

The Linguistic Relationships between Greek and the Anatolian Languages



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“The philological instinct [is] universal
as is the use of language”

J.R.R. Tolkien

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Abstract

This thesis investigates the issue of prehistoric and historical language contact between speakers of Greek and speakers of the Anatolian languages. It is the first systematic attempt to understand to what extent Greek and the languages belonging to the Anatolian branch of Indo-European (Hittite and Luwian *in primis*) influenced each other between the second and the first millennium before our era, and in particular how much of early Greek language can be traced back to Anatolian models. This has been carried out through a case-to-case analysis of real or presumptive contact phenomena in the domains of phonology, morphosyntax, and lexicon (ch. 2-5). The introduction (1) offers an outline of the linguistic landscape of the Graeco-Anatolian area, together with some reflections on language phylogeny and contact. The final chapter (5) focuses on the dialect of Pamphylia, which is used as a control sample to check the ways in which a variety of Greek historically in contact with Anatolian dialects could be affected by language contact.

I have offered a stratigraphy of possible contacts between Greek and the Anatolian languages, by disentangling linguistic borrowings from independent innovations, areal features from Indo-European archaisms. I have argued that several of the presumptive similarities between Greek and one or the other Anatolian language are either attributable to reasons different from contact, or need to be rejected because the alleged similarity was based on wrong premises or insufficient grounds. Any scenario envisaging diffused bilingualism is very difficult to uphold before the classical era. A certain degree of cultural contact is however undeniable. Since our evidence is very often partial and since absence of evidence is not evidence of absence, one should raise a firm *caveat* against any type of hyper-sceptical approach.

Keywords: Ancient Greek, Greek dialects, Anatolian languages, Hittite, Luwian, language contact.

Word count: 99858

Beginning our journey: a roadmap

This study is about the history of an idea. An idea which has been in the air for more than a century and has fascinated generations of Hellenists who were looking to the Ancient Near East to find the roots of Greek culture, and Anatolianists who tried to understand to what extent the lost languages and civilisations of the Anatolian peninsula planted their seeds in the cradle of Western civilisation, and endured in one form or another.

The relationships between Greece and Anatolia during the second and the first millennia before our era are the object of a multi-faceted, complex and intriguing field of study, which has received the attention and efforts of archaeologists, historians, anthropologists, literary scholars, and philologists. It is as a member of the last category that I would like to offer the present contribution: the time seems ripe for a comprehensive reanalysis of the ‘relationships’ between (pre-Hellenistic) Greek and the Indo-European languages of Anatolia. The goal is to offer an up-to-date and modern outline of the interactions between these two branches, which, despite being genetically related, are not particularly ‘close’ within the language family, but have been geographically adjacent for centuries.

Over the last decades, several hypotheses have been advanced that attempted to explain both “regular” and peculiar linguistic features of Greek through the influence of an Anatolian language. In this work, I have endeavoured to gather as many of these hypotheses as possible, and have analysed them individually in order to understand to what extent language contact could or could not have taken place. Most previous attempts have been rather partial, and the rapid development of Indo-European linguistics, especially on the Anatolian side, has led me to reconsider this issue – which was at the centre of scholarly

attention half a century ago, and is regaining popularity in the last few years – and to analyse as many features I was able to identify in as much detail as possible, before moving on to more holistic considerations.

The first and foremost risk in starting with a holistic approach is that of circularity: as we shall see in due course, it is often easier to attribute a given similarity between two languages to language contact when there are other elements which independently point to the same process. By contrast, whenever the given similarity occurs in isolation, a different explanation (*e.g.* internal development within the given language) is preferred. As obvious as this might seem, these are (and should be) *a posteriori* speculations, possible only when they are built on a common ground everyone agrees on. Unfortunately, this is not the case when it comes to (alleged) Graeco-Anatolian contacts, where the fragmentary and often incomplete nature of the available sources forces scholars to argue for or against single cases of language contact on the basis of their overall (and often idiosyncratic) conception of the linguistic situation in that area at that time. These conceptions happen to often be aprioristic, since one regularly finds scholars *e.g.* hypothesising that an obscure Greek word is a loan from an Anatolian language and citing in support further parallels, which, if taken singularly, are often supported only by the former. In an extremely simplified model: *a* in language X may come from *A* in language Y, and this is supported by *b* in language X coming from *B* in language Y; but if one goes to analyse *b*, the evidence in support of the derivation from *B* in language Y may well be the fact that *a* in language X may come from *A* in language Y. The opposite reasoning is equally possible: *a* in language X cannot come from *A* in language Y, because it is in isolation, and it is unlikely that a transmission of a single feature happened. This kind of reasoning, of course, very much depends on the type of linguistic

feature one is concerned with. In order to avoid circularity and to adapt the analysis of individual features to one of the already proposed models (which are often in conflict), I have chosen to observe the plausibility of each item in relative isolation and to try and find independent proofs for or against each possible case of language contact, and then only subsequently bring the evidence together and produce an overall panorama of the situation, trying to fit the data from the Graeco-Anatolian area into one or more typologically known models of linguistic contact.

It should be clear from the outset that, among the many shortcomings of a piece of research which aims for completeness, one does have to take into account the presence of out-of-date and often simply wrong theories: anyone who has sifted through an etymological dictionary will have experienced this. Nonetheless, this should not prevent the scholar from including these theories when needed, and from giving the reader his or her take on the issue. This work is no exception, especially because it gathers ideas which have been conceived at very different stages of the evolution of the discipline. With this in mind, I have tried to make clear which ideas I support and which I reject as much as I could, and to ‘translate’ older ideas into more modern terms. Science is made of discoveries, but also of re-discoveries, and much value may be found from time to time in (the modern reinterpretation of) older theories.

Constraints of space (and time) have prevented me from a thorough discussion of all the hypotheses that have ever been made (especially at the morphosyntactic level): I have therefore made a selection of those traits that have been at the centre of more recent discussion, and that are in my opinion more meaningful in order to understand the relationship and contacts between Greek and the Anatolian languages.

In the introductory chapter, the reader will find the preliminaries for this kind of study: an overview of the linguistic landscape of the Eastern Mediterranean in the late 2nd and early 1st millennium BCE, including a brief description of the Anatolian languages; an outline of the *Forschungsgeschichte*, from the discovery of the Anatolian languages up to the present day, with a special focus on linguistic (and literary) contacts and the concept of a (Graeco-)Anatolian linguistic area; some contextual data of a historical and archaeological nature. Finally, there will be a section focussing on the methods of relating languages (including the position of the Greek and Anatolian branches within the Indo-European language family), followed by some remarks on theoretical issues of language contact.

Chapter 2 deals with phonological questions, namely: Greek and Luwian shared phonotactics; (Eastern) Greek and Hittite assibilation processes; the initial-*r* constraint shared by Greek, Anatolian, and other near-Eastern languages; psilosis.

In the third chapter, I shall discuss two questions of morphology and syntax: the *sk*-preterites in Greek and Hittite and the Aeolic relational adjective.

Chapter 4 will be the most extensive one, and will feature a reconsideration of the most significant possible Anatolian loanwords in Greek, together with Graeco-Anatolian isoglosses, *i.e.* all those lexemes, presumably of Indo-European heritage, which were retained only in Greek and in one or more of the Anatolian languages; a more synthetic appendix on *Wanderwörter* which may have entered Greek through an Anatolian language shall close the chapter.

The final section will differ from the preceding ones, as it will feature a more extensive case study – on the Greek dialect spoken in Pamphylia – in which several extra-linguistic factors *a priori* indicate close contact with Anatolian languages. This will allow us to check

the ways in which a variety of Greek could be affected by language contact in Anatolia. As will soon be clear, in all other instances of possible language contact, we lack external independent evidence (especially on the material side) to postulate widespread bilingualism; in this perspective, Pamphylian shall be a sort of control sample.

In the conclusion, the data analysed in the preceding chapters will be brought together in light of the theoretical premises outlined in this introduction, and an overall attempt will be made to define the relationships between Greek and the Anatolian languages before the Hellenistic period.

Abbreviations and Conventions

Languages and Dialects

Aeol.	Aeolic (Greek)
Akk.	Akkadian
Alb.	Albanian
Am.Engl.	American English
Arm.	Armenian
Assyr.	Assyrian
Av.	Avestan
Berb.	Berber
Car.	Carian
CLuw.	Cuneiform Luwian
Corn.	Cornish
Cush.	Cushitic
Cymr.	Cymaraeg (Welsh)
Dor.	Doric (Greek)
Egypt.	Egyptian
Fr.	French
Gaul.	Gaulish
Gk.	Greek (Ancient)
Goth.	Gothic
Hebr.	Hebrew
Hitt.	Hittite
HLuw.	Hieroglyphic Luwian
Hom.	Homeric (Greek)
Hurr.	Hurrian
IE	Indo-European
Iir.	Indo-Iranian
It.	Italian
Ion.	Ionic (Greek)
Jap.	Japanese
Lat.	Latin
Latv.	Latvian
Lesb.	Lesbian (Greek)
Lith.	Lithuanian
Luw.	Luwian
Lyc.	Lycian
Lyd.	Lydian
MH	Middle Hittite
Mil.	Milyan (or Lycian B)
ModEngl.	Modern English
ModGerm.	Modern German
ModGk.	Modern Greek
Myc.	Mycenaean (Greek)
NH	New Hittite
NWGk.	North-West Greek
OAv.	Old Avestan
OCS	Old Church Slavonic
OE	Old English
OFr.	Old French
OH	Old Hittite
OHG	Old High German
OIc.	Old Icelandic
OIr.	Old Irish

OLat.	Old Latin
ON	Old Norse
OPhr.	Old Phrygian
OSax.	Old Saxon
Osc.	Oscan
PAnat.	Proto-Anatolian
PGk.	Proto-Greek
PGmc.	Proto-Germanic
Phoen.	Phoenician
Phr.	Phrygian
PIE	Proto-Indo-European
Pis.	Pisidian
Pol.	Polish
PSl.	Proto-Slavic
PT	Proto-Tocharian
Sid.	Sidetic
Skt.	Sanskrit
Toch.	Tocharian
TochA	Tocharian A
TochB	Tocharian B
Ugar.	Ugaritic
Uart.	Uartian
Ved.	Vedic (Sanskrit)
YAv.	Younger Avestan

Authors and texts

Abbreviations of Greek and Latin authors and texts follow the *Oxford Classical Dictionary* (4th ed., Oxford 2012).

Hittite and Cuneiform Luwian texts are cited according to the main cuneiform collections, and/or to Laroche's *Catalogue*:

- *KBo* = *Keilschrifttexte aus Boghazköi*, Leipzig und Berlin 1916ff. : J. C. Hinrichs.
- *KUB* = *Keilschrifturkunden aus Boghazköi*, Berlin 1921-1990 : Akademie-Verlag.
- *CTH* = LAROCHE, E. 1971, *Catalogue des textes hittites*, Paris; Suppl. 1 «Revue Hittite et Asiatique» 30; 94-133 (Paris 1972); Suppl. 2 «Revue hittite et asiatique» 33: 63-71 (Paris 1975).

Hieroglyphic Luwian texts are cited according to J. David Hawkins's *CHLI*:

- HAWKINS, J.D. 2000, *Corpus of Hieroglyphic Luwian Inscriptions*, 3 voll., Berlin / New York : de Gruyter.

Lycian texts are cited according to Kalinka's edition (TL), Neumann's supplement (N), and Mørholm and Neumann's repertoire of coin legends (M):

- KALINKA, E. 1901, *Tituli Lyciae, lingua lycia conscripti*, Vindobonae : in aedibus Alfredi Hoelderi.
- NEUMANN, G. 1979, *Neufunde lykischer Inschriften seit 1901*, Wien : Verlag der Österreichischen Akademie der Wissenschaften.
- MØRKHOLM, O. – NEUMANN, G. 1978, *Die lykischen Münzlegenden*, Göttingen : Vandenhoeck & Ruprecht.

Lydian texts are cited according to Gusmani's *LW* (+ expansions):

- GUSMANI, R. 1964-1986, *Lydisches Wörterbuch: mit grammatischer Skizze und Inschriftensammlung*, Heidelberg : Winter.

Linguistic and grammatical notation

abl.	ablative
acc.	accusative
art.	article
dat.	dative
dir.	directive
DN	Divine Name
f.	feminine
gen.	genitive
instr.	instrumental
loc.	locative
m.	masculine
neut.	neuter
nom.	nominative
NP	Noun Phrase
obl.	oblique
PA	Patronymic Adjective
pl.	plural
PN	Personal Name
PV	Prothetic Vowel
RA	Relational Adjective
sg.	singular
SL	Source Language
TL	Target Language

Translations

Unless specifically indicated, translations offered for quoted passages in ancient languages are my own. Quotations from secondary literature written in modern languages currently used in scholarship are left in the original.

Other

Following widespread conventions, a reconstructed form is indicated with an asterisk (*), and a form which is set up for argumentative purposes, but whose (pre)historical reality is denied is indicated with an *obelos*/dagger (†).

In reconstructed forms: *C* = any consonant; *V* = any vowel; *T* = any voiceless stop; *R* = any resonant; *N* = any nasal; *H* = any laryngeal.

1 Introduction

1.1 The linguistic landscape of the Graeco-Anatolian area.

I shall start by giving a brief description of the languages of the Eastern Mediterranean and Western Anatolia between the 2nd and 1st millennia BCE. The focus will be on Greek and the Anatolian languages, but reference will be made to all other languages with which these might have come into contact.

1.1.1 Greek and its dialects before the Classical era

Much work has been devoted to the dialectology of Ancient Greek,¹ and the distribution of Greek dialects in the first millennium BCE is relatively clear. The attestations of these varieties of Greek come to us in two main streams: epigraphic and literary sources. Ancient grammarians tell us that in ancient times four dialectal groups were recognised: Attic, Ionic, Doric and Aeolic.² Modern scholars have elaborated on the traditional classification for the first millennium BCE, forming the following genealogical taxonomy:³

Arcado-Cypriot: Arcadian, Cypriot

Attic-Ionic: Attic, Ionic (Eastern, Central and Euboean)

Aeolic: Thessalian, Boeotian, Lesbian

Doric: (Saronic, Argolic, Laconian, Messenian, Cretan, Insular Doric)

Northwest Greek: (Phocian, Locrian, Achaeian, Elaeian)

Pamphylian [unclassified]

¹ “Classic” works on Greek dialects are: BECHTEL 1921-1924, BUCK 1955, THUMB – KIECKERS – SCHERER 1932-59; more concise introductions are DUHOUX 1983 and SCHMITT 1977. One should also see, more recently, COLVIN 2007 and MILLER 2014.

² The last being a “catch-all” term: anything that did not fit into the other categories was considered ‘Aeolic’. On the concept of dialect in the ancient grammarians, cf. MORPURGO DAVIES 1987 and CONSANI 1991.

³ The present sub-division follows COLVIN 2007, but one may also refer to the works listed in fn. 1.

Dialects and languages can be grouped into families and sub-families according to the *isoglosses* (shared linguistic traits) they show. If two dialects show a series of non-trivial features, one can assume that they were part of a linguistic unity at some point in history. Innovations, *i.e.* when two dialects show a linguistic trait diverging from the earlier form, are particularly important in defining groups and sub-groups;⁴ for dialectology at the synchronic level, preservations of archaism are as valuable as shared innovations, because they have *de facto* an effect on mutual intelligibility.

Literary languages are deeply intertwined with literary genres: authors from different regions tend to use the dialect which is most appropriate to the type of text they are composing rather than their native variety of Greek. Here is a schematic classification of the literary languages and the authors who employed them:⁵

Homeric Greek: used by Homer, Hesiod, in the *Homeric Hymns*, and by later authors of epic poetry (Apollonius of Rhodes, Nonnus); it is also the language of oracular responses and literary epigrams.

Ionic: used by elegiac and iambic poets (Archilocus, Semonides, Hipponax, Callinus, Solon, Theognis), early logographers (*e.g.* Hecateus) and philosophers (Thales, Anaximander, Heraclitus, Democritus), by the historian Herodotus, by the lyric poet Anacreon and by the physician Hippocrates.

⁴ This, of course, presupposes the postulation of a Proto-Greek, the ancestor of all known varieties of Greek which includes those traits shared by all dialects. The concept of Proto-Greek is generally accepted, but there has been more than one voice against it: see criticism in PISANI 1960 and CONSANI 1991, and more recently GARRETT 1999: 148-9 and 2006: 141-142. More on this in 1.4.

⁵ CASSIO 2016 is the most recent and up-to-date comprehensive overview of Greek literary languages.

Attic: used by the historians Thucydides and Xenophon, by the philosophers Plato and Aristotle, by the Attic orators (Aeschines, Andocides, Antiphon, Demosthenes, Dinarchus, Hypereides, Isaeus, Isocrates, Lycurgus, Lysias) and by the Attic playwrights (the best attested are Aeschylus, Sophocles and Euripides for tragedy and Aristophanes for comedy).

Aeolic: used by the monodic lyric poets Alcaeus and Sappho (Lesbian) and by the poet Corinna (Boeotian).

Doric: used by choral lyric poets (Alcman, Pindar, Bacchylides, Ibycus), by Athenian playwrights in the choruses of tragedy, by comic poets from Sicily and Southern Italy (Epicharmus, Sophron, Rhinthon), by the Pythagoreans and by Archimedes.

Thessalian, Northwest Greek, Arcado-Cypriot and Pamphylian never became literary dialects and are only found in inscriptions.

The reconstruction of dialectal units led scholars to consider the parallel issues of ethnic groups and migrations in pre-literate times: the basic assumption was that genetically related dialects were once spoken in a circumscribed area by ethnically homogeneous groups: the Ionians spoke Ionic, the Aeolians spoke Aeolic, and so on. It was only after some waves of migration that the speakers of these dialects reached both sides of the Aegean. This theory was influenced by the very ancient distinction between the three main ethnic groups, the Ionians, the Aeolians and the Dorians: in a fragment of Hesiod (fr. 9 M.-W.) we read that "Ἕλληνας δ' ἐγένοντο φιλοπτολέμου βασιλῆος / Δῶρός τε Εἰῶθός τε καὶ Αἰῶλος ἵππιοχάρμης «From

Hellen the war-loving king were born Doros, Xouthos and Aiolos lover of horses» (Xouthos is the stepfather of Ion, from which the Ionians descended). Until the early 20th century, most scholars thought that these three groups existed in prehistoric times, and that they arrived in Greece in three waves of migration before the end of the second millennium.

These assumptions were radically revised after the discovery of Mycenaean, the language of some 6000 tablets written in Linear B found in many sites in Greece (Pylos, Thebes, Mycenae, Iklaina, and now also Hagios Vasileios) and Crete (Knossos). In 1953, the British architect Michael Ventris deciphered Linear B, showing that the language behind these second-millennium clay tablets is an archaic variety of Greek. Despite the fact that the Mycenaean texts are extremely short and there are still huge gaps in our knowledge of its vocabulary, it was soon clear that Mycenaean was not Proto-Greek or the direct ancestor of any first-millennium dialectal group (though the similarities to Arcado-Cyprian are noteworthy). It was simply another dialect that had some more archaic features (as one would expect from something half a millennium older than the rest of our sources), but it also had some innovations which some first-millennium dialects do not show.

In light of this, scholars identified two main dialect groups in the second millennium: East/South Greek (from which Attic-Ionic and Arcado-Cypriot descended) and West/North Greek (from which Aeolic, Doric and Northwest Greek descended).⁶ Mycenaean would then be a second-millennium member of the Eastern/Southern group.

⁶ These second-millennium sub-divisions are mainly based on the works of Porzig and Risch (PORZIG 1954b and RISCH 1955), who made distinctions respectively between Western/Eastern and Northern/Southern Greek.

1.1.2 The Anatolian languages

The term ‘Anatolian’ is used here, and elsewhere, in a purely linguistic sense; when referring to the languages spoken in the Anatolian area, one will find different formulations. Anatolian is generally considered to be the earliest branch to split off from Proto-Indo-European (cf. 1.4.1.4 *infra*). At the same time, it provides us with the oldest *specimina* of IE languages, as the first documents written in these languages (in particular in Hittite, Palaic, and Cuneiform Luwian) date to the first half of the second millennium BCE. Our documentation of Anatolian is deeply uneven, and the data from the second millennium are available in much higher quantity, but we have reasons to believe that some languages belonging to this branch were spoken until the first few centuries of the Common Era, before all remaining speakers eventually switched to other languages.

Greek, which had probably already been present on Anatolian soil in the second millennium (cf. *infra*), started replacing the local languages after Alexander the Great’s conquest of Asia Minor (334-333 BCE), and by Late Antiquity the entire region was almost completely Hellenized.

The Anatolian languages can be chronologically divided into two groups: second-millennium (Hittite, Palaic and Luwian) and first-millennium (Luwian, Lycian, Milyan,⁷ Lydian, Carian, Pisidian and Sidetic). The former languages are mostly written in a cuneiform system based on Akkadian, whereas the latter are mostly written in alphabetic scripts. The only exception is Luwian, which is attested both in cuneiform (only in the 2nd millennium) and in the so-called Anatolian Hieroglyphs (2nd and 1st millennium).

