
A-RA-NA-RE	105		

The tablets we classify in this group are: HT 1 (Fig. 4.10 and Table 4.7), HT 104, HT 10a, HT 10b, HT 117a, HT 122a, HT 123+124b, HT 126a, HT 15, HT 20, HT 26a, HT 85b, HT 88, HT 94b, HT 95b, HT 9b.

There is a distinct variation in the pattern that accommodates a commodity in the head words. In such cases we hypothesize that the tablet is recording the movement of this named commodity.



Fig. 4.11: HT 13 (facsimile drawing after GORILA 1).

Table 4.8: HT 13 – a transfer of wine between KA-U-DE-TA and six named entities. KU-RO is assumed to represent “total”.

Tablet Reading		Pattern Level 1	Pattern Level 2
KA-U-DE-TA		Entity	Single-Commodity Inter-Entity Transfer List
VIN		Commodity	
, TE,		Transaction Sign	
RE-ZA	5[1½[Entity List	
TE-TU	56		
TE-KI	27 ½		
KU-ZU-NI	18		
DA-SI-*118	19		
I-DU-NE-SI	5		
KU-RO	130 ½		

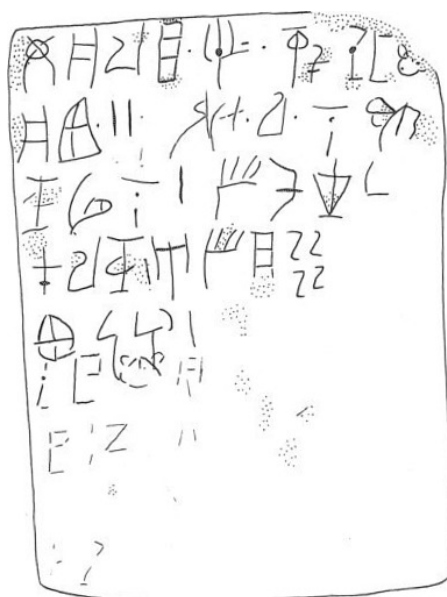


Fig. 4.12: HT 115a Transcription (facsimile drawing after GORILA 1).

Table 4.9: **HT 115a** – two transfers of quantities of GRA *22^m. The first between *47-NU-RA-JA and RI-TA-MA-NU-WI. The second between *301-U-RA and seven named entities. The fractions given are as suggested by Corazza et al. (2020).

Tablet Reading		Pattern Level 1	Pattern Level 2
*47-NU-RA-JA		Entity	Single-Commodity Inter-Entity Transfer List
, I,		Transaction Sign	
GRA *22 ^m		Commodity	
RI-TA-MA-NU-WI	2	Entity List	Single-Commodity Inter-Entity Transfer List
*301-U-RA		Entity	
NA-*21 ^l -NE-MI-NA	1	Entity List	
SE-KU-TU	$\frac{1}{2}$		
PA-RA-NE	1		
A-SE-JA	$\frac{2}{3}$		
KA-PO-RU	1		
RI-SU-MA[[
SU	2 1/6[

The tablets we classify in this group are: ARKH 2, HT 13 (Fig. 4.11 and Table 4.8), HT 102, HT 115a (Fig. 4.12 and Table 4.9), HT 115b, HT 122b, HT 26a, HT 6a, HT 6b, HT 7a, HT 7b, HT 85a, HT 86a, HT 86b, HT 95a, HT 9a, ZA 10b, ZA 15a, ZA 5a, ZA 8.

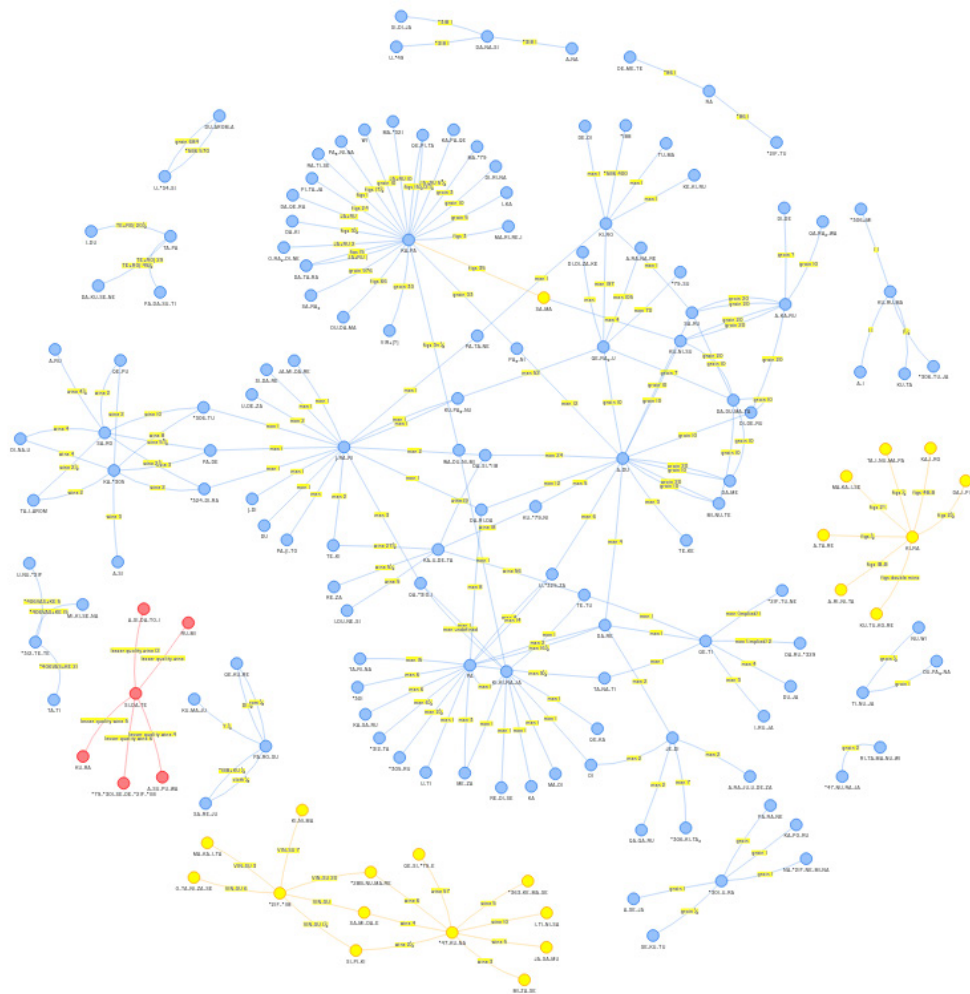


Fig. 4.13: Network diagram visualizing the relationships between entities included in the single-commodity group ([https://lineara.xyz/network/?search=\[\"Single Unnamed Commodity Inter-Entity Transfer List\", \"Single Named Commodity Inter-Entity Transfer List\"\]](https://lineara.xyz/network/?search=[\)).

Complex Structures

Tablets in this group display sufficient complexity to resist easy classification under any of our previous headings. This may be due to a difference in concerns from already classified tablets and for that reason we will treat each of them individually here.

HT 87 and **HT 117a** may list people by name and not reflect any ‘transaction’ function. In both cases the tablet contain “Entity Lists” with whole numbers assigned, preceded by multiple head word. **HT 88** (**Fig. 4.14** and **Table 4.10**) contains a Single-Commodity Transfer list, a Commodity combined with an Entity List, and a Single-Commodity Inter-Entity Transfer List.

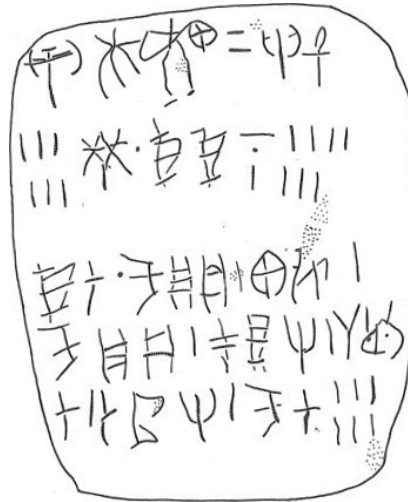


Fig. 4.14: **HT 88** (facsimile drawing after *GORILA 1*).

Table 4.10: **HT 88**.