⁷ Also called Lycian B, cf. 1.1.2.5.

Incidentally, Luwian is the only Anatolian language whose evidence is found both in the 2nd- and 1st-millennium.

What follows is an extremely succinct description – more of an identikit – of each known Anatolian language,⁸ followed by a sample text.

⁸ It should be noted that there may have been more languages/dialects of Anatolian than the ones testified by our documents, but a discussion, or even a simple description, of these issues – which are little more than guesses – would lead us too far.

1.1.2.1 *Hittite*

- Attested: 16th – 12th c. BCE.
- Where: central region of modern-day Turkey.
- Documents: 30,000+ clay tablets written in cuneiform script.
- Main reference works:⁹ *GHL*, FRANCIA 2012, FRIEDRICH 1974, LURAGHI 1997, VANSÉVEREN 2005-2014 (grammars), *ABoT*, *FHG*, *FHL*, *HFAC*, *HKM*, *HT*, *IBoT*, *KBo*, *KUB*, *VBoT* (text editions in cuneiform), *CTH* (text catalogue), *HZL* (sign list), KIMBALL 1999, MELCHERT 1984a, MELCHERT 1994 (phonology), KRONASSER 1956, OETTINGER 1979, RIEKEN 1999 (morphology), GARRETT 1990, JOSEPHSON 1972, LURAGHI 1990 (syntax), *CHD*, *HW*², FRIEDRICH 1952, TISCHLER 2001, 2016 (dictionaries), *EDHIL*,¹⁰ *HED*, *HEG* (etymological dictionaries), BRYCE 2002, 2005, 2019, COLLINS 2007, DE MARTINO 2003, GURNEY 1990, KLINGER 2007, LIVERANI 2011 (introductions to the Hittite world and history), HAAS 2006 (literature).

Deciphered and attributed to the IE family by the Czech philologist Bedřich Hrozný in 1915, Hittite is by far the best attested language of this branch: we have many thousands of clay tablets (and fragments) from Hattuša (modern Boğazköy), the capital of the Hittite Empire, and other sites in central Turkey (Alaca Höyük, Maşat Höyük, Ortaköy, *etc.*). The script used is an adaptation of a peripheral form of Akkadian Cuneiform from Northern Syria. The name “Hittite” is a modern convention, based on the Biblical name *ḫty* (חֶתִי) «native of Heth»; the Hittites called their own language *nešili*, *našili* or *nešumnili* «(in) the language of (the city of) Neša (Kaneš)». Hittite documents have been of paramount

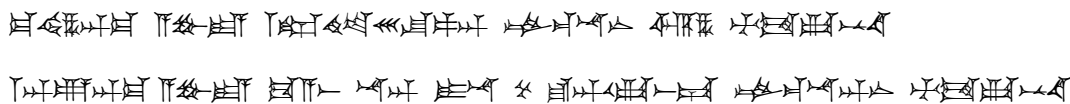
⁹ The literature on Hittite is extremely vast: here, I am giving only some of the main reference works, arranged according to a thematic criterion. For the sake of brevity, I have excluded on purpose editions and translations of individual texts.

¹⁰ It contains an extensive historical grammar section.

importance both for our understanding of the history of the Ancient Near East in the second millennium, and for the current reconstruction of PIE (more on this in 1.4.1.4). We normally distinguish three stages of the language, in which the phonology, morphology, syntax, and script underwent some changes: Old Hittite (OH: 1650-1430 BCE), Middle Hittite (MH: 1430-1320), and New Hittite (NH: 1320-1180).

Sample text: Treaty of Tudḫaliya IV with Kuruntiya of Tarḫuntašša (NH text; Bronze Tablet; Bo 86/299, column I, lines 14-5).

Cuneiform



Transliteration

ma-aḫ-ḫa-an-ma A-BU-YA ^mÚR-ḫi-te-eš-šu-pa-an LUGAL-iz-na-ni ar-ḫa ti-it-ta-nu-ut

^{m,d}LAMMA-*an-ma A-BU-YA da-a-aš na-an I-NA KUR ^{URU,d}U-ta-aš-ša LUGAL-iz-na-an-ni ti-it-ta-nu-ut*

“Bound” transcription

maḫḫan-ma ABU-YA ^mUrḫiteššupan LUGAL-eznani arḫa tittanut

^{m,d}LAMMA-*an-ma ABU-YA dāš n-an INA KUR ^{URU,d}U-tašša LUGAL-eznani tittanut*

Translation

«(But) when my father removed Urḫiteššub from the kingship, my father took Kuruntiya and put him in the kingship in Tarḫuntašša»

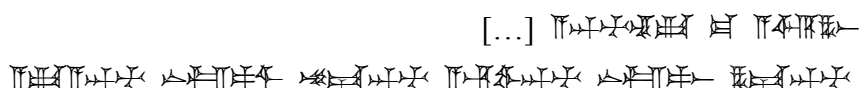
1.1.2.2 *Palaic*

- Attested: 16th – 12th c. BCE.
- Where: northern region of modern-day Turkey.
- Documents: a handful of clay tablets written in cuneiform script.
- Main reference works: CARRUBA 1970, KAMMENHUBER 1959, 1969b, MELCHERT 1984b, 2008b.

Palaic was the language of the region of *Palā*, which is generally thought to correspond to Classical Paphlagonia, northwest of the river Halys (modern Kızılırmak).¹¹ It was probably already extinct by the second half of the 2nd millennium BCE, and it is only attested in a dozen liturgical texts, chiefly concerning the cult of the god Zaparfa. These documents, found in the archives of Ḫattuša, are contemporary with Hittite manuscripts (16th-13th c. BCE) and are written in the same cuneiform script.

Sample text *KUB XXXII*, 18 i 6-7

Cuneiform



Transliteration

[...]*a-an-ti-en-ta ma-a*[-*ar-ha-aš*^ʷ

[a]-ta-a-an-ti ni-ip-pa-ši mu-ša-an-ti a-hu-wa-an-ti ni-ip-pa-aš ha-ša-an-ti

“Bound” transcription

...ānt=ienta mā[r̥haś]

[a]tānti ni=ppa=ši mušānti aḥuwanti ni=ppa=aš ḥašanti

Translation

«The guests enter. They eat, but are not satisfied. They drink, but they are not satiated.»

¹¹ The very name Παφλαγονία is thought to be a reduplicated form of what we find in second-millennium sources as *<pa-la-a>* (WATKINS 1986: 45). Popko (2008: 61) advances the hypothesis that on purely phonetic grounds, one could identify *<pa-la-a>* with first-millennium *Blaene*, mentioned by Strabo (XII, 3, 40).

1.1.2.3 *Luwian*

- Attested: 15th – 8th c. BCE.
- Where: central and south-eastern Anatolia; northern part of modern-day Syria; western Anatolia (?).
- Documents: 383 cuneiform tablet fragments (as of 1985), some 2000 hieroglyphic inscriptions.
- Main reference works: *CHLI*, HAWKINS – MORPURGO DAVIES – NEUMANN 1974, LAROCHE 1959, MELCHERT 1993a, 2003a, 2008a, PAYNE 2014, STARKE 1985, 1990, YAKUBOVICH 2010, 2015b.

Luwian¹² was probably the most widely spoken language in the Anatolian branch, though it is by no means the best attested. Our sources are:

- Cuneiform tablets from Hattuša, mainly containing ritual texts. These are contemporary with the Hittite corpus, and this language variety is called Cuneiform Luwian (CLuw.).
- Hieroglyphic inscriptions, ranging from second-millennium seals to first-millennium monumental inscriptions on stone (mostly 10th-8th c. BCE). This is called Hieroglyphic Luwian (HLuw.).

The dialectology of Luwian is a complex matter, and in recent times Ilya Yakubovich has argued that second-millennium CLuw. consists of three varieties (YAKUBOVICH 2010:18-26):

¹² Also spelled Luvian by some scholars.

- Kizzuwatna Luwian: spoken in the south-eastern region of the Anatolian peninsula, it is the language of Luwian incantations found in Hittite rituals from Kizzuwatna.¹³ This dialect shows the presence of Hurrian loanwords and Hurrianisms.
- Ištanuwa Luwian: dialect attested in the so-called ‘Songs of the men of Ištanuwa’ (*KUB XXX, 42, iv, 4*) found in Hittite ritual texts. Ištanuwa is a region by the Sakarya (Gk. Σαγγάριος) river.
- Empire Luwian: dialect spoken at Ḫattuša, the capital of the Hittite kingdom, and attested in the sparse Luwian glosses found in Hittite texts and in the monumental hieroglyphic inscriptions of the last Hittite kings.

The last would be, in his view, the direct ancestor of the language of the first-millennium hieroglyphic inscriptions; the other dialects would not have any known continuators in the first millennium. The presence of Luwian speakers in Western Anatolia in the second millennium is a debated issue, and recently Yakubovich has put forward a relatively sceptical assessment of the evidence, arguing that Proto-Carian and Proto-Lylian speakers were the majority in the region and denying any westward Luwian migration (YAKUBOVICH 2010: 70-160, but he re-assessed the issue in 2013, cf. 1.3.1 *infra*).

Cuneiform Luwian was identified as a separate language from Hittite soon after the decipherment of the latter. As for Hieroglyphic Luwian, the decipherment of the Anatolian Hieroglyphs was a gradual process, carried out by several scholars from the 1930s onward. The ‘new readings’ of some crucial signs¹⁴ have shown that Cuneiform and Hieroglyphic

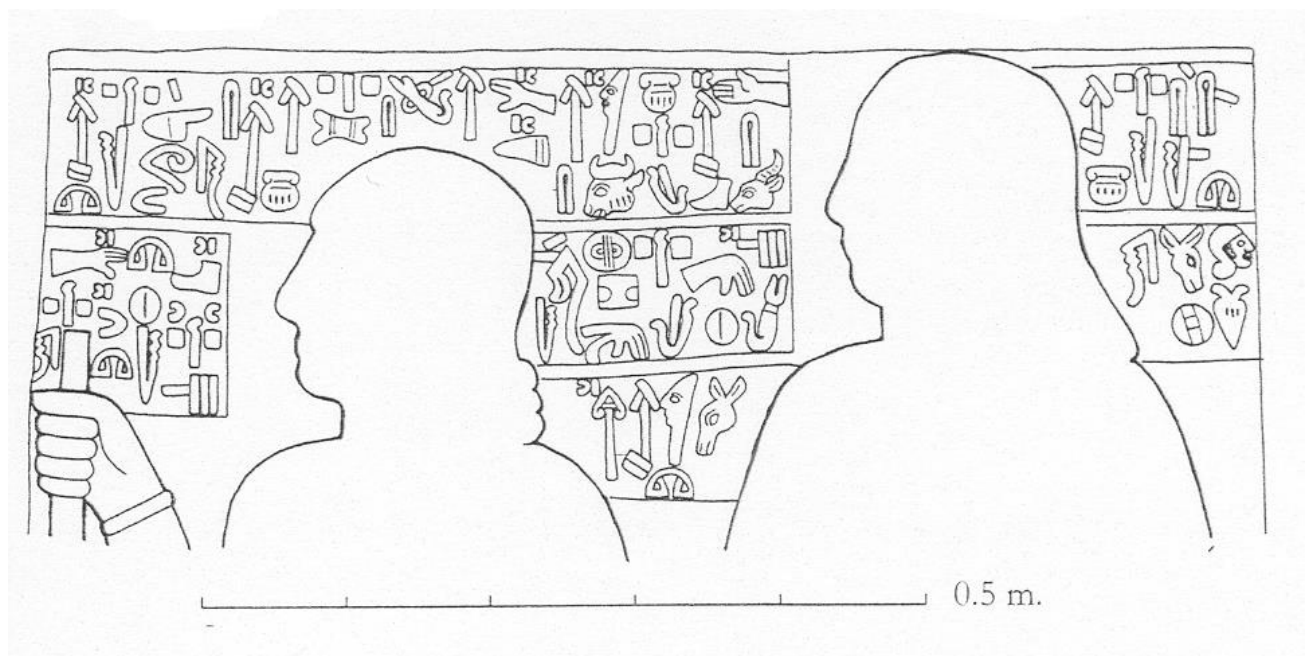
¹³ *Kizzuwatna*, situated by the Gulf of İskenderun, and it encircled the Taurus Mountains and the Ceyhan river, is to be interpreted, according to Yakubovich (2010: 274), as **kez-watni*, literally ‘land on this side (of the mountains)’. In this case, one could perhaps draw a typological parallel with the Roman denomination *Gallia cisalpina*. Others (e.g. *HED I: 181*) take *Kizzuwatna* as a hypostasis for **kez wetenaz* (= ‘*cisacquinus*’).

¹⁴ Put forward by J.D. Hawkins, A. Morpurgo Davies and G. Neumann in 1974.

Luwian are two separate varieties, and have laid the ground for most of the recent discussion on Luwian dialectology.

Most Anatolian languages of the first millennium – namely Lycian, Milyan, Carian, Pisidian, and Sidetic ¹⁵ – are thought to be related to Luwian. Despite not being its descendants, they probably belonged to a specific sub-branch of Anatolian, as they show some innovations not shared by Hittite and Palaic. In recent times, scholars generally follow Craig Melchert in calling this group Luwic (or ‘Luvic’), in order to avoid confusion with the term ‘Luwian’, used for the Cuneiform and Hieroglyphic varieties.

Sample text – KARKAMIŠ A7



Transliteration

- | | | |
|---|----|---|
| 1 | §1 | za-sa-wa/i-' ¹ ka-ma-ni-i-sá |
| | §2 | za-zi-pa-wa/i-tú POST+ra-/i-i-zi FRATER-la-zi-i |
| 2 | §3 | á-mu-pa-wa/i-na za-ti (MANUS)-i-sà -tara/i-na CAPERE-ha |
| | §4 | wa/i-na DEUS.DOMUS-tà ¹ SUPER+ra/i-' ("PES ₂ ")-wa/i-tara/i-sa-ha-' |

¹⁵ The position of Lydian is less certain, cf. 1.1.2.5.

3 §5 | INFANS-*ni-sa-wa/i-sá* || | REL-*za á-sa-ta*

§6 | *za-pa-wa/i-'¹i-a+ra/i-ri+i-sa* (STATUA)-*ta-ru-sá*

“Bound” transcription

zas=wa Kamanis zanzi=pa=wa=tu aparinzi FRATER-lanzi amu=pa=wa=an zadi istrin laha wa=an

DEUS.DOMUS-ta sarra watrasha niwarannis=wa=as kwanza asta za=pa=wa Iariris tarus

Translation

“This (is) Kamanis and these (are) the younger brothers of his. I took him here (by) the hand, I appointed him over the temple though/while he was a child (and) this (is) the image of Yariris”.

1.1.2.4 Lycian

- Attested: 6th – 4th c. BCE.
- Where: Lycia (Classical Λυκία), by the southern coast of the Anatolian peninsula.
- Documents: c. 330 inscriptions (including coin legends and graffiti).
- Main reference works: BRYCE 1986, GUSMANI 1989-90, HAJNAL 1995, KALINKA 1901, MELCHERT 1993b, 2004c, 2008c, NEUMANN 1979, 2007.

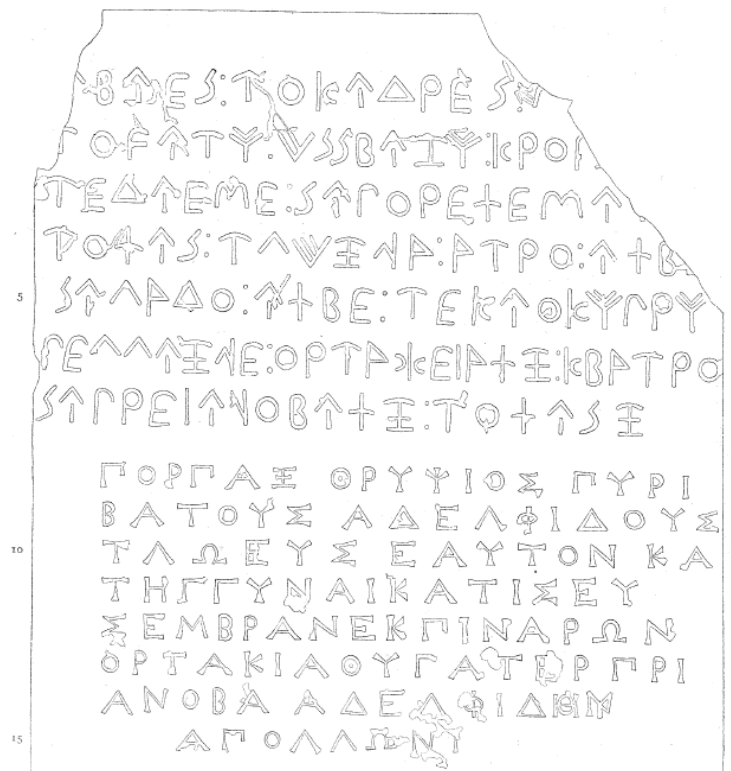
Spoken in the homonymous region in south-western Anatolia, Lycian is known from about 170 inscriptions on stone (mostly funerary texts), a few graffiti and about 150 legends on coins. Two of these texts are written in a separate dialect, known as Lycian B (in opposition to ‘ordinary’ Lycian A) or Milyan and representing – according to some – an archaic and literary variety (the texts are in verses). The oldest Lycian texts date to about 500

BCE, while the most recent texts we have are from around 300 BCE. After the conquest of Lycia by Alexander the Great (334-333 BCE), Lycian completely yielded to Greek.

Lycian adopts an alphabetical script related to the Greek alphabet.

Sample text - TL 25 (Lycian-Greek bilingual)

- 1 ebeis: takedris: m[... epi]
- 2 tuwetē: xssbezē: krup[sseh]
- 3 tideimi: se purihime[teh]
- 4 tuhes: tlāñna: atru: ehb[i]
- 5 se ladu: ehbi: tikeukēprē
- 6 pilleñni: urtaqijahñ: kbatru
- 7 se prijenubehñ: tuhesñ
- 8 Πόρπαξ Θρυψιος Πυρι=
- 9 βατους Ἀδελφιδους
- 10 Τλωεύς ἐαυτὸν κα[i]
- 11 τὴν γυναῖκα Τισευ=
- 12 σέμβραν ἐκ Πινάρων
- 13 Ὅρτακία θυγατέρ<α> Πρι=
- 14 ἀνόβα ἀδελφιδην
- 15 Ἀπόλλωνι



Translation

«Xssbezē, son of Krupsse and nephew of Purihimete, the Tloaan, erected these statues, (namely) himself and his wife, Tikeukēpre the Pinarean, daughter of Urtaqija and niece of Prijenube»

1.1.2.5 *Lydian*

- Attested: late 8th c. / early 7th c. – 3rd c. BCE.
- Where: Lydia (Λυδία), in the western part of the Anatolian peninsula.

- Documents: 116 inscriptions (including graffiti and coin legends) + some 40 glosses.
- Main reference works: EICHNER 1986a, GUSMANI 1964-1986, GÉRARD 2005, MELCHERT 2008d, PAYNE – WINTJES 2016.

Most of our inscriptions in the Lydian language, spoken in the homonymous region in western Anatolia,¹⁶ are very short. There are about 20 longer inscriptions on which we base our (very tentative) knowledge of this language. Most documents (76) come from the capital Sardis, are engraved on stone, and are sepulchral in content; we also have some coins, graffiti and decrees. A few of these texts are in verse. Lydian has a somewhat isolated position amongst the Anatolian languages: some of its features are markedly different from all the other members of the branch, so this language was thought to have acquired ‘Anatolian’ features by contact, and was recognised relatively late as a fully-fledged member of the family.

Sample text – N°1 Gusmani (Lydian-Aramaic bilingual)



Transcription

- 2 [o]raλ isλλ bakillλ est mrud eśś-k [wānaś]
- 3 laqrisa-k qela-k kud-k-it ist esλ wān[aλ]
- 4 bltarwod ak-ad manelid kumlilid silukalid ak-it n[āqis]

¹⁶ The name of Lydia is generally thought to be a regular evolution of a form *luwiya* with regular sound change - *iya-* > *-ida-*; cf. BEEKES 2003a and WIDMER 2004.

- 5 esλ mruλ buk esλ wānaλ buk esvav
 6 laqirisav buk=it kud ist esλ wānaλ bltarwo[d]
 7 ak=t=in nāqis qelλ=k fēnsλifid fak=ml artimus
 8 ibsimsis artimu=k kulumsis aaraλ biraλ=k
 9 klidaλ kofuλ=k qiraλ qelλ=k bilλ wcbaqēnt

Translation

«[l. 1 *vacat*] during the month of Bacchus. This stele and this [tomb] and laqrisa and land (?), (and?) as it . . . from (?) this tomb, it (is) of Manes (son) of Kumlis (son) of Silukas. Whoever [violates] this stele or this tomb or these laqrisa or where the outer part of this tomb (is). Should anyone violate anything, Artemis of Ephesus and Artemis the Koloan will trample (?) on his yard and house, earth and water, property and land» (transl. Melchert)

1.1.2.6 *Carian*

- Attested: 7th – 3rd c. BCE
- Where: Caria (Classical *Καρία*),¹⁷ in the western part of the Anatolian peninsula.
- Documents: c. 250 inscriptions + 6 glosses
- Main reference works: ADIEGO 2007, MELCHERT 2008e, RAY 1981, SCHÜRR 1992.

The land of Caria, which lies between Lydia and Lycia in south-western Anatolia, is the findspot of a rather small part of the inscriptions in this language: out of the about 250 documents collected in Adiego's *opus magnum*, 206 come from Egypt (where we have a presence of Carians as mercenary soldiers – see Hdt. II, 154), 2 from mainland Greece (Athens and Thessalonike) and only 38 from Caria itself. In addition, there are few glosses (Stephan of Byzantium) and several Carian names (PNs, DNs, toponyms, and river names) in

¹⁷ Classical Caria has often been identified with the *Karkīša/Karkiya* attested in second-millennium Hittite sources. Recently, though, there has been a rebuttal of this hypothesis (SIMON 2015); cf. also UNWIN 2017: 115.

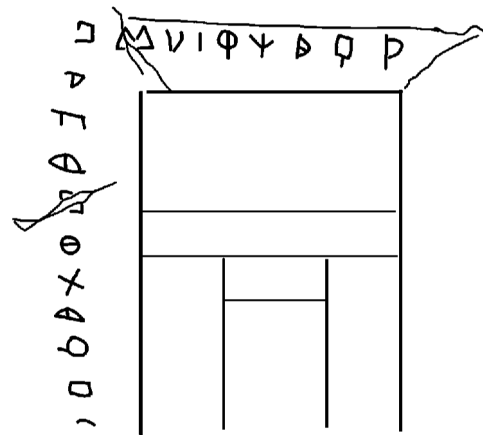
Greek sources. The largest number of Carian texts consists of tomb inscriptions and graffiti left by Carian mercenaries in Egypt from the 7th to the 5th century BCE. Carian is written in an alphabet probably akin to the Greek one, but the decipherment has been a relatively long and difficult task, which found a synthesis in Adiego's 2007 book.

Sample text - *E.Me 38* (after ADIEGO 2007), tomb inscription in Memphis.

Šýinś | upe | arieś ki ted

Translation

«The *u.* of Šyin, the father of Arie»



1.1.2.7 *Pisidian*

- Attested: 1st-3rd c. CE.
- Where: Pisidia (Πισιδία)
- Documents: ca. 50 inscriptions
- Main reference works: BRIXHE 1988b, 2016.

Pisidian is the language of a small number of inscriptions, dating approximately to the 1st-3rd c. CE and coming from the mountainous region of Pisidia, situated at the North of Lycia and bordering Caria, Lydia, Phrygia, and Pamphylia. Out of the extant 53 inscriptions, 49 belong to a northern group and 4 belong to a southern group. In recent years there have been new discoveries, but almost all these texts are of funerary nature, so we do not possess much more than personal names. We do have a longer text (S2, cf. BRIXHE 2016: 98), but very

little of it is understood (see a recent attempt in ADIEGO 2017). Most scholars today assign Pisidian, together with Lycian, Carian and Sidetic, to the 'Luwic' sub-group.

Sample text – Text XIII (after BRIXHE 1988b), tomb inscription

MHNCIFΔEBETIS

ENAOYΠIEPΔOTAIS

Translation

«Menei (son) of Gdebeti, Ena (daughter) of Uperdotai»

1.1.2.8 *Sidetic*

- Attested: 3rd c. BCE
- Where: Side, in Pamphylia (southern region of the Anatolian peninsula)
- Documents: 10 inscriptions
- Main reference works: NOLLÉ 2001, PÉREZ OROZCO 2003, 2007.

We know Sidetic only through ten short inscriptions, two of which are Greek bilinguals. As the name suggests, they were found in the city of Side in Pamphylia, and they are from the 3rd century BCE. The identification of Sidetic and Pisidian as Anatolian language rests mainly on the presence of the relational adjective (cf. HLuw. *-asa/i-*, cf. 3.2 *infra*) or of the genitive ending *-s*.

Sample text – S2 (after NOLLÉ 2001 but with corrected readings as per PÉREZ OROZCO 2003), Sidetic-Greek bilingual votive stele.

polonij pordorís polonijaś masara t̥ue(..)

Ἀπολλώνιος Ἀπολλοδώρου

τοῦ Ἀπολλωνίου ἀνέθηκεν

[εἰ]κόνα τήνδ' ἑαυτοῦ θεοῖς πᾶσι.

[Μ]νασέας Ἀρτέμωνος Σιδήτης ἐπο[ί]ησε.

Translation

«Apollonios, son of Apollodoros, son of Apollonios to all (?) the gods»

1.1.3 IE and non-Indo-European languages in Anatolia and in the Aegean

The Anatolian peninsula and Eastern Mediterranean are home to a number of IE and non-IE pre-classical languages. This section offers a brief review thereof, starting from those that we understand at least in part, before moving to those that we can barely read or understand.

Besides Greek and the Anatolian languages, two further IE languages are clearly attested in the area before Hellenistic times. The first one is Phrygian, attested on some 500 inscriptions from Central and Western Anatolia between the 8th c. BCE and 3rd c. CE.¹⁸ The Phrygians were newcomers in Anatolia, though the date of their migration is heavily debated. Herodotus (VII, 73) and Strabo (VII 3, 2) tell us that the Phrygians were called *Briges*¹⁹ when they used to live in Europe, next to the Macedonians, and that they changed their name upon migrating to Asia. From a linguistic point of view, Phrygian shares some traits (*e.g.* the augment) with Indo-Iranian and with Armenian and Greek, but the branch it is closest to is Greek, with which it shares some significant innovations (such as the ‘vocalisation’ of laryngeals, the pronoun *auto-* and the 3sg. imperative middle ending). For the other IE language we have evidence of a completely different kind. The ruling class of the

¹⁸ The extant Phrygian corpus is generally divided in two groups, according to its script: Old Phrygian (OPhr.), written in a native alphabet (8th – 4th c. BCE, 400+ inscriptions), and New Phrygian (NPhr.), written in the Greek script (2nd – 3rd c. CE, 113 inscriptions).

¹⁹ Greek sources refer to the Phrygians as Φρύγες (Homer), Βρύγες (Herodian, Strabo, Stephanus Byzantinus), Βρύγες (Strabo), Βρύγοι (Strabo), Βρύγαντες (Herodian). Latin authors (Ennius, Cicero, Quintilian) call them *Bruges*.

Mitanni (or Mittani) state in northern Syria and southeast Anatolia (ca. 1500-1300 BCE) was linguistically Indo-Aryan, and this left traces in Hurrian toponyms and personal names. One also finds some loanwords in Hittite texts of Hurrian ascendancy. Specifically, the treaty between Šuppiluliuma I of *Ḫatti* and Šattiwaza of Mitanni (*CTH* 51, 52; 14th c. BCE) features the witness gods *mi-it-ra-aš-ši-il* (also: *-el*) *u-ru-wa-na-aš-ši-il* (also *a-ru-na-aš-ši-il*), *in-dar* (also *in-da-ra*), and *na-ša-at-ti-ya-an-na*, respectively Mitra, Varuṇa, Indra and the two Nasatyas/Aśvins.²⁰ In a famous treaty on horsemanship (*CTH* 284), composed by the horse-trainer (⁽¹⁰⁾ *A-AŠ-ŠU-UŠ-ŠA-AN-NI*, corresponding to Skt. *aśva-sana-*) Kikkuli from Mitanni, we find several Indo-Aryan loanwords: e.g. *a-i-ka-wa-ar-ta-an-na* ‘(of) one lap’ (cf. Skt. *eka* ‘one’ + *vartana* ‘turning’), *pa-an-za-wa-ar-ta-an-na* ‘(of) five laps’ (cf. Skt. *pañca* ‘five’ + *vartana*), *ša-at-ta-wa-ar-ta-an-na* ‘(of) seven laps’ (cf. Skt. *sapta* + *vartana*), etc.

The language of the Mitanni ruling class, however, did not coincide with that of the rest of the population: Hurrian. This was a non-IE language with ergative alignment and agglutinative morphology whose only relative known to us is Urartian, attested from the late 9th century BCE to the late 7th century BCE as the official written language of the state of Urartu. A part of the population of the Hittite Empire was Hurrian-speaking, and Hurrian mythology and literature are thought to have had a significant influence on Hittite culture.

Another language found in the Ḫattuša archives is Hattic: this also had an influence on Hittite, for the Hittites themselves called their land the ‘land of *Ḫatti*’. This was the language spoken in central Anatolia before the arrival of the Hittites, and we have indirect traces of it in onomastic material of various sorts (personal names, toponyms), and quotations in Hittite

²⁰ N.B.: *-aššil* and *-anna* are Hurrian morphemes. As THIEME 1960 observed, the same gods are mentioned together and in the same order in a Ṛg-Vedic stanza (*RV* X, 125.1 b-c): *aham mitrāvaruṇobhā bibharmy aham indrāgnī aham aśvinobhā* «I (*vac* = Speech) carry both Mitra and Varuṇa, I (carry) Indra and Agni, I (carry) both the two Aśvins».

rituals. We have a few Hattic/Hittite bilinguals, and it is generally thought that Hattic is an isolated language (but this may well be because we do not possess enough evidence).

Sumerian is an isolated language that had died out by the late 3rd millennium BCE, but it continued to be used as a language of scholarship throughout the cuneiform world, and we do find Sumerograms in most, if not all, Akkadian and Hittite texts.

The other ‘international’ language of the Ancient Near East was Akkadian, an East Semitic language originally from Mesopotamia. Its importance as a *lingua franca* could hardly be overstated, and an example should suffice (BRYCE 2005: 277-8): the so-called ‘Eternal Treaty’, *i.e.* the treaty between Ramesses II of Egypt and the Hittite king Ḫattušili III which was stipulated some 15 years after the battle of Kadeš (1274 BCE, according to the Egyptian chronology) was separately written in Ḫattuša and in Pi-Ramesse. The Hittite version was first translated into Akkadian on a silver tablet, and then sent to Egypt, where it was re-translated into Egyptian (this is the version we possess on the walls of the temple of Amun at Karnak and at the Ramesseum). Similarly, the Egyptian version was translated into Akkadian on a silver tablet, and then sent to Ḫattuša.

Phoenician also belongs to the Semitic family,²¹ and is attested in the Levant and in Cyprus from the second millennium BCE onwards. The Phoenicians are traditionally credited with having invented the alphabet, and with having transmitted it to the Greeks, even though some scholars (*e.g.* BRIXHE 2004) have recently proposed a Phrygian mediation.

Lemnian, the language of several graffiti and four 6th-century inscriptions found in the homonymous island (the most important of which are the Lemnos stele and the Hephaestia

²¹ On early influences of Semitic in Greek, see the classic (though partially out-of date) work by Emilia Masson (1967) and the more recent ROSOL 2013.

inscription), closes the list of languages that we understand, even partially. Lemnian is somewhat understood thanks to its similarity to Etruscan, and it is generally thought to be a member of a “Thyrrhenian” family, together with Etruscan and Rhaetic. The ultimate provenance of this family (East or West?) is still a matter of debate.

Our knowledge becomes much more tentative when it comes to other languages (and scripts) found in the two major Aegean islands: Cyprus and Crete. In Cyprus one finds approximately 250 second-millennium objects (tablets, clay balls, cylinders, and votive stands) written in an undeciphered script, named “Cyprominoan”.²² From the first millennium, the island yields inscriptions in the Cypriot syllabic script in which the Greek Cypriot dialect is written: the language behind these texts is called Eteocyprian. Crete, a notoriously multilingual environment,²³ shows a somewhat similar situation, in that we find hundreds of documents in the so-called Cretan Hieroglyphs, which we cannot read, and a handful of inscriptions from the 7th c. BCE written in the Greek alphabet but in a language conventionally called ‘Eteocretan’ which we do not understand (cf. DUHOUX 1982). Finally, one should mention the language of Linear A, the evidence for which has grown in the last 50 years, but which still resists a full decipherment, and the curious case of the Phaistos disk.

1.1.4 Substrate(s) in the Aegean and in Anatolia

The study of substrate languages and pre-Hellenic peoples has been popular since the 19th century,²⁴ and after the discovery of the Anatolian languages new substrate theories involving Anatolian have been proposed. For reasons of space, I shall limit myself to a brief

²² It is debated whether or not there are more languages behind the varieties of Cypro-Minoan, cf. MASSON 1974, FERRARA 2012-2013. On languages in Cyprus, cf. also STEELE 2012, 2013 and 2019.

²³ Cf. τ 173-7: Κρήτη τις γαί' ἔστι, μέσῳ ἐνὶ οἴνοπι πόντῳ, / καλὴ καὶ πείρα, περίρρυτος· ἐν δ' ἄνθρωποι / πολλοί, ἀπειρέσιοι, καὶ ἐννήκοντα πόλεις· / ἄλλη δ' ἄλλων γλώσσα μεμιγμένη· ἐν μὲν Ἀχαιοί, / ἐν δ' Ἑτεόκρητες μεγάλῃτορες, ἐν δὲ Κύδωνες, / Δωριέες τε τριχάϊκες δίοι τε Πελασγοί.

²⁴ For a survey of the history of scholarship, see VERHASSELT 2009, 2011 and SILVESTRI 2013.

survey of those hypotheses directly involving Greek and the Anatolian languages and envisaging prehistoric contact between the two branches.

The first scholar who collected traces of Pre-Greek languages originally from Asia Minor is Paul Kretschmer: in his *Einleitung* (1896: 289-409), he listed Greek toponyms in *-nt(h)-/-nd-*²⁵ (e.g. Λάβραυνδος), personal names in *-(s)s-, -m-, -l-, -r-, -n(n)-, -t-/d(d)-/-ζ-, -k-/g-, -b-, -muwa*²⁶ (e.g. Πανύασσις, Τρέβημις, Σάβαλος Κιλλάρας, Μυρεννείς, Σίνδιτα, Ναδιανδός/Ναζιανζός, Βάτακος, Σπαρεύδιγος, Μανδρόβης, Κιδραμάς, etc.), and some *Lallnamen* (e.g. Νάνα, Δάδα, etc.), arguing that they all belonged to non-IE *kleinasiatische* languages.

After Kretschmer's work (cf. also KRETSCHMER 1930a and 1930b, which took into account the first data available from Hittite), the list of Pre-Greek toponyms was expanded and refined,²⁷ but it is only in the 1950s that the Anatolian languages fully entered the picture of Pre-Greek substrate studies. Rather than look for unknown or hypothetical languages such as 'Pelagian', scholars like Heubeck and Huxley argued that one could find the languages that preceded Greek within the newly-discovered IE branch (HEUBECK 1961, HUXLEY 1960). Alfred Heubeck thought that the pre-Greek language of Crete was Indo-European and related to the Anatolian languages, and that the entire Aegean-Anatolian area was occupied first by a pre-IE group (called 'Lelegic'), then by an Anatolian layer which included the attested Anatolian languages, the languages of Cyprus (Eteocypriot and the language of Cypro-Minoan) and Linear A, and that only after this did the Greeks arrive (HEUBECK 1961).

²⁵ He included in this category toponyms in *-αδα, -εδος, -ιδος, -υδος* and *-ννα*, in which the nasal dropped before or was assimilated to the dental (KRETSCHMER 1896: 306-7)

²⁶ This suffix would turn up in Greek as *-μοας, -μουας*, or *-μυης* (p. 332).

²⁷ A good and detailed account running up to the 1970s is SAKELLARIOU 1977.

Leonard Palmer argued that the suffixes *-ss-* and *-nd-* were Anatolian, specifically Luwian:²⁸ in his view the ‘Parnassos folk’ might have migrated to Greece at the beginning of the second millennium, bringing with them toponyms of the *Parnassos* and *Erymanthos* types (cf. also LAROCHE 1961). His reasoning is as follows: Gk. Παρνασσός finds a match in *Parnas(s)a*, a Cappadocian toponym, so if it is true that *parn-* is a typically Anatolian root for ‘house’ (cf. Hitt. *parnalli-* ‘domestic’, HLuw. *parnawa/i-* ‘to serve’, Lyc. *prñezi* ‘of the house’), then the toponym Παρνασσός must originally come from Anatolia. He then cited Laroche’s conclusion that the toponyms in *-ssa*, *-wanda* and *-nda* are originally Anatolian (Laroche *apud* PALMER 1968: 342), admitting at the same time that these could have been brought to Greece by people speaking languages different from Luwian.²⁹ So, one needs to look for further traces, namely morphological traits specific to Luwian which are still productive in Greece. The name of the Cretan goddess Δικτύονα could, in Palmer’s opinion, prove the case. This theonym is traditionally associated with the name of Mt. Δίκτα, and this implicitly means considering *-ωννα* a suffix used to create derivatives from toponyms. If we look for languages in which this *-unna* is present, then Anatolian offers good candidates: as Laroche (1961) has shown, a suffix **-uwan* appears in Hittite as *-uman*, *-umna-*, *-umana-*, *-umena-*, *-umma-*, and in Luwian as *-wanni-* > *-unni-* (with contraction). The type *-umna-* would belong to the northern part of Anatolian, whereas *-unna-* should be ascribed to a southern Anatolian type. This is why Δικτύονα and Δελφύνη could be theonyms with Luwian ascendancy, and *Larymna*, *Methymna*, and *Kalymna* could possibly be further Anatolian

²⁸ PALMER 1958, 1965, 1968, 1980.

²⁹ Toponyms may be diffused secondarily: *e.g.* one finds Celtic toponyms in ex-British colonies, but this does not mean that Celtic speakers diffused them.

toponyms in Greece. Finally, he hypothesised that the language of Linear A inscription is ‘Luvoid’, on mythological, archaeological, and linguistic grounds.³⁰

Palmer’s ideas have been fiercely contested,³¹ and substrate hypotheses involving Anatolian have not been pursued until recent times, when Margalit Finkelberg revived them by complementing the linguistic analysis with a historical/archaeological analysis of the Late Bronze Age in the Eastern part of the Mediterranean. She concluded that Asia Minor and Greece (including Crete) had been homogeneous from a linguistic point of view until the coming of the Greeks, the second wave of IE invaders (FINKELBERG 1997: 13; 2005: 52). Finally, Beekes briefly commented upon the issue of Anatolian and Pre-Greek, claiming that it is methodologically more sound to regard most hypothetical Anatolian loanwords as Pre-Greek. (EDG: xvi). The issue of Greek substrate(s), together with an eventual Anatolian component thereof, still awaits a final answer and must, for the time being, remain open.

1.2 A Century of Graeco-Anatolian scholarship

There are few ways to begin a description of the situation of Graeco-Anatolian studies better than by using Emmanuel Laroche’s words at the opening of his speech at a 1973 meeting of the *Association pour l’encouragement des études grecques*:

«le problème des relations culturelles et linguistiques entre la Grèce et l’Asie Mineure est aussi vieux que les études helléniques [...] La découverte et le

³⁰ These are some of his initial arguments «(a) the evidence that a vegetation cult whose main *dramatis personae* were the Mother Goddess (The Queen) and the Young God (The Lord) was common to the Near East and the Levant at this time; (b) the conclusion of the excavators of Beycesultan that the affinities of this Luvian culture are decisively with Crete; (c) the faithful rendering of the cult titles into so many languages; (d) the evidence for CH *išhaššara-* leading to a postulated Luvian **Ašhaššara-*; (e) the diagnosis of a syllabic group in the Linear A script (before Ventris’s decipherment of Linear B) as the name of an important divinity; (j) the application of the Ventris values to the group in question reveals a name of a strikingly resemblant phonetic pattern (j)a-sa-sa-ra; (g) finally the identical play of morphological machinery in the optional addition of the enclitic *-mi-/me-*, in both areas. All this may be held to justify the conclusion that the language of the Linear A text is “Luvoid”, at least as a working hypothesis» PALMER 1958: 84; cf. also PALMER 1965 and 1968. This conclusion is similar to what FINKELBERG 2001 has recently argued (but cf. criticism in MELCHERT 2001).