Tablet Reading		Pattern Level 1	Pattern Level 2
A-DU		Entity	Single-Commodity Transfer list
VIR+KA	20	Commodity List	
RE-ZA	6	Entity List	
NI, KI-KI-NA	7	Commodity	Transfer List (?)
KI-RO		Entity	Single-Commodity Inter-Entity Transfer List
KU-PA ₃ -PA ₃	1	Entity List	
KA-JU	1		
KU-PA ₃ -NU	1		
PA-JA-RE	1		
SA-MA-RO	1		
DA-TA-RE	1		
KU-RO	6		

We see a similar structure to “*NI KI-KI-NA 7*” in **HT 15**: “*188, *KI-RO 400*”. Since it is not common, it may be a variation on the “Transfer List”, e.g., “*KI-KI-NA*, *NI 7*”. Also in **HT 103**. **HT 96a** contains 4 head words. If the first three are to be considered separately, then the text from *SI-MI-TA* to the dividing line may be read as a Single Commodity Transfer List. **TY 2** may be a list of commodities or entities (commodities seems more likely). If the entries beginning with *309 are indeed commodities, then the tablet consists of a Commodity List followed by a Transfer List (with *PA-DA-RU*).

The following tablets are too fragmentary to permit classification: **ARKH 4b**, **HT 110b**, **HT 137**, **HT 139**, **HT 140**, **HT 154a**, **HT 25b**, **HT 26b**, **HT 27a**, **HT 3**, **HT 38**, **HT 45b**, **HT 49a**, **HT 50a**, **HT 51a**, **HT 60**, **HT 62+73**, **HT 69**, **HT 82**, **HTZd 157+156**, **KH 12**, **KH 15**, **KH 21**, **KH 25**, **KH 26**, **KH 54**, **KH 55**, **KH 58**, **KH 6**,

KH 60, KH 61, KH 63, KH 73, KH 75, KH 76, KH 8, KH 84, KH 91, KN 2, KN 28a, MA 4a, MA 6a, MA 6c, PH 3b, PH 8a, PK 3, THE Zb 5, THE 4, ZA 12a, ZA 12b, ZA 18a, ZA 1b, ZA 26a, ZA 4b.

CONSTRUCTING A NETWORK GRAPH

In order to create a network graph that visualizes the ‘transactions’ between proposed entities (**Fig. 4.15**), we chose a third-party javascript library called “vis-network”. This is a module of computer code written in the Javascript programming language that can be embedded in a website and used by the website to display an interactive network graph in the user’s web browser. In order to achieve this, *vis-network* requires us to build a database of nodes (entities) with ‘transactions’ as the edges between the nodes. The most convenient way of doing this is to construct a simple text file for each tablet with the content formatted in such a way that it identifies the proposed nodes in the graph and includes metadata identifying the commodities and values for each ‘transaction’ between the nodes (<https://github.com/mwenge/lineara.xyz/tree/master/network/transactions/final>). An example of what this looks like for the pair of relatively simple “Transfer Lists” given in **HT 121** is as follows:



Fig. 4.15: A view of the complete network graph. The user can use the mouse wheel to zoom in and out of the graph. Haghia Triada is in blue, Zakros in yellow, Khania in pink, Tylissos in purple, Arkhanes in green, Petras in red.


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{
  "name": "HT121",
  "transactions": [
    {
      "description": "sender",
      "transactionID": "HT121-1",
      "transliteratedWord": "Haghia Triada Magazine"
    },
    {
      "description": "sender",
      "transactionID": "HT121-2",
      "transliteratedWord": "Haghia Triada Magazine"
    }
  ],
  "words": [
    {
      "description": "recipient",
      "transactionID": "HT121-1",
      "transliteratedWord": "KI-RI-TA2",
      "word": "𐀓𐀠𐀭"
    },
    {
      "commodityID": 1,
      "description": "commodity",
      "transactionID": "HT121-1",
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      "word": "𐀓𐀠𐀭"
    },
    {
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      "description": "quantity",
      "transactionID": "HT121-1",
      "transliteratedWord": "10",
      "word": " - "
    },
    {
      "description": "recipient",
      "transactionID": "HT121-2",
      "transliteratedWord": "SA-RA2",
      "word": "𐀓𐀠𐀭"
    }
  ]
}

```

```

{
  "commodityID": 1,
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  "transactionID": "HT121-2",
  "transliteratedWord": "GRA",
  "word": "𐎠"
},
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  "commodityID": 1,
  "description": "quantity",
  "transactionID": "HT121-2",
  "transliteratedWord": "5",
  "word": "𐎠𐎥"
},
{
  "commodityID": 2,
  "description": "commodity",
  "transactionID": "HT121-2",
  "transliteratedWord": "OLE",
  "word": "𐎠𐎡"
},
{
  "commodityID": 2,
  "description": "quantity",
  "transactionID": "HT121-2",
  "transliteratedWord": "4",
  "word": "𐎠𐎢"
},
{
  "commodityID": 3,
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  "transactionID": "HT121-2",
  "transliteratedWord": "NI",
  "word": "𐎠𐎢𐎥"
},
{
  "commodityID": 3,
  "description": "quantity",
  "transactionID": "HT121-2",
  "transliteratedWord": "2",
  "word": "𐎠𐎢"
}

```

```

    },
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      "description": "commodity",
      "transactionID": "HT121-2",
      "transliteratedWord": "VIN",
      "word": "𐎕"
    },
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      "description": "quantity",
      "transactionID": "HT121-2",
      "transliteratedWord": "3",
      "word": "𐎎"
    },
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      "description": "commodity",
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    },
    {
      "commodityID": 5,
      "description": "quantity",
      "transactionID": "HT121-2",
      "transliteratedWord": "3",
      "word": "𐎎"
    }
  ]
}

```

For each ‘transaction’ we designate “sender” and “recipient” nodes – these are conventional terms only since we are not presenting a directed graph and do not have a strong hypothesis on which direction the commodities are flowing in any given “Transfer List” (let us also remember that the idea of mobile commodities instead of static ones –i.e., a record of storage– is also a working hypothesis). For each commodity and value that we propose is passing between the nodes we assign a unique transactionID. Each combination of commodityID and transactionID will constitute a unique edge between the two nodes associated with that transaction. In the above example there are 5 edges between the administrative center (the “Haghia Triada Magazine”) and the entity SA-RA₂. As we construct our graph in this way, the assumptions underlying our analysis of the tablets becomes strongly apparent. We assume the tablets included in the analyst contain a record of goods transfers between entities rather than a record of goods stored (for example). We may contend that this view is supported

by the relative absence of simple “Commodity Lists” we noted when seeking examples of “Commodity Lists” independent of other syntactic structures in the tablets, but ultimately it is an assumption guided by our objective to build a graph of potential relationships between entities.

Fortunately, it was not necessary to construct the entries for every tablet by hand. We wrote a computer program in the Python programming language that made an informed guess for the appropriate construction of the text file for each tablet, based on our proposed classification (<https://github.com/mwenge/lineara.xyz/blob/master/network/transactions/030%20-%20Create%20Transactions.ipynb>). Each entry was then reviewed and corrected as required, before being merged into a single file, `transactions.js` (<https://github.com/mwenge/lineara.xyz/blob/master/network/transactions.js>).