³¹ See e.g. MORPURGO DAVIES 1986 with ref. (esp. fn. 30, p. 115).

déchiffrement progressif du hittite et de ses annexes, particulièrement du louvite occidental et du hourrite oriental, ont pendant un temps, inspiré l'espoir de régler enfin ce problème. Peuple indo-européen de langue archaïque, les Hittites semblaient être le chaînon manquant, l'intermédiaire naturel unissant la Babylonie – plus généralement les civilisations d'expression cunéiforme – aux Grecs orientaux d'Ionie. La question des apports culturels à la Grèce naissante allait être décidée : Ex Oriente Lux ! [...]». (LAROCHÉ 1973a: XVII)

While a generic interest towards the 'Orient' dates back to antiquity, and informed western scholarship even in pre-scientific times, it has been the very discovery of the languages belonging to the Anatolian branch which prompted Hellenists to look specifically at the indo-europeanised part of Asia Minor in order to find new solutions to old questions concerning Greek linguistic or cultural features that were not directly comparable with those of other IE branches, and therefore not easily explainable through direct inheritance from the proto-language/culture. Hittite (and, later, Anatolian as a branch) was perceived, as Laroche remarked, as the missing link between Greece and the Ancient Near East, which was better known – until then – through the *monumenta* of the other 'cuneiform civilisations'.

In what follows, I will endeavour to sketch a brief *Forschungsgeschichte* of the last century. Although the main focus of the present work is language, it will be useful (and inevitable) to touch upon non-linguistic issues, such as historical, literary, and cultural contacts.

1.2.1 The beginnings: Forrer's hypothesis and the *Aḫḫiyawa Frage*

It would not be an overstatement to say that Graeco-Anatolian studies started almost at the same time in which Anatolian studies did. Only a few years after the decipherment of Hittite, Emil Forrer proposed to identify Greek names in Hittite texts: in his much-cited 1924 article, *Vorhomerische Griechen in den Keilschrifttexten von Boghazköi* (FORRER 1924a) he

compared *Aḫḫiyawa* with the land of the Ἀχαιοί, equating *Tawagalawas* with *Ἐτεφοκλέφης, *Ayawalas* with *Ἀΐφολος, and *Antarawas* with Ἀνδρεύς, and opening the so-called *Aḫḫiyawa Frage* (cf. also FORRER 1924b and HROZNÝ 1929). The same year saw another influential article by P. Kretschmer, who identified *Alakšanduš* of a Hittite treaty with Ἀλέξανδρος of *Ἡλῖος (KRETSCHMER 1924). Further comparisons included personal names (Πρίαμος ~ *Pariyamuwa* or *Piyamaradu*; cf. BRYCE 2005: 359 with reff.), but were not restricted to them. Scholars looked for Greek toponyms in Anatolian documents (e.g. Μίλητος ~ *Millawanda*, Ἐφεσος ~ *Apaša*) and for other historical traces of the Greeks, and as they reconstructed possible historical interactions with the newly-discovered Hittites, more and more attention was given to the place of Anatolian within the Indo-European family (cf. also 1.4.1.4 *infra*).

One should say that, at first, Forrer's theories were met with absolute scepticism – if not with open hostility – by the doyens of German Hittitology (Sommer, Friedrich and Götze), and the *Aḫḫiyawa Frage* is not yet closed.³² They had a better fortune outside Germany, where, in subsequent years, scholars began to give a more specifically linguistic dimension to these possible interactions.

1.2.2 The 'Italian School': introducing the Aegean-Micrasiatic *Sprachbund*

The decipherment of Linear B and the identification of Mycenaean Greek, followed by an overall re-evaluation of Greek dialectology (cf. 1.1.1 *supra*), provided new material for the discussion of linguistic contacts between some varieties of Greek and the neighbouring languages. One of the first scholars who engaged in this debate was Vittore Pisani, who – in

³² For a history of the scholarship cf. FISCHER 2010. The latest developments on the issue (together with references) may be found in BECKMAN 2016 and in a very recent SMEA forum article (BRYCE 2018, CLINE 2018, KELDER 2018, RUTTER 2018, SCHON 2018, D'AGATA 2018).

his *Storia della lingua greca*³³ – wrote that some Greek dialects, namely Ionic and Mycenaean, «partecipavano di un'area linguistica estesa che in un primo tempo conteneva ittito, luvio, palāico e gli stadi anteriori di licio, lidio, ittito geroglifico e in un secondo tempo accolse anche il frigio e l'armeno, provenienti dalla Tracia» (PISANI 1960: 22; cf. also PISANI 1971-3 for further isoglosses). He was also among the first scholars who extended the comparative study of Greek and Anatolian from the domain of lexicon (and *Wanderwörter*) to that of morphology. Thanks to Pisani's input, the idea of an *Aegean-Micrasiatic*, or *circum-Aegean*, *Sprachbund* became quite successful in Italian scholarship in the 1950s and 1960s.

What we call *Sprachbund* or “linguistic area” is «generally taken to be a geographically delimited region including languages from at least two language families, or different subgroups of the same family, sharing traits, or combinations thereof, most of which are not found in languages from these families or subgroups spoken outside the area [...]. Not all shared features have the same ‘weight’: highly ‘marked’, exotic, or unique shared traits weigh more than does material that is more easily developed independently, or found widely in other languages [...]. The strongest linguistic areas are those whose shared traits can be shown to be diffused – and cannot be ascribed to a common ancestor, to chance or to universals» (AIKHENVALD 2006: 11-12). Nikolaj S. Trubeckoj coined this term in a brief communication at the first international conference of linguistics in The Hague in 1928, with reference to a group of languages spoken in the Balkan region (Albanian, Romanian, Bulgarian, Modern Greek, Macedonian, and the Torlak dialect of Serbian) that show several innovations due to language contact (TRUBECKOJ 1930). The Balkans are still considered the

³³ But see already PISANI 1955, 1956, 1958. On the linguistic landscape of Western Anatolia in the two millennia, see NENCIONI 1950.

‘prototypical’ linguistic area in Western scholarship (and in the western world),³⁴ but more examples can be cited: in the IE panorama, one should at least mention the theory of India as a linguistic area (EMENEAU 1956) and the concept of Standard Average European (WHORF 1941, HASPELMATH 1998, 2001).

As anticipated, several Italian Indo-Europeanists started working on this new *Aegean-Micrasiatic Sprachbund*: one may cite Roberto Gusmani, who studied lexical coincidences between Greek and Hittite, Enzo Evangelisti, who mainly focussed on the verb but also took into account phonetics and the lexicon, and Romano Lazzeroni, who looked at shared morphology, lexicon and phraseology in the 1960s and in later works.³⁵ Some years after Pisani, Mario Negri also supported similar theories, and took a deep linguistic interaction for granted in the early stages of Greek, arguing that two components played a role in the formation of the Homeric language, a ‘palaeo-Aeolic’ one and an ‘Aegean-Anatolian’ one, which was open to the influence of the Ancient Near East (NEGRI 1981, *passim*³⁶). He also focussed on possible similarities between the Greek and Hittite verbal systems (NEGRI 1974, 1976). Celestina Milani, another scholar of the ‘Milan school’, contributed some articles on the relationship between Greek and the Anatolian languages, mainly Hittite (MILANI 1969, 1980, 1993).

This idea was by no means restricted to Italian soil: several scholars in Europe subscribed to the hypothesis of a linguistic area including Greek and the Indo-European

³⁴ The literature on the Balkan *Sprachbund* is extensive: e.g. SANFELD 1930, SCHALLER 1975, BANFI 1985, 1991, JOSEPH 2010, FRIEDMAN – JOSEPH 2017, *forthcoming*.

³⁵ GUSMANI 1965, 1968a, 1968b, 1969, EVANGELISTI 1965, 1966, LAZZERONI 1960, 1964, 1966, 1967, 1969a, 1969b, 1989.

³⁶ On p. 46, n. 109, he gives a tentative list of Mycenaean and Anatolian (specifically Hittite) personal names, and subsequently states: «Il dato linguistico non si lascia comunque intendere diversamente, se non immaginando un ambiente mistilingue, estremamente permeabile, dove il sovraregionale e il vernacolo, il greco e il non greco coesistevano: in un simile ambiente si deve essere costituito quel modo di far poesia e quello strumento di poesia che è la lingua e la tradizione epica, luogo d’incontro e di sintesi di motivi (linguistici, culturali, tradizionali e così via) di provenienza diversa. In un simile crogiolo vanno cercate le fonti più antiche di Omero.» (NEGRI 1981: 47).

languages of ancient Anatolia, or argued that the Greek lexicon had been more or less heavily influenced by the neighbouring languages.³⁷

1.2.3 The ‘American School’: ancient Anatolia as a linguistic area

Later, but in a relatively independent fashion from their Italian colleagues, American scholars also worked on language contact between Greek and Anatolian. Two, in particular, have been the figures who most significantly contributed to the field: on the one hand, Jaan Puhvel, in a number of articles and a short pamphlet,³⁸ dealt with matters of shared phraseology and specific lexical items; on the other hand, Calvert Watkins – perhaps one of the most influential Indo-Europeanists of the last half century – developed once again the theory of the *Sprachbund*, identifying ancient Anatolia as a linguistic area in a much-cited and influential article (WATKINS 2001). Here, he argued that second- and first-millennium Anatolia shows a number of areally-diffused features (on the phonological, morphological, syntactic, and semantic levels) that affect both Indo-European and non-Indo European languages, adding that Greek, or at least its Eastern dialects, had taken part in some of these contact-induced changes.

One of his main merits is having brought new data from the minor Anatolian languages into the discussion, especially Luwian. With very rare exceptions (also due to the fact that Luwian was at the time understood less well than it is now), Hittite had been the main (or only) object of comparison. Watkins, besides dealing with purely linguistic matters, also

³⁷ KRETSCHMER 1939; SZEMERÉNYI 1965, 1969, 1974, 1987; VAN WINDEKENS 1957-8; VAN BROCK 1959; KRONASSER 1960; HEUBECK 1961.

³⁸ Many of his pre-1977 articles (*e.g.* PUHVEL 1973, 1976, 1977) are collected in PUHVEL 1981; among later works, one may cite PUHVEL 1978, 1983, 1988, 1992, 1993, 1996, 2002, 2003. The 1991 pamphlet *Homer and Hittite* is particularly important because, among other things, it re-opens the contact hypothesis for the much-debated issue of the *sk-preterites* in Greek and Hittite (PUHVEL 1991), cf. 3.1 *infra*. Many of Puhvel’s ideas are also included in his *Etymological Dictionary of Hittite* (1984-ongoing).

ventured into the world of shared phraseology and possible Anatolian models for early Greek poetry (from Homer to Sappho), and discussed issues such as the language of the Trojans, postulating the existence of a possible “Wilusiad” on the basis of a fragmentary Cuneiform Luwian text.³⁹

Some of Watkins’s pupils also contributed with studies of possible loanwords (JOSEPH 1982, MELCHERT 1998b, 2008f), lexical isoglosses or shared syntactic features (KATZ 2004, 2007).

1.2.4 The West Face of Anatolia: literatures and cultures in contact

So far, we have mainly cited the works of comparative philologists, orientalists, and historians of the ancient world. However, the matter of Greek contacts with the Ancient Near East has increasingly become a topic of interest for classicists as well. One of the first scholars to include Hittite sources in a major work in Homeric scholarship was Denys Page, who referred to some of the *Aḫḫiyawa* texts in his *History and the Homeric Iliad* (1959); among Hellenists, the most ground-breaking figure in this and many other respects has been Martin L. West, who already took into account Near-Eastern influence in early Greek literature in his edition of Hesiod’s *Theogony* (WEST 1966).⁴⁰ Subsequent works culminated in the monumental *The East Face of Helicon*, in which West gathered a wealth of possible (though not completely uncontroversial) parallels between *topoi* and literary motifs found in our earliest Greek texts and in Near-Eastern literature. Although the focus was not

³⁹ WATKINS 1986, 1995, 1998, 2000a, 2000b, 2001, 2002a, 2002b, 2007a, 2007b, 2008.

⁴⁰ One must say that the attention of classical scholarship towards the Ancient Near East was by no means new (see already PAGE 1959). The same can be said about the attention of orientalists towards archaic Greece (*e.g.* GÜTERBOCK 1948 on the Kumarbi myth and Hesiod); an interesting reading in this respect is DOWDEN 2001 who, in reviewing West’s *East Face of Helicon*, draws a history of the concept of “orientalism” applied to the study of early Greek culture and literature, focussing, among others, on influential works such as WALCOT 1966, ASTOUR 1967 and BERNAL 1987.

specifically on the Indo-European languages and cultures of Anatolia, his and Walter Burkert's pioneering contributions⁴¹ convinced many Hellenists to look East in order to find at least some models for Hesiod, Homer and much of early Greek literature.

Burkert envisaged two possibilities by which literary and cultural transmission from the East to the West could have taken place: 1. transmission through freely-moving wandering poets, craftsmen of the verbal art who brought stories and religious practices in the first millennium (namely in the Orientalising Period); 2. transmission through bilingual scribes, who introduced Akkadian literary (especially epic) models into early Greek literature (cf. also BRYCE 1999, who suggested that the transmission was carried out by Anatolian scribes in Mycenaean Greece). These ideas have recently been challenged by Mary Bachvarova, who in her very recent monograph stressed the importance of long-distance élite interactions, to the detriment of the centrality of the free will and free circulation of Burkert's poets. In her view there was a deep interconnection between Greek and Anatolian courts in the Late Bronze Age: singers, healers, and the members of the court themselves would travel long distances and attend religious festivals, making literary, religious and cultural transmission possible (BACHVAROVA 2016).

One should note that West's focus was wide-ranging and often all-encompassing, and included parallels admittedly of different value. Some more recent contributions (such as METCALF 2015), which somewhat narrowed the focus, have shown that at least in some textual genres Near-Eastern influence was present, but not pervasive.

⁴¹ WEST 1988, 1997 BURKERT 1984, 1991, 2004, 2005.

1.2.5 A field in rapid expansion

As we can see from the references in the preceding sections, scholarly attention has almost always been directed towards the situation of the late second millennium; however, the last half-century has seen incredible progress in the study of first-millennium Anatolian languages, and consequently, also in the study of their interactions with other languages. In 1961, Gunter Neumann published a study of the remnants of the Anatolian languages (in particular Hittite and Luwian) at a time when Greek was already the dominating language (NEUMANN 1961). In more recent years, there have also been specific contributions on interactions between Greek and Lycian,⁴² and on Anatolian influences on the Greek dialect spoken in Pamphylia (cf. ch. 5 *infra*). Among the main studies on the contact between Greek and Lydian, one may cite Shane Hawkins's, which featured an overall re-examination of the language of Hipponax and its Lydian influence (HAWKINS [S.] 2013).

These studies were parallel to, and possible thanks to the significant progress in Anatolian linguistics. For instance, after the “re-decipherment” of Luwian, made possible by the new readings of some crucial signs (cf. 1.1.2.3 *supra*), hundreds of Hieroglyphic Luwian inscriptions have become extremely valuable for our understanding of Anatolian dialectology. Another language that we understand much better than half a century ago is Carian, now largely deciphered (cf. 1.1.2.6 *supra*). We now also have several new inscriptions in Pisidian, recently published by Claude Brixhe (BRIXHE 2016).

The increase in the corpus and in our understanding of the Anatolian languages has also given rise to a wealth of literature ranging from shared phraseology⁴³ to onomastics,⁴⁴ from

⁴² LE ROY 1981-3, 1987; BRIXHE 1993; SCHÜRR 1999; RUTHERFORD 2002; MOLINA VALERO 2007, 2009, 2010; PAYNE 2008; DARDANO 2015 among others.

⁴³ OETTINGER 1981, 1989-90; QUATTORDIO MORESCHINI 1988.

ritual and religion⁴⁵ to society and institutions.⁴⁶ Very recent years have seen a surge in scholarly work in the broader field of contacts between the Greek and Anatolian worlds, among which one should cite three very recent monographs,⁴⁷ a few miscellaneous volumes,⁴⁸ and several articles on cultural and literary contacts between Greece and Anatolia,⁴⁹ or the Ancient Near East more broadly defined.⁵⁰

From a more strictly linguistic point of view, there have been contributions on individual problems of morphosyntax,⁵¹ lexicon,⁵² and phraseology.⁵³ One of the most recent handbooks on the Greek dialects devotes its first chapter to the Anatolian languages,⁵⁴ and a few articles, encyclopaedia entries, and parts of monographs re-assessing part of the evidence for contact between Greek and one or more Anatolian languages have recently been published.⁵⁵ This seems to be once more a popular topic among scholars, and a fair number of contributions have appeared since I began my research. I have tried to take into account most of them, and whenever time and space constraints made it difficult to discuss them thoroughly, I have given references for future research to build upon.

⁴⁴ QUATTORDIO MORESCHINI 1984; HUTTER 1995; MILANI 1998, 2001; WEST 2001; COLVIN 2004; WIDMER 2006; DALE 2011.

⁴⁵ NENCI 1961; GIORGIERI 2001; BEEKES 2003c.

⁴⁶ CATAUDELLA 2002; FINKELBERG 2005.

⁴⁷ HAUBOLD 2013; METCALF 2015; BACHVAROVA 2016.

⁴⁸ COLLINS *et al.* 2008; MAZOYER 2008; MOUTON – RUTHERFORD – YAKUBOVICH 2013; FARANTON – MAZOYER 2014, 2017, BIANCONI *forthcoming*.

⁴⁹ HÖGEMANN 2000a, 2000b, 2003; SCHUOL 2002; ROLLINGER 2004; BERNABÉ 2004, 2006, 2008; BACHVAROVA 2005, 2009, 2012; RUTHERFORD 2006, 2007, 2008, 2009, 2011, 2016; MOUTON – RUTHERFORD 2015; BRYCE 2008; ORESHKO 2013; TEFFETELLER 2013, 2015, just to name a few.

⁵⁰ KARAVITES – WREN 1992; FARAONE 1993; ROLLINGER 1996, 2014, 2015; VAN DONGEN 2007, 2008, 2011; POWELL 2011; CURRIE 2016; RAAFLAUB 2017.

⁵¹ LAZZERONI 2006; DAUES 2008, 2009; GARCÍA RAMÓN 2011a, 2012, DARDANO 2011, DALE 2015.

⁵² JIMÉNEZ DELGADO 2008; GASBARRA – POZZA 2013; JANKO 2014, SIMON 2018, ORESHKO 2018.

⁵³ GARCÍA RAMÓN 2011b, DARDANO 2013, 2017.

⁵⁴ MILLER 2014: 11-17. Perhaps the author wanted to pay a symbolic tribute to L. Palmer, who opened his *The Greek Language* in a similar way (though on completely different grounds).

⁵⁵ YAKUBOVICH 2010: 140-157; GASBARRA – POZZA 2012; HAJNAL 2014, 2018; HAWKINS 2010; MELCHERT 2014a, 2014b, BIANCONI 2015, ROMAGNO 2015, COTTICELLI-KURRAS – GIUSFREDI 2018.

We have seen above that the debate on Graeco-Anatolian contacts, and specifically on the linguistic relationships (in its broadest sense) between the two branches, started a long time ago and is still ongoing. In 1973, Laroche concluded his aforementioned talk as follows: «La thèse souvent affirmée d'une aire linguistique égéo-asianique, englobant tous les peuples pré- ou proto-historiques des Balkans à l'Euphrate et même au-delà, se heurte à l'in vraisemblance d'une telle extension. En effet, les apparences portent à croire que cette vaste zone était morcelée». As for the depth of linguistic contacts, Laroche states that «Il reste néanmoins que des mots voyageurs ont pu et dû passer d'Est en Ouest, atteindre quelque part les colonies achéennes et se perpétuer dans le grec le plus ancien, chez Homère, par exemple. Ces emprunts de type usuel se réfèrent à des *realia* très spécifiques plus qu'à des concepts» (LAROCHÉ 1973 *passim*). This was in sharp contrast with other scholars of the same period. Only a few years before, Gusmani was following his teacher V. Pisani in postulating a «lega linguistica, cui l'ittito e alcuni dialetti greci avrebbero attivamente preso parte attraverso l'elaborazione di alcuni importanti elementi comuni» (GUSMANI 1968a: 87).

Thanks to the advances in Anatolian and IE philology, and the progress in linguistic methodology of the last 50 years, it is now possible to give a comprehensive assessment.

1.3 Contacts between Greeks and ‘Anatolians’: history, geography, and archaeology

Languages do not develop in a vacuum, and it is always fundamental to have a clear understanding of the historical, geographical, and social frame in which they are attested. In the case of ancient languages, in which much of the context is lost, the historical data often become of primary value (cf. 1.4.2.3 *infra*). One obviously needs to be careful not to overestimate the importance of extra-linguistic data for the study of language relationships, for the simple fact that language and culture do not always coincide (PORZIG 1954a: 61), but it is unquestionable that languages can influence each other only if their speakers are in contact, in one way or another. For our purposes, it will then be crucial to understand if, where, when, and in which ways speakers of Greek and speakers of Anatolian languages might have come into contact. This section will focus on the historical and archaeological sources that point to contact between the Greeks and Anatolian civilisations, with a focus on Western Asia Minor and Troy.

It is necessary to note that the bibliography on the topic is immense, and new discoveries have radically changed our perspectives on the matter. Here, it will not be possible to give a detailed account of every issue, so, unless strictly needed, I shall confine myself to the more recent literature (of the last 30 years or so), especially for that which concerns the geography of ancient Anatolia and Troy.

1.3.1 A Tale of Two Countries: *Ḫatti* and *Aḫḫiyawa* at a glance

Thanks to the cuneiform archives of Ḫattuša and other findspots⁵⁶ we have a fair idea of Hittite history, especially from a political and military point of view. Here is a brief review.⁵⁷

⁵⁶ Ortaköy/Sapinuwa, Maşat/Tapikka, Kuşaklı/Sarissa, Emar and Ugarit in Northern Syria, and Amarna in Egypt.

The Hittites appear on the Near-Eastern scene for the first time in the form of personal names attested in the old Assyrian texts from Level II of Kaneš (19th c. BCE; on this, see now KLOEKHORST 2019). Both the former capital Kaneš and the new capital Ḫattuša (*ḪATTI* in Akkadian) were originally Assyrian merchant colonies. Anitta of Kuššara, the first Hittite king of whom we have written traces, defeated three petty kingdoms, raided Ḫattuša, and set the capital of the newly founded Hittite Kingdom in Nēša/Kaneš. About 70 years after his reign, Ḫattušili I moved the capital to Ḫattuša, and inaugurated what we call today the Old Kingdom (1650-1500 BCE). This period was characterised by a strongly expansive policy: Ḫattušili I campaigned in Northern Syria (Aleppo), and his successor Muršili I sacked Babylon, most probably in the 16th c. BCE.⁵⁷ The Hittites also expanded towards the so-called “Arzawa lands” in the West. By the time king Telipinu ascended the throne (c. 1525 BCE), the kingdom had been weakened by internal dynastic strifes and by external pressures (by the Kaskaeans in the North and by the Hurrians in the East), and lost most of its territories to the West and the East. Rivals to the throne murdered Telipinu’s wife and his son shortly after his accession, but the king did not have the conspirators murdered; instead, he had them banished, restored unity, and put an end to the bloodshed in Ḫattuša by establishing precise rules for royal succession. Telipinu and his successors approached foreign policy differently from their predecessors: rather than relying only on military campaigns, they signed treaties, formed alliances, and placed vassals in several parts of Anatolia. The expansion resumed with Tudḫaliya I/II, with whom the period commonly called ‘New Kingdom’ starts: his targets were, once more, Northern Syria and Western Anatolia. There, he found a group of hostile political formations, usually referred to as the ‘Aššuwa confederation’. Tudḫaliya

⁵⁷ For detailed accounts of Hittite history, see *e.g.* BRYCE 2002, 2005, 2019, LIVERANI 2011. Synthetic, yet accurate, overviews in BACHVAROVA 2016: 5-7 and LATACZ 2004: 65-6.

⁵⁸ 1595 BCE according to the ‘Middle Chronology’, or 1531 BCE according to the ‘Short Chronology’.

vanquished them, and brought back prisoners and booty. It is possible that the inscribed Aegean sword found at Hattuša in 1991 is to be connected with this campaign.⁵⁹ After this victory, he turned himself against the Kaskaean, defeating them. Tudḫaliya's successor (and possibly co-regent) Arnuwanda I was involved in a series of complicated intrigues in the West involving the king of Arzawa Kupanta-Kuruntiya and the rascally vassal Madduwatta (cf. *infra*), but it was only with Šuppiluliuma I (r. 1350-1322 BCE, according to the 'Short Chronology') that the Hittite Empire reached its greatest extent and was on a par with the other great powers, Egypt and Babylonia. In the 14th and 13th centuries, all lands between Hattuša and the Levant, including Karkamiš, Aleppo, Emar, Amurru, and Ugarit were under the sphere of influence of the Hittite Empire. As for the West, both Šuppiluliuma I and his son, Muršili II (r. 1321-1295 BCE), were involved in campaigns in the Arzawan area: in particular, Muršili II personally led a military expedition against the Western states in order to re-establish Hittite authority in the region.⁶⁰ Muršili II left to his son and heir Muwattalli II a relatively stable kingdom, its influence extending from Aleppo to Lazpa (Lesbos), from the Pontic region in the North to Alašiya (Cyprus). However, tensions with Egypt were rising over control over the Levant, and they culminated in the great battle of Kadeš (1274 BCE), followed by the famous 'Eternal' treaty (1259 BCE) between Ramesses II of Egypt and Hattušili III of *Hatti* (r. 1267-1237 BCE). Hattušili's second son, king Tudḫaliya IV (r. 1237-1209 BCE), was faced with another 'Arzawa rebellion': he led an expedition in the West, took Millawanda (Miletus), and granted Tarkasnawa of Mira overlordship in the region. He also (re-)established Hittite control over Alašiya. However, when he sought conflict with the

⁵⁹ The inscription in Akkadian reads: i-nu-ma ^mdu-ut-ḫa-li-ya LUGAL.GAL KUR ^{URU}A-aš-šu-wa ús-ḫal-liq GIR^{HLA} an-nu-tim a-na ^dISKUR be-lí-šu ú-še-li «As Tudḫaliya the Great King shattered the Aššuwian country, he dedicated these swords to the Storm God, his lord» (cf. ÜNAL *et al.* 1990-1; for the possibility that the sword was not created under Aegean influence, cf. TARACHA 2003).

⁶⁰ We possess a rather detailed account of the Western campaigns thanks to the combination of Muršili's *Ten Year Annals* (CTH 61.I) and his *Extensive Annals* (CTH 61.II).

Assyrians to the East, he was defeated by Tukulti-Ninurta at Nihriya in ca. 1228. This did not translate into territorial losses, but the episode was a major humiliation for the Hittite king on the international scene (BRYCE 2005: 318). A few decades after the beginning of the reign of Šuppiluliuma II (r. 1207 – ?), who once more campaigned in the West and fought battles against the ‘enemies from Alašiya’, the Hittite Empire collapsed, for a combination of internal and external factors. The capital Ḫattuša was vacated, and part of Hittite culture lived on in the so-called Neo-Hittite states of south-eastern Anatolia and north-western Syria (Karkamiš, Karatepe, Adana, Que, Malatya, *etc.*). These populations are very likely to be the *hittim* of the Bible. Cuneiform writing was eventually abandoned, but we find a good number of inscriptions in Hieroglyphic Luwian. By the end of the 8th c. BCE, these states were conquered and annexed into the Assyrian empire.

As for the Greek populations of the second millennium, our historical evidence is comparatively much more meagre. The Mycenaean tablets reveal virtually nothing about foreign policy, and all we have (if we exclude the legendary accounts of first-millennium writers) is the evidence from Hittite sources. We have seen above that a toponym ^{URU}*Aḫḫiyawa* ‘the land of A.’ is found in Anatolian sources, and that this was a crucial part of Forrer’s hypotheses: *Aḫḫiyawa* is directly mentioned in 24 Hittite texts,⁶¹ and possibly in two Akkadian texts, and a Luwian one,⁶² which have been collected in a recent volume.⁶³

Two problems arise at this stage: is *Aḫḫiyawa* really to be compared to the land of the Achaeans? What is the precise location of *Aḫḫiyawa*? While virtually everyone agrees that

⁶¹ It is found in the forms *a-aḫ-ḫi-ya-a*, *aḫ-ḫi-ya-wa*, *aḫ-ḫi-ya-wa-a*, *aḫ-ḫi-ya-u-wa-a*, and *a-aḫ-ḫi-ú-wa-a*.

⁶² Here, we find spellings corresponding to /hiyaw^o/, and scholars have debated whether or not this toponym is the same as *Aḫḫiyawa*.

⁶³ BECKMAN – BRYCE – CLINE 2011. From now on I am going to quote the ‘*Aḫḫiyawa* texts’ according to this edition; however, the text actually given in the following notes is a product of my own re-reading of the tablets and will slightly differ from that of Beckman *et al.* in some instances.

Aḫḫiyawa is the Hittite name of a second-millennium Greek (= Mycenaean) political formation (a form *Ἀχαιῶα is generally postulated)⁶⁴ the second question does not have a unanimous answer yet, and much depends on the identification and localisation of the other toponyms associated with *Aḫḫiyawa*. For this reason, understanding the political geography of western Anatolia is of crucial importance in order to find answers to the *Aḫḫiyawa Frage*.

Textual discoveries from the 1980s onwards have given us a better picture of the political geography of western and southern Anatolia towards the end of the Bronze Age,⁶⁵ and despite the rather sceptical stances of some,⁶⁶ the majority of scholars follow Hawkins and Starke⁶⁷ in interpreting the textual and archaeological evidence so as to reconstruct a situation similar to that represented in FIG. 1. In such a reconstruction, *Aḫḫiyawa* finds no place on Anatolian soil, and should be located either in mainland Greece or somewhere in the Aegean (HAWKINS 2015, but cf. already GARSTANG – GURNEY 1959).⁶⁸

The Hittite kingdom/Empire was clearly the most prominent political entity in second-millennium Anatolia, but its influence over the western part of the peninsula and its relationship with its political formations varied much over time. In particular, our texts seem to suggest that both *Ḫatti* and *Aḫḫiyawa* had some interests in western Anatolia. Let us briefly review the evidence.

⁶⁴ See discussion in FINKELBERG 1988. Historical accounts may be found in BRYCE 1989a, 1989b, 2003, and NIEMEIER 1998, 1999, 2002.

⁶⁵ The bronze tablet with the treaty between Tudḫaliya IV and his cousin Kuruntia of Tarḫuntašša (*Bo* 86/299; ed. OTTEN 1988) describes the frontier between *Ḫatti* and Tarḫuntašša, and the HATIP rock inscription is a frontier marker thereof; the YALBURT inscription (ed. POETTO 1993) narrated a campaign of Tudḫaliya IV against the Lukka lands, and allows us to equate (at least partially) second-millennium Lukka to first-millennium Lycia; thanks to the KARABEL rock relief (ed. HAWKINS 1998), possibly another frontier marker erected by Tarkasnawa king of Mira (also known from the so-called ‘Tarkondemos seal’), we now have a better idea of the location of this kingdom.

⁶⁶ *E.g.* HEINHOLD-KRAHMER 2013, HAJNAL 2003, GANDER 2017.

⁶⁷ STARKE 1997, EASTON *et al.* 2002, HAWKINS 2015.

⁶⁸ The debate on which Mycenaean kingdom the denomination *Aḫḫiyawa* might refer to is still very much open, and scholars have made the names of Mycenae, Pylos, and Thebes, among others; cf. *e.g.* WIENER 2009 and BRYCE 2018.

FIGURE 1: the political landscape of Western Anatolia according to the majority of scholars (from UNWIN 2017: 114)



The first notorious attestation of *Ahhiyawa* is in the so-called *Indictment of Madduwatta* (*AhT* 3 = *CTH* 147; *KUB* XIV, 1 + *KBo* XIX, 38) a text of the early fourteenth century BCE written during the reign of Arnuwanda I. Madduwatta was a vassal of the Hittite king (first Tudḫaliya I/II, then Arnuwanda I) who wanted to establish a kingdom of his own in Western Anatolia. During the reign of Tudḫaliya I/II (circa 1410-1380 BCE), he was chased out of his land by Attariššiya, the ‘man of Ahhiya’ and sought refuge with the Hittite king, who offered him shelter, fought Attariššiya,⁶⁹ gave him a piece of land on which to settle, and bound him

⁶⁹ *KUB* 14.1, Vs. 1-4: [tu-uk-]ka ^mMa-a[d-d]u-wa-at-ta-an t[u-e]l KUR-ya-az ^mAt-^rta-ri-iš-ši¹-ya-aš LÚ^{URU} A-a[h-ḫi-y]a-a ar-^rḫa pá-r-aḫ-ta¹ [nam-m]a-aš-ták-kán ^rEGIR¹-an-pát ki-^rit-ta-at¹ nu-ut-ta p[ár-ḫ]i-iš-ki-it nu ^rtu-e¹-el šA^mMa-[ad-du-wa]-at-^rta¹ [i-da-a]-^rlu¹ ḫi-in-^rkán ša-an¹-ḫi-iš-ki-it [ma-an-t]ák-kán ku-en-ta ^{nu}-uš[-ša-a]n zi-ik ^mM[a-ad-d]u-wa-a[t-ta]-aš an-da A-NA A-B[I^dUTU^š p]i[d-^rda-iš¹ nu-^rut-ták-kán¹ A-BI^dUTU^š ^rḫi¹-t[n-ga]-na-az ḫu-iš-nu-ut nu-^rut-ták-kán¹ ^mAt-ta-^rri-iš-ši¹-ya-^ran¹ ^rEGIR-an ^rar¹-ḫa ka[r-aš-ta ma-]a-an ū-UL-ma ^rma-an¹-ta ^mAt-tar-ši-ya-aš [Ū-U]l da-a-le-eš-ta ^rma¹-an-t[ák-k]án ku[en-ta] «You, Madduwatta, Attariššiya the Man of Ahhiyā drove out of your land. Then he kept after you and he kept pursuing you. He was seeking an evil death of you, of Madduwatta: he would have killed you! You, Madduwatta, ran to the father of My Majesty. The father of My

with a treaty, whose provisions stated – among other things – that he should cut off any contacts with Attariššiya.⁷⁰ Madduwatta was not content with the land that the Hittite king had assigned him and violated the treaty with Ḫattuša by attacking Arzawa on his own initiative. The Hittites saved him once more and reinstated him on his vassal throne. Later, Attariššiya attacked again, trying to kill Madduwatta, and Tudḫaliya I/II came to the rescue once more.⁷¹ Seizing an opportunity to make territorial gains, Madduwatta betrayed the Hittites, now under Arnuwanda I, attacked the Hittite army, and concluded a separate peace with the Arzawans. Surprisingly, he kept his status as a vassal of the Hittites, and after a break in our text we find Madduwatta adding further territories to his own dominion, and even forming an alliance with his old enemy Attariššiya of *Aḫḫiyawa* in order to take over Alašiya (Cyprus).⁷²

Majesty saved you from death, he kept Attariššiya away from you: had he not (done so), Attariššiya would have not left you alone; he would have killed you».

⁷⁰ *KUB* 14.1, Vs 39-41: [A-N]A ^mAt-tar-ši-ya-y[a-wa ḫa-lu-ki] le-e [u-i-ya-š]i ¹ma-a-an¹-wa-at-¹ta¹ ^mAt¹-tar-ši-ya-¹ša² ¹ḫa-lu-ki u-i[-ya-zi zi-ga-wa] ¹⁰TE₄-MI ¹e-ep¹ nu[-wa-ra]-an A-NA A-BI ¹d¹[UTU^š up-pí me-mi-y]a-an-na-wa-a[t-ták-kán ku-i]n ḫa-at-ra-¹a-iz-zi¹ nu-wa-ra-an le-e ša-[an-na-at-ti] nu-wa-ra-an A-NA A-BI ^dUTU^š ša-¹ku¹-wa-aš-šar ḫa-a[t-ra-a-i IGL.ḪLA-m]a-wa-kán a-ap[-pa A-NA M]A-ḪAR ^m[At-tar-ši-ya] ZI-it le-e ¹na¹-i[t-ti] «“you shall not [send] (someone) [on a mission] to Attariššiya. If Attariššiya sends (someone) on a mission to you, [you] shall take the messenger and [send] him to the father of M[y Majesty]. Also, what he writes, you shall not hi[de] it; write about it completely to the father of My Majesty. You shall not turn [your eyes] back to [Attariššiya] on your own initiative».

⁷¹ *KUB* XIV, 1, Vs. 60-5: a[-ap-pa-m]a-kán ^mAt-ta-ri-iš-ši-ya-aš ¹LÚ¹ ^{URU}Aḫ-ḫi-ya-a ar-ḫa ú-it nu ¹EGIR-an¹ tu-uk-pát ^mMa-ad-du-wa-at-ta-an ku-na-an-na ša-an-ḫ[i-iš-ki-i]t A[-BI ^dUT]U^š-ma¹ ma-aḫ-ḫa-an iš-ME ¹na-aš-ta¹ ^mKi-iš-na-pí-li-in ÉRIN.MEŠ ANŠE.KUR.ḪLA A-NA ^mAt-ta-ri-iš-ši-ya me-na-aḫ-ḫa-an-ta za-aḫ-ḫi-ya pa-ra-a na-¹iš¹ nu [zi-]ik ^mMa-¹ad-du¹-wa-at-ta-aš ¹nam-ma ^mAt¹-ta-¹ri-iš-ši-ya-an Ú-UL ma-az-za-aš-ta nu-uš-ši pí-ra-an ar-ḫa tar-na-aš nu-ud-du-za ú-it ^mKi-iš-na-pí-li-iš [x x x] iš-TU¹ ^{URU}KUR¹ Ḫa-at-ti ḫu-i-¹nu-ut¹ ^mKi-iš-¹na¹-pí-li-ša ¹A-NA¹ ^mAt-ta-ri-iš-ši-ya me-na-aḫ-ḫa-an-ta za-aḫ-ḫi-ya pa-it ¹nu ša¹ ^mAt-ta-ri-iš-ši-ya ¹ME ^{GIS}GI[GIR x LI-IM ERIN.MEŠ za-aḫ-ḫi-ya ti-i-e-]er nu za-aḫ-ḫi-ir na-¹aš-ta¹ ša ^mAt¹-t[a-ri-iš-š]i-ya-ya ¹LÚ.SIG₅-in ku-e-¹nir¹ an-ze-el-la-kán ¹LÚ.SIG₅ ^mZi-da-a-an-za-an ku-e-nir ¹nu ^mAt-ta¹-ri-iš-ši-ya-aš ANA [^mMa-a]d-du-wa-at-ta [x x x x] ne-e-a-at ¹na¹-aš-za ¹ar-ḫa ¹l¹-NA KUR-ŠU pa-it nu ^mMa-ad-du-wa-at-ta-an nam-ma ta-a-an ¹pé-e¹-da-aš-ša-aḫ-ḫi-ir «But [later] Attariššiya, the Man of Aḫḫiyā, came and kept trying to kill specifically (-pat) you, Madduwatta. But when the father of My Majesty heard, he sent over Kisnapili, troops, and chariots in battle against Attariššiya. You Madduwatta, again did not resist Attariššiya; you yielded before him. Kisnapili came [...] and ran to you to you from the land of Ḫatti. Kisnapili went to battle against Attariššiya. 100 [chariots and x thousand infantry] of Attariššiya w[ent to battle] and fought. They both killed one officer of Attariššiya, and they killed one officer of ours, Zidanza. Then Attariššiya turned [...] away from Madduwatta, and he went off to his land. They installed Madduwatta in his place again a second time».

⁷² *KUB* XIV, 1, Vs. 89-90 nu ^mAt-tar-ši-ya-aš ¹LÚ ^{URU}Pí-ig-ga-ya-ya A-NA ^dUTU^š ¹LÚ.MEŠ ku-re-e-wa-ni-eš ku-it ^mMa-ad-du-wa-at-ta-aš-ma ¹IR ^dUTU^š a-p[é-e-d]a-aš-za an-da ku-wa-at ḫa-an-da-a-it-ta-at «Since Attariššiya and the Man of

The *Indictment of Madduwatta* is the first document from which we gather some meaningful information about *Aḫḫiyawa*, but – to be precise – it is not the first text in which *Aḫḫiya(wa)* appears, in absolute terms. In an oracle report recently re-dated to the reign of Tudḫaliya I/II (*AhT* 22, § 25), we find mentioned another ‘Man of *Aḫḫiyawa*’.⁷³ All we can gauge from this is the fact that *Aḫḫiyawa* was among the Hittite king’s concerns.

We find more information about Aḫḫiyawan actions in Anatolia in the so-called *Tawagalawa Letter* (*AhT* 4 = *CTH* 181). This is a letter sent to an unspecified king of *Aḫḫiyawa* from a king of *Ḫatti* (possibly Ḫattušili III), who is concerned about another freebooter in Western Anatolia. This man, named Piyamaradu, was causing trouble in the territory of the Hittites and withdrawing to the land of *Aḫḫiyawa*. The Hittite king asked his Aḫḫiyawan counterpart to persuade Piyamaradu to turn himself in or to keep him under check, preventing him from using *Aḫḫiyawa* as a base for his attacks.⁷⁴ The conciliatory tone of the Hittite sovereign betrays a certain importance of *Aḫḫiyawa*, which is confirmed by the fact that the ruler of Millawanda (Atpa, the son-in-law of Piyamaradu) answered to the king of *Aḫḫiyawa*.⁷⁵ Incidentally, we learn from this document that *Ḫatti* and *Aḫḫiyawa* had been hostile to each other over a matter concerning Wiluša.⁷⁶

Piggaya are independent of My Majesty, while (you), Madduwatta, (are) a servant of My Majesty, why have you joined them?»