When a user loads <https://lineara.xyz/network>, the page constructs a full list of all nodes given in transactions.js and builds a network of edges that connect them. In order to help users to distinguish between the different geographies associated with the tablets, nodes for each site are assigned a unique color. We also annotate each edge with its commodity and value.

To assist the user in exploring the graph, we have made the nodes interactive. Clicking on a node will limit the displayed graph to just that node and other nodes connected to it. The user can in this way build up a graph of just the nodes and edges they are interested in. The graph also has a search function. Searching can be done on tablet name, entity name or site/find-place. Search terms are cumulative, again allowing the user to build up a cumulative picture of just the nodes that interest them.

We consider our interpretation of the tablets provisional, so it is important to allow the critical user view the source of any given relationship represented in the graph. It is important to bear in mind that these graphs have been constructed with specific working hypotheses as points of departure (the separation of “Commodities” and “Entities” and the concept of the “Transfer List” being the most significant). As such, they cannot reflect the viewpoint of someone who does not accept such axioms. In constructing the graph, I have set out a specific rationale for interpreting the individual tablets based on the common syntactic structures identified herein.

It is inevitable that this exercise will be partial rather than impartial. However, it may provide a stimulus, as well as the general framework for the readers to consider for themselves each relationship depicted. For this reason, when a user hovers over an edge in the graph, we display the tablet and the nodes and edge are sourced from with the relevant words in the tablet highlighted. This permits the users to easily assess if the relationship is a valid one according to their own interpretation of the tablet.

OBSERVATIONS ON THE NETWORK GRAPH

As might be expected, our graph is dominated by nodes from Haghia Triada (**HT**) (**Fig. 4.16**). Most prominent are transfers between the **HT** administrative center (designated the “Haghia Triada Magazine” in the graph) and other entities.

But we also observe a large tangle of connections (“network edges”) between Haghia Triada nodes that do not involve the administrative center. This is based largely on those tablets we have classified as “Inter-Entity Transfer Lists” in our analysis. If our interpretation of the tablets is correct, and that is a very tentative “if”, this would indicate a high degree of economic activity between entities around the Haghia Triada center. Some nodes are much more connected than others: *SA-RA*, *KA-RA*, *A-SI-JA-KA*, *A-DU* are highly connected for example. This may indicate that these are entities more economically active than the others found in the tablets, but it may also suggest that they are not entities but words with a specific administrative meaning or function, such as ‘transaction’ vocabulary. *A-DU*, for example, has been proposed as a word meaning “assessment” (Younger 2024: https://www.academia.edu/117949876/Linear_A_Texts_and_Inscriptions_in_phonetic_transcription, under §“9b. ‘transaction’ Words”; also Schoep 2002, 159), although, of course, other interpretations are possible.

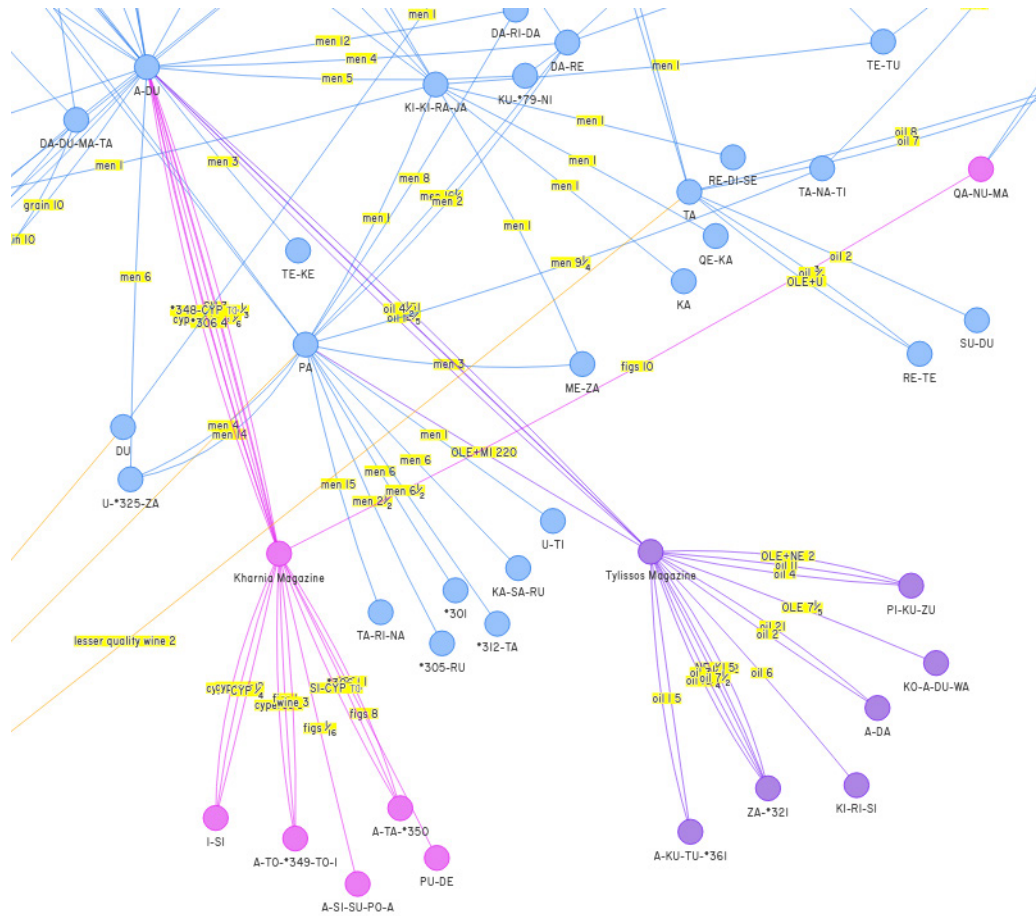