⁷³ *KBo* XVI, 97, Vs. 38-9: ŠA^{LÜ} KÚR^{URU} Aḫ-ḫi-ya-a ni-pa-šu-u-ri-iš šī-in-ta-ḫi-iš ta-na-ni-iš ke-el-ti-iš u-ur-ki-iš zi-za-ḫi-iš SIG₅ «Concerning the enemy Man of *Aḫḫiyā*: *nipašūri*, *šintaḫi*, *tanani*, *kelti*; (parasite) track, tapeworm blister. Favourable»

⁷⁴ *KUB* XIV, 3, Rs iii, 63-9: nu-uš-ši ŠEŠ-YA a-pa-a-at 1-an ḫa-at-ra-a-i ma-a-an Ū-UL nu-wa ša-¹ra¹-a¹ ti-i-ya¹ nu-wa 1-NA^{KUR} Ḫa-at-ti ar-ḫa i-it EN-KA-wa-at-ta EGIR-an¹ kap¹-pu[-wa-i]t¹ ma-a-an-ma-wa¹ UL nu-wa AŠ^{KUR} Aḫ-ḫi-ya-wa¹-a ar-ḫa e-ḫu nu-wa-at-ta ku-e-da-ni pé-di GAM-an a-ši-ša-nu-mi «My brother, write him this one thing, if nothing: “Set out and go off to Ḫatti: your lord has taken care of you. If not, then come off to Aḫḫiyawa, and in whatever place I settle you». *KUB* XIV, 3, Rs iv, 2-5: [nu-wa-kán dam-me-]e-da-ni pé-di GAM e-eš [nu-wa-za] A-NA LUGAL^{KUR} Ḫa-at-ti¹ ku-wa-pí ku-ru¹-ur nu-wa-za da-me-¹da-za¹ KUR-e-za ku-ru-ur e-eš am-me-ta-za-ma-wa-za-kán KUR-e-za ar-ḫa le-e ku-ru-ur «“Settle down in [anot]her place! Whenever hostile to the King of Ḫatti, be hostile from another land! Do not be hostile from my land!».

⁷⁵ *KUB* XIV, 3 Vs i 53-6: GIM-an-ma-mu [LÜ¹ TE₄-MU ŠA ŠEŠ-Y]A an-da ú-e-mi-ya-at nu-mu Ū-U [L aš-šu-la-an ku-in-ki] ú-da-aš Ū-UL-y[a-m]u up-pé-eš-sar ku-it-ki [ú-da-aš ki-iš-ša-an-m]a IQ-BI A-NA^m At-pa-wa IŠ-PUR^m Pi-y[a-ma-ra-du-un-wa-ká]n ANA LUGAL^{URU} Ḫa-at-ti ŠU-i da-a-i «But when [the messenger of my brother met me, he did not bring me

In the third and fourth years of the *Annals of Muršili II*⁷⁷ we find *Aḫḫiyawa* again. Muršili tells us that Uḫḫa-ziti, the king of Arzawa, had allied himself with the king of *Aḫḫiyawa*, becoming hostile to Ḫattuša⁷⁸ and somehow causing Millawanda to shift its allegiance.⁷⁹ The response of the Hittite king could not have been fiercer: he marched to the West, fought Uḫḫa-ziti's son Piyama-Kuruntiya by the river Astarpa, and after defeating him, he took Apaša, Uḫḫa-ziti's capital. Muršili had his generals take Millawanda,⁸⁰ and in the end he installed new rulers in the petty kingdoms, as per common Hittite practice, or accepted repenting former lords into vassalage. The rebel king fled across the sea⁸¹ with his family and

[any greetings?], he did not [bring] me any gift. He spoke [as follows]: “he has written to Atpa: «Turn Piy[amaradu] over to the King of Ḫatti!»»

⁷⁶ KUB XIV, 3 Rs iv 7-10: LUGAL^{KUR} Ḫa-at-ti-wa-an-na-aš-kán ú-uk ku-e-da-ni ANA INI[M]^{URU} Wi₅-lu-ša¹ še-er ku-ru-ur¹ e-šu-u-en nu[wa-m]u a-p[é-e-d]a-ni INIM-ni la-a[k-nu-ut] nu-wa ták-šu-l[a-u-en] «“The King of Ḫatti persuaded me about the matter over the land of Wiluša for which we were hostile, and we have made peace.»

⁷⁷ I refer to both the *Ten-Year Annals* (CTH 61.I = *AhT* 1A) and the *Extensive Annals* (CTH 61.II = *AhT* 1B). The former is from the late 14th c., whereas the latter is possible dated to the early 13th c. BCE.

⁷⁸ KUB XIV, 16 Rs iii 26-9 (integrations from KUB XIV, 15 Rs iii 55-8) šu-me-eš-wa-aš-ma-aš IR^{MES} A¹-B[I-YA (e-eš-te-en nu-wa-aš-m)a-aš A-BU-Y(A da-a-aš)] nu-wa-aš-ma-aš A-NA^m U-uh-ḫa-LÚ IR-an-ni pa-i[š-ta a-pa-wa-aš-ma-wa A-NA LUGAL KUR Aḫ-ḫi-(¹ú-wa-a¹)] EGIR-an ti-i-ya-at nu-wa<-mu> ku-u-ru-ri-ya-a[(ḫ-ta) šu-me-eš-ma-za EGIR-pa am-me-el] ki-iš-du-ma-at nu-wa A-NA^m U-uh-ḫa-LÚ [(¹EGIR¹-an) le-e nam-ma ti-ya-at-te-ni] «“you were the subjects of [my] father, and m[y father] took (you) and gave you in service to Uḫḫa-ziti. [But he was behind (= supported) the king of Aḫḫiya]wa and became hostile <to me>. You must become [mine again], and [no more be behind (= support)] Uḫḫa-ziti”».

⁷⁹ KUB XIV, 15 Vs i 23-24: ma-aḫ-ḫa-an ḫa-me-eš-ḫa-an-za ki-ša-at nu^m U-uh[-ḫa-LÚ-iš ku-it A-NA LUGAL KUR A-aḫ-ḫi-ú-wa-a EGIR-an ti-ya-at] nu-kán KUR^{URU} Mi-il-la-wa-an-da A-NA LUGAL KUR A-aḫ-ḫi-ú[-wa-a] «When spring came, [since] Uḫ[ha-ziti was behind (= supported) the King of Aḫḫiyawa] and [...] the land of Millawanda to the King of Aḫḫiy[awa]».

⁸⁰ KUB XIV, 15 Vs i 25-26: nu-kán^m Gul-la-an^m Ma-la-LÚ-in ERIN.MEŠ A[NŠE.KUR.MEŠ-ya] pa-ra-a¹ n[e-eh-ḫu-un nu KUR^{URU} Mi-il-la-wa-an-da] GUL-aḫ-ḫi-ir na-at IŠ-TU NAM.RA.MEŠ GU[D.ME]Š UDU.ḪI.A ša-ra-a da-a-ir «[I, My Majesty?] and s[ent] over Gulla, Mala-ziti, infantry [and chariots.] They attacked [the land of the city of Millawanda]. They took it, together with civilian captives, cattle, and sheep». BECKMAN *et al.* 2011 restore -aš in l. 25 (na-aš KUR^{URU} Mi-il-la-wa-an-da), but this would go against the “Watkins-Garrett Rule” (cf. GARRETT 1990).

⁸¹ KBo III, 4 Vs ii 15-32: ma-aḫ-ḫa-an i-ya-aḫ-ḫa-at nu GIM^{rasura}-an I-NA^{HUR.SAG} La-wa-ša a-ar-ḫu-un nu-za^d U NIR.GÁL EN-YA pa-ra-a ḫa-an-da-an-da-a-tar te-ek-ku-uš-ša-nu-ut nu^(GIS) kal-mi-ša-na-an ši-ya-a-it nu^(GIS) kal-mi-ša-na-an am-me-el KARAŠ.ḪI.A-YA uš-¹ki¹-it KUR^{URU} Ar-za-u-wa-ya-an uš-ki-it nu^(GIS) kal-mi-ša-na-aš pa-it KUR^{URU} Ar-za-u-wa GUL-aḫ-ta ša^m U-uh-ḫa-LÚ-ya^{URU} A-pa-a-ša-an URU-an GUL-aḫ-ta^m U-uh-ḫa-LÚ-¹na¹ gi-nu-uš-šu-uš a-še-eš-ta na-aš ir-ma-li-ya-at-ta-at nu ma-aḫ-ḫa-an^m U-uh-ḫa-LÚ-iš GIG-at na-aš-mu nam-ma za-aḫ-ḫi-ya me-na-aḫ-ḫa-an-da ū-UL ú-it nu-mu-kán^{<cm>} SUM-ma-^dLAMMA-an DUMU-ŠU QA-DU ÉRIN.MEŠ ANŠE.KUR.RA.MEŠ me-na-aḫ-ḫa-an-da pa-ra-a na-eš-ta na-aš-mu I-NA^{id} A-aš-tar-pa I-NA^{URU} Wa-al-ma MÊ-ya ti-ya-at na-an^d UTU^š za-aḫ-ḫi-ya-nu-un nu-mu^d UTU^{URU} A-ri-in-na GAŠAN-YA^d U NIR.GÁL BE-LÍ-YA^d Me¹-ez-zu¹-ul-la-aš DINGIR.MEŠ-ya ḫu-u-ma-an-te-eš pí-ra-an ḫu-i-e-er nu-za^m SUM-ma-^dLAMMA-an¹ DUMU^m U-uh-ḫa¹-LÚ QA-DU ÉRIN.MEŠ-ŠU ANŠE.KUR.RA.MEŠ-ŠU tar-aḫ-ḫu-un¹ na¹-an-kán ku-e-nu-un¹ nam¹-ma-a[n EGI]R-an-pát AŠ-BAT nu-kán I-NA KUR^{URU} Ar-za-u-wa [pár]-ra-an-da pa-a-un nu I-NA^{URU} A-pa-ša A-NA URU^{IM} ša^m U-uh-ḫa-LÚ an-da-an pa-a-un nu-mu^m U-uh-ḫa-LÚ-iš ū-UL ma-az-za-aš-ta na-aš-mu-kán :ḫu-u-wa-iš na-aš-kán a-ru-ni pár-ra-an-da gur-ša-u-wa-na-an-za pa-it na-aš-kán a-pí-ya an-da e-eš-ta «As I marched, when I arrived to mount Lawasa, the Storm-God, My Lord, revealed his divine benevolence: he threw

some of his subjects,⁸² and eventually died there, although one of his sons later came back to Anatolia to carry on with the fight.⁸³

A few more texts from the reign of Muršili II (or of his immediate successors) witness the relationship between *Hatti* and *Ahhiyawa*, which seem to have improved: in an oracle report (*AhT* 20), a ‘god of *Ahhiyawa*’ is summoned, along with a ‘god of Lazpa’, in order to heal the king (presumably from a speech-related disease).⁸⁴ In a prayer, we read that someone was sent to *Ahhiyawa*,⁸⁵ and in a very fragmentary letter (*AhT* 9 = *CTH* 209.16) presumably sent to a king of *Ahhiyawa* (though this is very speculative) we find the expression *an-za-a-aš-ma-*

a *kalmišana* (possibly a thunderbolt or a meteorite?). My army saw the *kalmišana*, and the land of Arzawa saw it as well. The *kalmišana* went and struck the land of Arzawa, and Apaša, Uḫḫa-ziti’s city, and it brought Uḫḫa-ziti to his knees. He fell ill, and while Uḫḫa-ziti was ill, he did not come against me in battle again; (instead) he sent against me his son Piyama-Kuruntya, with infantry and chariots. He came to battle against me at the Astarpa River by the city of Walmā and I, My Majesty, fought him. The Sun-Goddess of Arinna, my Lady, the mighty Storm-God, My Lord, Mezzulla, and all the gods ran before me (= helped me), and I vanquished Piyama-Kuruntya, son of Uḫḫa-ziti, together with his infantry and chariots. I struck him, and then I still pursued him: I went over the land of Arzawa and went into Apaša, into the city of Uḫḫa-ziti. Uḫḫa-ziti did not resist; he ran away from me, he went to the islands beyond the sea and stayed in there».

⁸² *KBo* III, 4 Vs ii 36: *ku-i-e-eš-ma-kán* NAM.RA.MEŠ *a-ru-ni pá-r-ra-an-da IT-TI* ^m*Uḫ-ḫa-LÚ pa-a-ir* «some of the people went on the other side of the sea with Uḫḫa-ziti».

⁸³ *KBo* III, 4 Vs ii 50-4: ^r*ma-aḫ-ḫa¹-an-ma ḫa-me-eš-ḫa-an-za ki-ša-at nu* ^m*U-uh-ḫa-LÚ-iš ku-it* G[IG-a] *t n[a-aš-ká]n a-ru-ni an-da e-eš-ta* DUMU^{MEŠ}-*ŠU*-{*NU*}-*ya-aš-ši kat-ta-an e-šir nu-^rkán¹* ^m*U-uh-ḫa-LÚ-iš a-ru-ni an-da* BA.UŠ DUMU^{MEŠ}-*ŠU*-{*NU*}-*ma-za ar-ḫa* ^r*šar¹-ra-an-da-at nu-kán* ¹*aš ŠA A.AB.BA-pát e-eš-ta* ¹*aš-ma-kán* ^m*Ta-pa-la-zu¹-na-ú-li-iš a-ru-na-az ar-ḫa ú-it* «When spring came, since Uḫḫa-ziti was ill, he stayed in the sea. His sons were along with him, and Uḫḫa-ziti died in the sea. His sons split up: one stayed there, in the midst of the sea, but one, Tapalazunawali, came out from the sea».

⁸⁴ *AhT* 20, Vs ii 57-64: DINGIR^{LUM URU} *Aḫ-ḫi-ya-wa-kán ku-iš* DINGIR^{LUM URU} *La-az-pa-ya* DINGIR^{LUM} NÍ.TE^{NI} *ya A-NA* ^dUTU^{Šr} *tar-nu-ma-an-zi* SIXŠÁ-*an-ta-at nu* DINGIR^{LUM} ŠA NÍ.TE LUGAL GIM-*an ú-da-an-zi a-pu-u-^ruš¹-ša ú-da-an-zi nu a-pé-e-da-aš* GIM-*an a-ni-ú-úr* I-NA UD.3.KAM <*a-ni-ya-an-zi*> A-NA DINGIR^{LUM URU} *Aḫ-ḫi-ya-wa-a-ya-kán* DINGIR^{LUM URU} *La-az-pa-ya* UD.3.KAM QA-TAM-*ma-pát du-uk-ki-iš-zi* A-NA ^{GIŠ}BANŠUR.ḪI-A *ša-ak-nu-wa-an-da-aš-ma pá-r-ku-ya-aš-ša ma-aḫ-ḫa-an ši-ip-pa-an-ta-ir a-pé-e-da-aš-ša* QA-TAM-*MA-pát i-ya-zi* SISKUR-*ma iš-TU* DINGIR^{LUM} *a-ri-ya-an-zi* KL.MIN *nu TE*^{MEŠ} SIG₅-*ru ni ši ta ke* 10 ^{ŠA}NIR SIG₅ «in respect to the fact that the freeing of the deity of Ahhiyawa, the deity of Lazpa (Lesbos), and the personal deity (of his Majesty) was indicated by oracle as incumbent upon his Majesty – when they bring the personal deity of the King, should they bring them (the other deities) too? And as <they perform> the rite for them over the course of three days, is it likewise mandated for three days for the deity of Ahhiyawa and the deity of Lazpa? And as his Majesty has done obeisance to the polluted and purified offering tables and they have sacrificed in the style of Hattusa, should he do precisely the same for them? They investigate the offering by oracle. Ditto. Let the extispicy be favorable: *nipašuri, šintaḫi, tanani, keldi*; ten intestinal coils. Result: favorable.» (transl. Beckman *et al.*).

⁸⁵ *KUB* XIV, 2 Rs. 3-6: *ku-it-ma-an-na A-BI-YA TI-an-z[a e-eš-ta ... n] a-aš IT-TI AMA-YA ku-i[t ku-ru-ri-ya-aḫ-ta ... n] a-an* I-NA KUR^{URU} *Aḫ-ḫi-ya-w[a]* «And while my father [was] alive, [...], because he [became hostile] to my mother [...] he dispatched her (?) to the land of *Ahhiyaw*[a ...]».

an-na-aš ^{ṚŠES^{MEŠ}} ‘we are brothers’ (*KUB* XXIII, 95, iii, 22). The king of *Aḫḫiyawa* is addressed in a similar fashion (‘my brother’) throughout the *Tawagalawa Letter*.

In another letter (*AhT* 6 = *KUB* XXVI, 91), supposedly sent from the king of *Aḫḫiyawa* to the king of *Hatti*, we learn that some islands had been a matter of contention in previous generations.⁸⁶ *Aḫḫiyawa* or its king are mentioned in a number of further texts from the 13th century (*AhT* 8, 15, 18, 23, 24), but the context is often too fragmentary to give us any meaningful information. In one case, an *Aḫḫiyawan* (or *Aḫḫiyawa*-style) copper vessel is mentioned in a list of goods (*KBo* XVIII, 181, Rs 33; *AhT* 19 = *CTH* 243.6).

Further references to *Aḫḫiyawa* are found in texts dated to the reign of Tudḫaliya IV: in *AhT* 14 (*CTH* 214.12C = *KBo* XVI, 22), we read that the king of *Aḫḫiyawa* did not help Urḫi-Tešsub, the son of Muwattalli II deposed by Ḫattušili III; *AhT* 11 (= *CTH* 211.4) refers to a rebellion led by a man named Tarḫuna-radu, who had the support of the *Aḫḫiyawan* king. From the so-called ‘Milawata Letter’ (*CTH* 182), which does not offer an explicit reference to *Aḫḫiyawa*, we understand that Millawanda is back under the Hittite sphere of influence. That *Aḫḫiyawan* power was declining is also indirectly pointed to by *AhT* 2 (*CTH* 105), a treaty between Tudḫaliya IV and Šaušga-muwa of Amurru, the provision of which states that the vassal state block *Aḫḫiyawan* ships going to Assyria.⁸⁷ Furthermore, in this text we find a

⁸⁶ The document is badly preserved, and the restorations proposed by the editors are certainly plausible, but by no means certain. See hypotheses and lit. in WATKINS 2008: 135-6. Latacz (2004: 243) reports that Starke suggested at a conference that the linguistic features of this text would suggest that the sender of the letter spoke Greek as his mother tongue. This matter deserves further investigation, and it would be useful to know Starke’s arguments. In a very recent article, M. Weeden argued that *KUB* XXVI, 91 might have been a letter from the Hittite king to the king of *Aḫḫiyawa* (WEEDEN 2018). Cf. also Melchert’s unpublished *Mycenaean and Hittite Diplomatic Correspondence: Fact and Fiction*, available online at the webpage <https://linguistics.ucla.edu/people/Melchert/montrealtext.pdf>.

⁸⁷ *KUB* XXIII, 1 Rs iv 23-26: ŠA KUR *Aḫ-h*]i-^Ṛya¹-u-wa-aš-ši ^{GIS}MA *pa-a-u-an-zi* l[e-e tar-na-ši²]«[you shall not allow(?)] any ship [of] *Aḫḫiyawa* to go to him (that is, the King of Assyria)» (transl. Beckman *et al.*).

list of Great Kings who are considered equal to the king of *Ḫatti*, and the king of *Aḫḫiyawa* is written and then erased.⁸⁸

To conclude, I should mention in passing the few possible (but very disputed) attestations of *Aḫḫiyawa* in non-Hittite texts. First, we find a reference to some people of *Aḫḫiyawa* (in the apheresised form *Hiyawa*) in two letters in Akkadian sent by a Hittite official to ‘Ammurāpi, the last king of Ugarit concerning the shipping of some goods (RS 94.2530 and RS 94.2523). Finally, in the Luwian ÇINEKÖY inscription, the local ruler Warika calls his kingdom *Hiyawa*.⁸⁹

So, it appears that *Aḫḫiyawa* was meddling in Anatolian affairs and playing on both sides, sometimes undermining Hittite influence by giving shelter to its rebels, sometimes making treaties with the king of Ḫattuša. One might even suggest that *Aḫḫiyawa* had real influence over a part of territory in the Anatolian peninsula, at least for a certain period. The evidence for the locations of the other Western Anatolian kingdoms, together with the association of *Aḫḫiyawa* with the sea, suggest that the latter should be placed beyond the sea; however, this does not mean that the *Aḫḫiyawans* could not have controlled *some* territories for a limited time. In other words, if we are open to the possibility that *Aḫḫiyawa*’s borders might have varied over time, we could give a more concrete background to the *Aḫḫiyawan* influence in western Anatolian politics without re-discussing the entire geography of the region. The hypothesis of an *Aḫḫiyawan* presence with ebbs and flows seems reinforced by two further elements: most *Aḫḫiyawa* texts date from the 14th and 13th

⁸⁸ *KUB* XXIII, 1 Rs iv 1-3: LUGAL.MEŠ-ya-mu ku-i-e-eš^{LUGAL} MI-IḪ-R[U-T]I [...] LUGAL^{URU} Mi-iz-ri-i LUGAL KUR Ku-ra-an-du-ni-aš LUGAL KUR Aš-šu-ur^{rasura} LUGAL KUR^{URU} Aḫ-ḫi-ya-u-wa-ya^{rasura} «And the kings who are equal to me in rank (are) [...] the king of Egypt, the king of Babylonia, the king of Assyria, and^{erased} the king of *Aḫḫiyawa*^{erased}».

⁸⁹ Some scholars maintain that *Hiyawa* is simply the local name or Cilicia, and that the association to *Aḫḫiyawa* is due to folk etymology. See opposite views in SINGER 2006: 250-2, BRYCE 2010, and GANDER 2012. Further considerations on the relationship between the two names, together with discussion on the location of *Aḫḫiyawa* in HAJNAL 2011, SIMON 2011 and YAKUBOVICH 2015a: 38-9.

centuries,⁹⁰ which may point to a more influential presence (it is unclear if physical or only political) during this period. Also, the ban on Ahhiyawan commercial traffic that Tudḫaliya imposed on Amurru and Assyria and the erasure of the name of the king of *Ahhiyawa* from the list of kings equal to the Hittite sovereign in *AhT* 2 may mean that Ahhiyawan power had waned in the reign of Tudḫaliya IV, perhaps after his campaign against Millawanda (BRYCE 2005: 309-10).

By reading the *Ahhiyawa* texts, one gets the impression that there was, at times, some sort of ‘Cold War’ atmosphere between *Ḫatti* and *Ahhiyawa*, with both political entities trying to exert their influence over the Western regions of the Anatolian peninsula, but never coming to clash directly (although we read in the *Tawagalawa letter* that there had been hostilities). It appears that *Ahhiyawa* had both commercial and political interests in Anatolia, and that it used local rulers as a proxy to undermine the power of Ḫattuša in the region. The texts, however, do not specify in which ways, numbers, and modes the Ahhiyawans/Mycenaeans were actually present.

One may then wonder what archaeology can contribute to solving this problem. In recent years, increasing evidence for Mycenaean pottery and burials has been emerging from archaeological sites in the western region. In particular, one should mention the case of Miletus, which is the finding spot of Minoan type architecture, fresco paintings, figurines, pottery, and even Linear A inscriptions (NIEMEIER 2005). This city was certainly not isolated:

⁹⁰ «Of the Ahhiyawa texts as a whole, seven date to the late-fifteenth–early-fourteenth century B.C.E. (one example), the fourteenth century, or the fourteenth–thirteenth centuries B.C.E. (in order: *AhT* 22, 3, 1A, 1B, 20, 12, and 9). Another thirteen date to specific periods during the thirteenth century B.C.E. (*AhT* 7, 6, 4, 8, 15, 26, 18, 14, 11, 5, 2, 27A, and 27B), in addition to which are nine more that also date to the thirteenth century B.C.E. but cannot be more closely dated (*AhT* 10, 13, 16, 17, 19, 21, 23, 24, and 25); this makes a total of twenty-two texts that date to this century» (BECKMAN – BRYCE – CLINE 2011: 268).

other centres in the region also bear the traces of a substantial Cretan influence, as one can see in FIG. 2.

The western region also shows traces of Mycenaean objects (FIG. 3), and Wolf-Dietrich Niemeier plausibly suggested that Miletus, whose archaeological data match well with the Millawanda referred to in the texts just seen, was first a Minoan and then a Mycenaean colony (NIEMEIER 2005, RAYMOND *et al.* 2016).

FIGURE 2: Archaeological evidence for Minoan presence in the South-Eastern Aegean in LM I (NIEMEIER 2005: 9)



FIGURE 3: Mycenaean artefacts in the South-Eastern Aegean (NIEMEIER 2005: 15)



Others take a more sceptical stance,⁹¹ stressing the fact that the presence of objects in Mycenaean style does not necessarily mean that Mycenaeans were *actually* present in the region. Because of the peculiar pottery production and the various mortuary usages, Penelope Mountjoy proposed regarding the area which comprises the East Aegean islands and the coast of western Anatolia as a specific geographic entity which she calls 'East Aegean-West Anatolian Interface' (MOUNTJOY 1998, 2015).

As for Anatolian objects in Mycenaean Greece, «only a dozen objects in the Bronze Age Aegean are even potentially Hittite in origin, and these are scattered far and wide both in time and location, from Middle Minoan I–II to Late Helladic IIIC (i.e., from ca. 2000–1150 BCE) and from mainland Greece to Rhodes. They include cylinder seals, seal impressions, and bullae; a sphinx statuette; a silver stag rhyton; and a silver “Smiting God” statuette» (BECKMAN *et al.* 2011: 268; cf. CLINE 1991, 1994).

As Bryce stated, «there is some irony in the fact that the kingdom which had the closest political dealings with the Mycenaean world [the Hittite kingdom] has, in comparison with a number of its contemporaries, left so little trace in the archaeological record of any form of contact with this world» (BRYCE 2003: 72); however – it must be stressed – absence of evidence does not translate into evidence of absence, especially when it comes to perishable materials (see also CLINE 1991: 140). All in all, the archaeological evidence should be regarded as not conclusive, at least for the time being.

Although the history and political geography of western Anatolia may be clearer than before, our knowledge of its linguistic landscape in the second millennium has not improved as much. The simple fact that Western cities do not possess (or have not yet shown) archives

⁹¹ «There is little archaeological evidence for direct contact between the Mycenaeans and the Hittites» BENZI 2002: 382.

comparable to that of Ḫattuša prevents us from understanding which language(s) were present in the area. It is generally assumed that in the second millennium Luwian was the main language, possibly together with the ancestors of first-millennium Lycian, Carian (both Luwic languages) and Lydian. Western Anatolia has yielded a handful of inscriptions in Hieroglyphic Luwian, and in a NH manuscript of the Hittite *Laws* we find that the toponym *Arzawa* (in western Anatolia) replaced an older *Luwiya*.⁹² In 2010, however, Yakubovich argued against the presence of Luwian-speaking populations in Western Anatolia, envisaging rather that the ancestors of first-millennium Carian, Lycian, and Lydian were already spoken in the region in the second millennium. He also maintained that Luwian-speaking populations were located much closer to Ḫattuša, and rejected the equation *Arzawa* = *Luwiya*.⁹³ More recently, he has partly revised his earlier positions, and now admits the possibility of locating *Luwiya* in inland western Anatolia. In his monograph, he also argued for the identification of Carian as the closest attested relative of *Arzawa Luwic*; he still upholds this connection, but he now admits that one should keep these two languages/dialects apart until we have further supporting evidence (YAKUBOVICH 2013: 108-21).

The fact that we have letters to, and perhaps from, the king of *Aḫḫiyawa* has important bearings. The letters we possess are in Hittite, and this may mean at least one of the following: 1. someone at the Aḫḫiyawan court could read and write in Hittite (or in Akkadian, for that matter); 2. someone at Ḫattuša could read and write (Mycenaean) Greek; 3. someone who could read Greek and/or Hittite must have been present somewhere in

⁹² Paragraph §19 of the *Laws*, cf. HOFFNER 1997: 29-30.

⁹³ YAKUBOVICH 2010: 75-160. See criticism in HAWKINS (J.D.) 2013.

between the two courts (perhaps translators in some city of Western Anatolia, which was likely to have been multilingual).

All of the above suggests that there might well have been places for linguistic contact between Greek and Anatolian speakers. One should not get carried away, though, because the nature of our historical evidence does not allow us to define the degree of actual contact. What we can reasonably exclude, however, is both a situation of prolonged, intense, contact between (great numbers of) Greeks and Anatolians, and the total absence of contacts. There is only one possible exception to this: in first-millennium southern Anatolia, we find Pamphylian, which might have been first introduced to the region by Mycenaean Greek settlers in the second millennium, and then could have undergone changes because of contact with the local populations (which probably spoke a form of Luwian). More on this in chapter 5.

So far we have only talked about the possible presence of Greeks in Anatolia. But what about Anatolians in Greece? If one excludes substrate from the discussion (cf. 1.1.4. *supra*) and concentrates only on historic times, all we have is a handful of personal names derived from Anatolian toponyms (or ethnonyms) on the Mycenaean tablets: *mi-ra-ti-ja* /milatiya^o/ (PY Aa 798); *ru-wa-ni-jo* /luwaniyo^o/ ‘Luwian?’ (KN X 7706 + 8108), and perhaps *ru-ko* /luko^o/ (PY Pn 30.4) and *ru-ki-jo* /lukiyo^o/ (PY Gn. 720.2, Jn 415.11).⁹⁴ This may testify to *some* sort of contact with the Near East, but this typology of texts cannot be taken as «evidence that non-residents, including an Anatolian, attended the feast at Thebes» (BACHVAROVA 2016: 231).

Also, it is fundamental to distinguish between different parts of the Mycenaean world: while it is difficult to find evidence for contacts in continental Greece, the islands are a

⁹⁴ According to MILANI 1980: 82-3. One should note, however, that both *ru-ko* and *ru-ki-jo* could well belong with the ‘wolf’ root.

different matter. As a recent work has emphasised, contacts between Crete and the region of Caria were quite intense both in the second and in the first millennium: not only have Linear A tablets (unlike their Linear B counterparts) been found in Asia Minor, but there are also ethnographic accounts⁹⁵ and mythological links connecting Caria with Crete (cf. UNWIN 2017). I should like to reinforce this parallel by offering a further trace of possible contacts between Crete and Anatolia. In two, possibly three Knossos tablets, and in 1 Pylos tablet, we find the personal names *pi-ja-mu-nu*, *pi-ja-si-ro*, *pi-ja-se-me* and *pi-ja-ma-so*.⁹⁶ This /piya/ would be obscure from a Greek point of view, but it is one of the most productive onomastic formants in the Anatolian languages, both of the second and of the first millennium, and it is connected to the verbal root *pai-* ‘to give’.⁹⁷ It is debated whether Anatolian names in /piya/ should be interpreted as ‘given by X’ or ‘X has given’,⁹⁸ but *piya* is found both as the first element (more common; [GIVE]+[DIVINE NAME] type, cf. Gk. Δωρόθεος) and as the second element ([DIVINE NAME]+[GIVE], type of Gk. Διοδώρος, Ir. *bagadāta*, etc.). Melchert (2013: 48) has argued that PNs of the latter type whose second member is a participle are *Satznamen* calqued on Greek in the first millennium (e.g. Lyc. *natrbbijēmi* < Gk. Ἀπολλόδοτος). One also finds an interesting parallel within Greek itself: in Pamphylian Greek, we find personal names such as Λυρμαπίας (nom., n°206) and Πιαλφειτύς (gen., n°96). Both combinations X-[GIVE] and [GIVE]-X are attested, and in this case we can be fairly certain that -πια- is

⁹⁵ E.g. Hdt. I, 171, 2: Εἰσὶ δὲ τούτων Κάρες μὲν ἀπικόμενοι ἐς τὴν ἡπειρον ἐκ τῶν νήσων· τὸ γὰρ παλαιὸν ἐόντες Μίνω κατήκοοι καὶ καλεόμενοι Λέλεγες εἶχον τὰς νήσους, φόρον μὲν οὐδένα ὑποτελέοντες, ὅσον καὶ ἐγὼ δυνατὸς εἰμι ἐπὶ μακρότατον ἐξικέσθαι ἀκοῇ· οἱ δὲ, ὅπως μίνως δέοιτο, ἐπλήρουν οἱ τὰς νέας.

⁹⁶ *pi-ja-mu-nu* (KN Ap 5748 + 5901 + 5923 + 8858 + fr), *pi-ja-si-ro* (KN As 1516), *pi-ja-se-me* (KN As 1516), *pi-ja-ma-so* (PY Fn 324 + 1031 + 1454 + fr), *pi-ja* (KN Ai 7867).

⁹⁷ Here are just a few examples. Hittite (from Laroche, NH): *Ananipiya*, *Anupia*, *Apapia*, *Armapiya*, *Hepapiya*, *Iyarapiya*, *Kuniyapiya*, *Tarhundapiya* *Tarhupi(y)a*, *Ulanapia*, *Piyamaradu*, *Piyamatarawa*, *Piyammu*, *Piyapili*, *Piyassili*; Luwian: *Masnapiya*, *Piya*, *Piyasarruma*, *Piyassili(ya)*, *Piyatarhunt*; Lycian: *Mahane-pijeme/i*, *Natrbbijēme/i*.

⁹⁸ One would always expect to find the participial element *-ma/i-* that we find in names such as *Piyamatarawa*, or in the Lycian names *Mahane-pijeme/i* ‘given by the gods’ and *Natrbbijēme/i* ‘given by Natr’.

Anatolian because we have independent proofs that Pamphylian was considerably influenced by the neighbouring Anatolian dialects (cf. chapter 5). A first, very obvious, observation is that most names in *pi-ja* come from Knossos. This does not tell us too much, since the majority of Mycenaean tablets also come from there, but one could add this to the evidence presented above.⁹⁹ In the first millennium, Greek texts seem to bear no memory of the Hittite Empire; the only exception is a possible reference in the *Odyssey*, which should however be treated with due caution. In λ 521, the mention of the otherwise obscure Κήτειοι (also attested in the variants κήδειοι and χήτειοι in the grammarian Herodian, cf. WEST 2017: 247) has been considered a distant echo of second-millennium contacts by some (KRETSCHMER 1930b: 8ff., HUXLEY 1959), but – again – this is by no means certain, and even if this is a reference to the **Hat(t)eioi*, this would not mean that Homer preserved a memory of the actual Hittite Empire. Also, this would tell us that the people of *Hatti* were known with this name, and not with their probable endonym in *Nes*°.

Up to here, I have deliberately excluded Troy from the discussion, as this will be the focus of the next section, in which we shall explore how the Trojan question has been somewhat complementary to the *Aḫhiyawa Frage*.

1.3.2 An old question: Troy

Trojan studies are, once more, a meeting point of Classics, Archaeology, Near Eastern studies, and – to a smaller extent – Comparative Philology. As is widely known, modern research on Troy started with the work of the German archaeologist Heinrich Schliemann, who – a copy of Homer in his hand – started to excavate on the mound of Hisarlık near

⁹⁹ One should also note that all the Anatolian names are theophoric, so one may wonder whether the second part of the Mycenaean names in *pi-ja*- consists of names of deities. I cannot offer a satisfying answer to this question at the moment.

Çanakkale (northwestern Turkey) in 1871.¹⁰⁰ Subsequent excavations (led by Wilhelm Dörpfeld [1893-4], Carl Blegen [1932-8], Manfred Korfmann [1988-2005] and his successors Peter Jablonka and Ernst Pernicka)¹⁰¹ have revealed that the Late Bronze Age settlement (Troy VI/VIIa) had the size and the constituent elements of a regional capital occupying a pivotal position in trade routes (cf. EASTON *et al.* 2002). What archaeology alone cannot tell us is whether the Hisarlık site corresponds to the Homeric city: no archives with written documents or inscriptions with references to the name of the city have been found, and there is no clear reference to the position of Troy in known texts. For this reason, it is necessary to turn to indirect evidence. We shall start once more from Hittite documents.

We have seen above that Troy is possibly mentioned in Hittite texts: the toponyms *Wilušiya* and *Taruiša* are first found among the members of the ‘Aššuwa confederation’ in the west,¹⁰² and the former is mentioned again in the *Tawagalawa Letter*, where we learn that *Ḫatti* and *Aḫḫiyawa* had been hostile over Wiluša and that they are now at peace (cf. fn. 73 *supra*). If *Aḫḫiyawa* is to be located in continental Greece or somewhere along the Aegean

¹⁰⁰ A detailed history of Schliemann’s excavation may be found in SCHLIEMANN 1874.

¹⁰¹ LATACZ 2004: 5-9 provides a concise history of excavations up to 2002; pp. 20-49 are dedicated to a more detail report of Korfmann’s main findings. See also EASTON *et al.* 2002. One may read yearly reports on Trojan excavations until 2010/2011 in the journal *Studia Troica*, founded by Korfmann.

¹⁰² *KUB* XXIII, 11, ii 13-21 (integrations from *KUB* XXIII, 27): [*ma-a-an-ma* (^{URU}*ḫa-at-tu-ši*) E]GIR-*pa ú-e-ḫu-un nu-mu ki-e* KUR.KUR^{HLA} [(*ku-u-ru-ur e-ip-pi*)r KUR^{URU}*lu*]-*uq-qa* KUR^{URU}*ki-iš-pu-u-wa* KUR^{URU}*ú-na-li-ya* [... (KUR^{URU}*du-ú*)]-*ra* KUR^{URU}*ḫal-lu-wa* KUR^{URU}*ḫu-u-wa-al-lu-ši-ya* [KUR^{URU}*k(a-ra-ki-š)a* KUR^{URU}*du-(un)*]-*da* KUR^{URU}*a-da-du-ra* KUR^{URU}*pa-ri-iš-ta* [... - (w)]*a-a* KUR^{URU}*wa-ar-ši-ya* KUR^{URU}*ku-ru-up-pí-ya* [... -(*lu-iš-ša*) KUR^U*a-la*]-¹*at-ra* KUR^{HUR.SAG}*pa-ḫu-ri-na* KUR^{URU}*pa-šu-ḫal-ta* [...] KUR^{URU}*ú-i-lu-ši-ya* KUR^{URU}*ta-ru-i-ša* [...] KUR.KUR^{HL}]-^A*QA-DU ERIN₂-š[U-N]U an-da ta-ru-up-pa-an-ta-ti* [...]x-šU-NU *nu-mu me-na-aḫ-ḫa*]-¹*ḫa*]-¹*[a]n-da tu-uz-zi-in da-a-ir* «[But when] I turned back to Ḫattuša, these lands become hostile against me: [the land of the city of Lu]qqa, the land of the city of Kispūwa, the land of the city of Unaliya [...] the land of the city of Dūra, the the land of the city of Halluwa, the land of the city of Hūwalusiya, the land of the city of Karkisa, the land of the city of Dunda, the land of the city of Adadura, the land of the city of Parista [...]wa, the land of the city of Warsiya, the land of the city of Kuruppiya, [...]luissa, the land of the city of Alattara, the land of Mount Pahirina, the land of the city of Pasuhalta [...], the land of the city of Wilušiya, the land of the city of Taruiša [...] the region]s united with their troops [and] their [...]. They took the army against me». It has been hypothesised that the name *Aššuwa* is what gave origin to Greek Ἀσία (GEORGACAS 1969: 22ff.)

(as per Gastang – Gurney and Hawkins, cf. *supra*, but also FORRER 1924a, 1924b), it is then likely that Wiluša lies in a coastal location in the west.

From the historical introduction to the treaty between Muwattalli II of *Ḫatti* and Alakšanduš of Wiluša,¹⁰³ we learn that Labarna (one of the sovereigns of the Old Hittite Kingdom) had conquered all Arzawa lands and Wiluša, and that later Wiluša became hostile. This happened several generations before Muwattalli II, because the king himself admits that he does not remember under which king Wiluša's defection happened. Nevertheless, under Muwattalli's predecessors, Wiluša seems to have been at peace and in good terms with *Ḫattuša*; Muwattalli himself said that he had come to Alakšanduš's aid in the past. The treaty goes on, listing the provisions and the divine witnesses, and the impression we get is that of a land fought over through time, which – at the time of the document – was within the Hittite orbit (it seems appropriate at this point to mention Cline's qualification of Troy as a "contested" periphery; CLINE 2008). Wiluša is mentioned in a couple of other texts,¹⁰⁴ but our last relevant document is the Milawata letter (*CTH* 182): here it seems to be implied that a Hittite king (possibly Tudḫaliya IV) took action in order to restore a certain Walmu on the throne of Wiluša.¹⁰⁵

¹⁰³ *CTH* 76. The reference edition is still FRIEDRICH 1930: 42-102, but in recent years new translations have been published (BECKMAN 1999: 87-93, Starke *apud* LATA CZ 2004: 105-110 DEVECCHI 2015: 151-9, DEL MONTE 2003: 65-7) which include some of the new fragments emerged (see DEVECCHI 2015: 152 for an overview), but despite KITCHEN – LAWRENCE 2012, DEL MONTE 2003 and CHRISTIANSEN 2012 (which either offer an edition and translation based on Friedrich's manuscripts, or they re-edit only parts of the text), a new complete edition with translation and commentary would perhaps be desirable. Given the status of our text, in this part I shall refrain from giving the original Hittite, and I shall directly paraphrase the text in my account.

¹⁰⁴ An attack on Wiluša by the Hittites is mentioned in a letter of Manapa-Tarhuntas, the king of the Seha-River Land (*CTH* 191; *KUB* XIX, 5, 3-4); from a fragment of another royal letter (*KBo* XVIII, 18) we understand that something was going on in Wiluša, but the text is so fragmentary that we cannot reconstruct much (see a translation of the extant parts in GÜTERBOCK 1986: 39).