Fig. 4.16: A detail from the graph showing the nodes that connect Haghia Triada with Tylissos and Khania.

Such considerations aside, what is striking from this part of the graph is how many **HT** nodes have more than one edge, in other words they are involved in more than one ‘transaction’ with other nodes in the network.

However, the purpose of this graph is not for me to make inferences about Minoan economic activity, but to allow the reader to explore it for themselves and decide if it provides any useful insights. The basis for constructing the graph is inescapably provisional; the classification and interpretation of Linear A tablets is always a castle built on sand, and the system I have suggested here unquestionably has the limitation of assuming that the majority reflect relatively straightforward transactions. For this reason, the network graph is offered as a visualization tool for the interested reader to aid the ongoing inquiry in Linear A studies, championed in particular by Younger and Schoep, into what the purpose of each tablet may have been rather than what the individual words on the tablet may have signified.

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ABBREVIATIONS

<i>Aegean Podcasts</i>	Salgarella, E. 2024 (ongoing). <i>Aegean Connections</i> (podcast, open-access at: https://creators.spotify.com/pod/profile/ester-salgarella)
<i>Aegean Scripts</i> I–II	Nosch, M.-L., and H. Landenius Enegren, eds. 2017. <i>Aegean Scripts. Proceedings of the 14th International Colloquium on Mycenaean Studies, Copenhagen, 2–5 September 2015</i> , Volumes I–II, <i>Incunabula Graeca</i> 105:1–2. Roma: Edizioni Consiglio Nazionale delle Ricerche.
ARN	Godart, L., and A. Sacconi. 2019–2020. <i>Les Archives du Roi Nestor. Corpus des Inscriptions en Linéaire B de Pylos</i> . Volumes I–II. Pasiphae 13–14. Pisa – Roma: Fabrizio Serra.
ASSA	Palaima, T.G., ed. 1990. <i>Aegean Seals, Sealings and Administration. Proceedings of the NEH-Dickson Conference of the Program in Aegean Scripts and Prehistory of the Department of Classics, University of Texas at Austin, January 11–13, 1989</i> . <i>Aegaeum</i> 5. Liège: Université de Liège.
CEAL	Woodard, R.D., ed. 2004. <i>Cambridge Encyclopedia of the World's Ancient Languages</i> . Cambridge: Cambridge University Press.
CHIC	Olivier, J.-P., and L. Godart. 1996. <i>Corpus Hieroglyphicarum Inscriptionum Cretae</i> . <i>ÉtCrét</i> 31. Paris: École Française d'Athènes and École Française de Rome.
CMS II,6	Platon, N., W. Müller, and I. Pini, eds. 1999. <i>Corpus der minoischen und mykenischen Siegel</i> , Band II. <i>Iraklion, Archäologisches Museum</i> . Teil 6. <i>Die Siegelabdrücke von Aj. Triada und anderen zentral- und ostkretischen Fundorten, unter Einbeziehung von Funden aus anderen Museen</i> . Berlin: Mann.
CMS II,7	Platon, N., W. Müller, and I. Pini, eds. 1998. <i>Corpus der minoischen und mykenischen Siegel</i> , Band II. <i>Iraklion, Archäologisches Museum</i> . Teil 7. <i>Die Siegelabdrücke von Kato Zakros, unter Einbeziehung von Funden aus anderen Museen</i> . Berlin: Mann.
CMS II, 8,1–2	N. Platon, M.A.V. Gill, W. Müller, and I. Pini, eds. 2002. <i>Corpus der minoischen und mykenischen Siegel</i> , Band II. <i>Iraklion. Archäologisches Museum</i> . Teile 8,1–8,2. <i>Die Siegelabdrücke von Knosso</i> . Mainz: von Zabern.
CMS V S3	Pini, I., ed. 2004. <i>Corpus der minoischen und mykenischen Siegel</i> , Band V. <i>Kleinere griechische Sammlungen: Neufunde aus Griechenland und der westlichen Türkei</i> . Teil 1 (<i>Ágina – Mykonos</i>) – Teil 2 (<i>Nafplion – Volos und westliche Türkei</i>). Mainz: von Zabern.
CoMIK I–IV	Chadwick, J., L. Godart, J.T. Killen, J.-P. Olivier, A. Sacconi, and I.A. Sakellarakis. 1986–1998. <i>Corpus of Mycenaean Inscriptions from Knossos</i> , Volumes I–IV. <i>Incunabula Graeca</i> 88:1–4. Cambridge – Roma: Cambridge University Press and Edizioni dell'Ateneo.
DMic I–II	Aura Jorro, F. 1985–1993. <i>Diccionario Micénico</i> , Volumes I–II. <i>Diccionario Griego-Español Anejos</i> I–II. Madrid: Consejo Superior de Investigaciones Científicas.
Docs	Ventris, M.G.F., and J. Chadwick. 1956. <i>Documents in Mycenaean Greek. Three Hundred Selected Tablets from Knossos, Pylos and Mycenae with Commentary and Vocabulary</i> . Cambridge: Cambridge University Press.
Docs ²	Ventris, M.G.F., and J. Chadwick. 1973. <i>Documents in Mycenaean Greek. Three Hundred Selected Tablets from Knossos, Pylos and Mycenae with Commentary and Vocabulary</i> . 2nd ed. with additions by J. Chadwick. Cambridge: Cambridge University Press.
ÉtMyc2010	Carrier, P., C. de Lamberterie, M. Egetmeyer, N. Guilleux, F. Rougemont and J. Zurbach, eds. 2012. <i>Études Mycéniennes 2010: Actes du XIIIe Colloque International sur les Textes Égéens: Sèvres, Paris, Nanterre, 20–23 Septembre 2010</i> , <i>Biblioteca di Pasiphae</i> 10. Pisa – Roma: Fabrizio Serra.
FS Wiener I–III	Betancourt, P.P., V. Karageorghis, R. Laffineur and W.-D. Niemeier, eds. 1999. <i>MELETEMATA. Studies in Aegean Archaeology Presented to Malcolm H. Wiener as He Enters His 65th Year</i> , Vol-

- umes I–III. *Aegaeum* 20:1–3. Liège – Austin: Université de Liège and University of Texas at Austin, Program in Aegean Scripts and Prehistory.
- FS Younger Davis, B., and R. Laffineur, eds. 2020. *ΝΕΩΤΕΡΟΣ. Studies in Bronze Age Aegean Art and Archaeology in Honor of Professor John G. Younger on the Occasion of His Retirement*. *Aegaeum* 44. Leuven – Liège: Peeters.
- GORILA 1–5 Godart, L., and J.-P. Olivier. 1976–1985. *Recueil des Inscriptions en Linéaire A*, Volumes 1–5. *ÉtCrét* 21:1–5. Athens: École Française d’Athènes.
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- LAIF Salgarella, E. 2025 (under ongoing development). LAIF - Linear A Inscription Finder.
- LM IB Pottery 1–2 Brogan, T.M., and E. Hallager, eds. 2011. *LM IB Pottery: Relative Chronology and Regional Differences. Acts of a Workshop Held at the Danish Institute at Athens in Collaboration with the INSTAP Study Centre for East Crete, 27–29 June 2007*, Volumes 1–2. Monographs of the Danish Institute at Athens 11:1–2. Aarhus: Aarhus University Press.
- OHBA Cline, E.H., ed. 2010. *The Oxford Handbook of the Bronze Age Aegean*, Oxford – New York: Oxford University Press.
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- RILA-SI Del Frio, M., and J. Zurbach. 2024. *Recueil des Inscriptions en Linéaire A*. Supplément 1. *ÉtCrét* 21:6. Athens: École Française d’Athènes.
- SigLA Salgarella, E., and S. Castellan. 2020. *SigLA. The Signs of Linear A: A Paleographical Database*. Website: <https://www.inscribercproject.com/SigLA/index.html> (last access 26 June 2024).
- URBS Steele, P.M., ed. 2017. *Understanding Relations Between Scripts: The Aegean Writing Systems*, Oxford-Philadelphia: Oxbow.
- WALS Dryer, M.S., and M. Haspelmath, eds. 2023. *World Atlas of Language Structures Online*. Leipzig: Max Planck Institute for Evolutionary Anthropology. Website: <http://wals.info> (last access 26 June 2024).

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