¹⁰⁵ *KUB* XIX, 55 + *KUB* XLVIII, 90, Rs 41-4: *nu-mu-kán DUMU-KA^m Wa-al^l-mu-un pa-ra-a na-a-i na-an EGIR-pa I-NA^{KUR} W[i₅-l]u-ša LUGAL-iz-na-ni te₉-eḫ-ḫi na-aš ka-ru-ú GIM-an LUGAL^{KUR} Wi₅-lu-ša e-eš-ta ki-nu-na-aš-<ša-aš> QA-TAM-M[A e-eš-du] nu-wa-na-ša-aš ka-ru-ú GIM-an IR^{DUM} k[u-l]a-wa-né-eš¹ e¹-eš-du «Now, send your son Walmu to me. I shall reinstate him in kingship in the land of Wiluša. [He shall be] be king of the land of Wiluša now, as he used to be in the past; he shall now be our military vassal, as in the past».*

Recent findings have not added much direct evidence for the position of Troy,¹⁰⁶ nor do Mycenaean texts shed any light on the problem.¹⁰⁷ However, our increased understanding of the political geography of western Anatolia, together with the cumulative evidence from the site itself, seems to confirm, *pace* old and new sceptics,¹⁰⁸ that there was a medium-sized kingdom in north-western Anatolia which was within Hittite influence, that the capital of this kingdom was on the hill of Hisarlık, and that the name of this city was probably *Taruiša*.

This much for the historical background. As far as language is concerned, our evidence is virtually non-existent. The absence of written documents prevents us from making safe hypotheses, and the fact that the Homeric Trojans speak Greek tells us nothing. The only exception (though only partial, as we shall see in a moment) is a document found in 1996: it is a small, round, biconvex bronze seal with Anatolian hieroglyphs on it (HAWKINS – EASTON 1996). Despite the fact that only a few signs are legible, and that nothing tells us that the *language* of the seal is Luwian (cf. HAWKINS [J.D.] 2013: 15), this gave rise to much enthusiasm (*e.g.* STARKE 1997 and LATACZ 2004), because it seemed to confirm what some had suspected, and even tentatively suggested in print, *i.e.* that the language of the Trojans was Luwian.¹⁰⁹ The very existence of a treaty between *Hatti* and Wiluša, the personal relationship between Muwattalli and Alaksanduš, and the provision by which the treaty should be read before the latter three times a year¹¹⁰ all suggest that Hittite was *one* of the languages present at Wiluša, at least on a bureaucratic level. As banal as it might seem, this has not been stressed enough

¹⁰⁶ One should mention the toponym *tara/i-wa/i-za/i*(REGIO) on the hieroglyphic inscription on the Ankara silver bowl (HAWKINS 1997): this was tentatively identified as */taru(w)isa/* by Hawkins, in which case the object could be related to the Aššuwa campaign of Tudḫaliya I/II. A completely different interpretation has been recently advanced by ORESHKO 2012.

¹⁰⁷ The mention of a *to-ro-o*, the genitive of a Τρώς in PY An 519.1 is all we have; names such as *e-ko-to* /^hektōr/ (PY En 74.7, PY Eo 247.2, *etc.*) and *pi-ri-ja-me-ja* (PY An 39.6) do not add anything meaningful.

¹⁰⁸ HEINHOLD-KRAHMER 1977, 1999, 2004a, 2004b, 2007, 2013, GANDER 2017.

¹⁰⁹ WATKINS 1986 is the most cited contribution in this respect.

¹¹⁰ §16 «Furthermore, this tablet which I have made for you, Alaksandu, shall be read out loud before three times yearly, and you, Alaksandu, shall know it» (transl. BECKMAN 1999: 91).

in the literature. In the seal just mentioned, one of the few legible signs is SCRIBA: this *may* testify to the presence of scribes in Troy, unless of course the object was an import.¹¹¹ We do not possess direct evidence from the site, but the onomastic material of Western Anatolia is, generally speaking, predominantly Luwian or Luwic (LAROCHE 1959: 10, MELCHERT 2013). This may suggest that Luwian was another language present in the area. To this, one should perhaps add the recent contribution of Alexander Dale, who argued that the suffix -ης found in several Greek toponyms in Asia Minor (and Lesbos) goes back to the Luwian derivative -*wanni* (DALE 2015). Other more recent attempts at a solution, such as that of Kloekhorst (2012), who suggested that the language of Troy is Etruscan, are even more impossible to prove, and must not exit the realm of speculation. In sum, the whole issue is far from being proven, and the question of the language of Troy must remain open, at least for the moment.

¹¹¹ In any case, the seal does not tell us anything about the language(s) spoken or written in Troy.

1.4. Why languages may be similar: inheritance, contact, and related issues

The individuation, description, and explanation of similarities in different languages have been at the core of historical linguistics since its very beginning. In his 1786 speech at the *Asiatick Society*, Sir William Jones notoriously said that:

The *Sanscrit* language, whatever be its antiquity, is of a wonderful structure; more perfect than the *Greek*, more copious than the *Latin*, and more exquisitely refined than either, yet bearing to both of them a stronger affinity, both in the roots of verbs and the forms of grammar, than could possibly have been produced by accident; so strong indeed, that no philologer could examine them all three, without believing them to have sprung from some common source, which, perhaps, no longer exists; there is a similar reason, though not quite so forcible, for supposing that both the *Gothic* and the *Celtic*, though blended with a very different idiom, had the same origin with the *Sanscrit*; and the old *Persian* might be added to the same family

W. Jones, “*Third annual discourse before the Asiatick Society on the history and culture of the Hindus*” (delivered on 2 February 1786 and published in 1788)

This passage, quoted in almost every IE linguistics handbook and considered by many the ‘founding act’ of modern Comparative Philology,¹¹² has at its core the word *affinity*. It was the observation of regular similarities and correspondences in Greek, Latin, Sanskrit, *etc.* that led Jones and others to postulate a proto-language which would account for these similarities much better than chance. The preservation of a feature of the ancestor language into the daughter languages and – conversely – the ways in which the daughter languages innovated from their common source became some of the main *foci* of the Comparative Method.

Inheritance was the first cause of language similarity to be scientifically studied in depth, but it is by no means the only one. In addition to inheritance and chance, one of the following might be a cause of synchronic similarity in two or more languages: contact, typological frequency, and drift.

¹¹² For a review of Jones’s positions and for a contextualisation of his most quoted passage, cf. ROBINS 1975: 19–20 with references.

The first one is probably the easiest to define, but the ways in which language contact takes place are by no means the easiest to individuate and explain. In what follows, we shall explore some theoretical issues of language contact, after having laid out some basic notions of the Comparative Method and of linguistic sub-grouping, along with some interconnected principles of language change.

Typological frequency means that a given feature is often found across languages, regardless of their genealogical affiliation. When a pattern systematically recurs in all known languages, and is therefore assumed to be true for language in general, we use the term “linguistic universal”: for instance, all (natural) languages have vowels and consonants, or nouns and verbs. Not all features called “universals” in the literature are absolute: some patterns are found in the majority of languages, but not in all of them (for instance, almost all languages have adjectives, but the Chinookan languages use verbs instead), and in this case, we talk about “statistical universals”. Also, some “universals” occur only whenever another feature co-occurs (these are the so-called “implicational universals”): *e.g.* all languages with a dual number also have a plural (but not vice-versa), *i.e.* the dual can occur only if the given language also has a plural. In any case, typologically common features are of little value for linguistic sub-grouping.

The term *drift* was coined by Edward Sapir to refer to linguistic developments that are due to structural predispositions of languages. A given feature may come about in two or more languages under the influence of other shared features. «The momentum of the fundamental, the pre-dialectic, drift is often such that languages long disconnected will pass through the same or strikingly similar phases. In many such cases, it is perfectly clear that there could have been no dialectic interinfluencing» (SAPIR 1921: 184). This is essentially

diachronic typology, a typology of typical developments, and does not necessarily have to be related to language contact.

The title of the present work is intentionally reminiscent of James Clackson's book *The Linguistic Relationship between Armenian and Greek* (CLACKSON 1994). Therein, Clackson offers a comprehensive assessment of all possible Graeco-Armenian isoglosses, and ultimately rejects the thesis according to which Greek and Armenian would have a special link on a genetic level, *i.e.* that the dialectal ancestors to the historically attested languages were particularly close or formed an intermediate unit (on this concept, cf. 1.4.1.1 *infra*). My aim is different, and so is my use of the term 'relationships', which is not exclusively referring to genetic affinity. The existence of a Helleno-Anatolian intermediate unit has never been postulated, and never should be, because – as we shall see – there are very few reasons to assume that these two branches were particularly close in a remote (= Indo-European) phase. However, as we have anticipated above and as we shall see in detail throughout this work, scholars have highlighted a great number of similarities that, if accepted, would point to an intense degree of contact. The goal of this study is to assess all these possible similarities, disentangling contact phenomena from inherited features and typologically common developments. Thus, 'relationships' is used in its broader sense here, as it includes both genetic affinity (on which – it must be repeated – there is less to be said!) and contact phenomena.

1.4.1 Of trees, waves, and other models of linguistic taxonomy

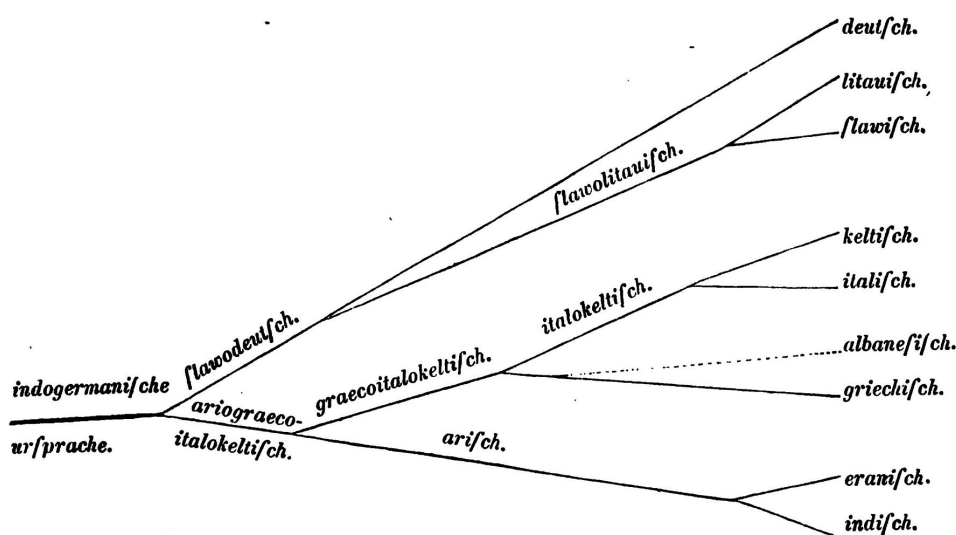
Part of what I am about to discuss here has already been briefly referred to above (in particular in section 1.1.1), but it will be useful to give a brief survey on the principal methods

of relating languages in the history of modern linguistics.¹¹³ This will be complemented by a brief summary of the dialectal positions of Greek and Anatolian in the IE language family.

1.4.1.1 *Stammbaum vs. Wellentheorie*

The first systematic attempt at drawing the relationships between the languages of the then newly discovered Indo-European family comes from August Schleicher (1821-1868), a German scholar influenced by Hegel and by the contemporary models of the natural sciences. Schleicher conceived each language as an organism undergoing a life cycle, and proposed a genealogical model for the representation of languages and their relationships: the *Stammbaum*, or family tree (FIG. 4).

FIGURE 4: Schleicher's *Stammbaum* (from SCHLEICHER 1861: 7)



The parent language (*indogermanische Ursprache* in FIG. 4) would constitute the stem of the tree, which splits at different levels (*i.e.* at different times), giving birth to branches and

¹¹³ For more comprehensive accounts on the history and methodologies of 19th- and 20th-century linguistics, one should refer to MORPURGO DAVIES 1996, TIMPANARO 2005, LEPSCHY 1992, ROBINS 1975. It should be noted that the Indo-European languages have been the main focus of '(general) linguistics' for the majority of the 19th and 20th centuries: «la grammaire comparative des langues indoeuropéennes fournit à l'ensemble de la linguistique historique un modèle à imiter» (MEILLET 1938-48: 69).

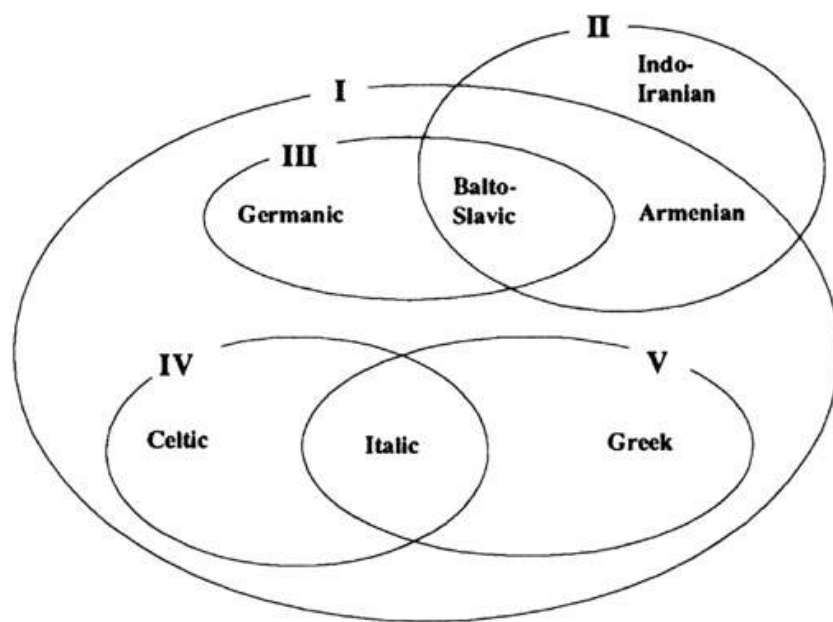
sub-branches (intermediate units), up to the individual attested languages. The comparison of regular similarities (and differences) in the phonology, morphology, syntax and lexicon of cognate languages allows the scholar to reconstruct the shape of the proto-language and to make sub-groups according to innovations from the proto-language. If two languages A and B share one or more features against all other languages of the family, there are two basic possibilities: either A and B preserve the feature of the mother language and the rest innovate, or A and B innovate. If we can demonstrate that two or more languages or branches share a set of non-trivial (*i.e.* non-independent) innovations, there is some chance that they have undergone a common phase, and should then be grouped together in the *Stammbaum*.

The theoretical premises behind the family-tree model are remarkably similar to those of the stemmatic method adopted in textual criticism, which was also developed in the 19th century and owed much to evolutionary theory. Manuscripts of a given text are evaluated according to their transcription errors (= innovations), which can be ‘conjunctive’ when they tell us that two or more manuscripts must come from a common source, or ‘separative’ when they indicate that a given manuscript (or group thereof) must be separated from another manuscript (or group thereof). The task of the editor is to find significant conjunctive errors, and therefore exclude all those trivial (= typologically common) innovations which may have occurred by chance. All manuscripts are then grouped in a family tree (*stemma codicum*) and collated (= compared) in order to reconstruct the original text or, more realistically the so-called *archetype*, the text originating the textual tradition.

The first and foremost reaction to the *Stammbaum* model was the so-called *Wellentheorie* (‘wave model’), developed by Johannes Schmidt (1843-1901). Drawing upon

methods used for modern dialectology, Schmidt argued that language change does not operate through sudden splits (as in the *Stammbaum* model), and that the similarities between two languages are directly proportional to their geographical proximity. In this perspective, the spatial dimension of language change is at the centre of the focus, and an innovation spreads from its epicentre to the surrounding regions in a wave-like fashion (hence the name *Wellentheorie*).¹¹⁴ As a consequence, the proto-language should not be regarded as a unitary, monolithic being; rather, we should think of PIE as a dialectal continuum in which groups and sub-groups simultaneously shared innovations with their neighbours, creating schematic intersections such as those found in FIG. 5

FIGURE 5: diagram of Schmidt's *Wellentheorie* (SCHMIDT 1872).



Schmidt was not alone in his criticism of the tree model: several other scholars, especially dialectologists, further developed the wave model and applied it to specific case studies. In particular, one should mention the names of Hugo Schuchardt, Georg Wenker, and Jules Gilliéron, whose studies on linguistic geography and language contact have had a

¹¹⁴ In a way, the *Wellentheorie* could find a parallel in the situation of those manuscripts which do not have a single source.

significant impact on the history of linguistics. This was the period of linguistic atlases, which graphically showed the distribution of speakers of a language/dialect, and the isoglosses within a dialect continuum. The term *isogloss*, adopted from geography (cf. *isobar*, *isotherm*, *isochore*), is used in relation to two concepts: it may indicate the imaginary boundary of a given linguistic feature and, by extension, also the feature itself, which is shared by one or more groups of speakers. In this view, a single isogloss is not telling: dialect boundaries are not sharply traced, and each linguistic trait is irradiated from a centre and follows its own path. What counts for dialectal differentiation is not one isogloss or another, but what we call *bundles* of isoglosses: each language/dialect is demarcated by a number of isoglosses, and the co-occurrence of a number of significant shared linguistic features is what sets the language of a group of speakers apart from that of other groups. In other words, it is the specific combination of isoglosses that constitutes, so to say, the DNA of each dialect or language.

Today several of the premises informing Schmidt's (and Schuchardt's) observations are considered obsolete, or simply wrong; however, the method *per se* has been elaborated and refined further, and is still adopted in contemporary dialectology. The concept of isogloss is fully valid and will be used throughout the rest of the present work.

The *Stammbaum* and the *Wellentheorie* could be considered the 'prototypes', the two 'poles' around which a great part of the discussions on linguistic phylogenetics revolved. The 19th and 20th centuries saw a number of scholars on both "sides", with a good range of back-and-forth, more cautious intermediate positions and attempts at a synthesis (*e.g.* LESKIEN 1876, cf. *infra*). In the past 50 years, the wave model has found relatively little support, but in recent times the increasing development of contact linguistics has led more than one

scholar to question, yet again, the validity of the *Stammbaum*. For reasons of space it is impossible to comment upon, or even report, every contribution, so I shall restrict the focus to a couple of different (though quite representative) moments in the history of linguistics.

1.4.1.2 *Neogrammarians vs. Neolinguists*

In the 1870s, a group of German scholars based in Leipzig (*Junggrammatiker*, lit. ‘young grammarians’)¹⁵ elaborated on the discoveries of the previous generation, creating the building blocks of a methodology that was destined to last until the present day. These scholars argued that language change was directly observable, and that sound change was the most observable aspect thereof, and was independent of morphology and syntax. Sound change was therefore to be taken as the primary object of inquiry in order to explain language change.

The main theoretical tenet of the Neogrammarian school is that sound change is regular and exceptionless: it affects all sounds in the language system, and takes place in a specific phonetic environment (conditioned vs. unconditioned sound change). This is why the main task of the historical linguist is to individuate and describe sound laws, which – in order to be considered as such – had to be mechanical, regular, and exceptionless (this concept is generally called *Ausnahmslosigkeit der Lautgesetze* ‘exceptionlessness of sound laws’).

The other principle governing diachronic language change is *analogy*: this is the process of unconscious association between one linguistic form and another and the subsequent

¹⁵ The names most commonly associated with the ‘Neogrammarian’ school are Otto Behagel (1854-1936), Karl Brugmann (1849-1919), Berthold Delbrück (1842-1922), August Leskien (1840-1916), Hermann Osthoff (1847-1909), Eduard Sievers (1850-1932).

transformation of the former.¹¹⁶ It is a powerful tool that languages possess in order to restore a degree of regularity in paradigmatic relationships. Unlike sound change, analogy arises irregularly, and may come about for different reasons. The relationship between sound change and analogy is famously illustrated by Sturtevant's paradox: « Phonetic laws are regular but produce irregularities. Analogic creation is irregular but produces regularity»¹¹⁷ (STURTEVANT 1947:109).

The Neogrammarians substantially rejected Schleicher's organic view of language, but at the same time they adopted the *Stammbaum* model in developing the principles of the Comparative Method. The Neogrammarian approach to the IE languages culminated in the *Grundriß der vergleichenden Grammatik der indogermanischen Sprachen*, Karl Brugmann's and Berthold Delbrück's *opus magnum*. Here, and in other works preceding it, the Neogrammarians laid out their methodological principles: in particular, they stressed the importance of common innovations as the only significant factor for sub-grouping.¹¹⁸ Common traits prove nothing if they are archaisms, and sub-groups can only be postulated on the basis of a great number of common innovations (BRUGMANN 1884: 253).

This view was met with support by some and with strong opposition by others. As anticipated above, Schmidt's work gave the input for the birth of what we call 'linguistic geography', 'geolinguistics', or – more generally – 'areal linguistic'. The acceptance of the *Wellentheorie*, together with the diffusion of linguistic atlases and the adoption of methods

¹¹⁶ One should remember that these concepts pre-dated Saussure and structuralism, therefore – in their first formulations – they did not take into account concepts such as linguistic sign, *signifiant*, *signifié*, paradigmatic and syntagmatic relations *etc.*

¹¹⁷ N.B.: 'irregular' means sporadic, here.

¹¹⁸ This is what is sometimes referred to as 'Leskien's principle': «Die Kriterien einer engeren Gemeinschaft können nur in positiven Übereinstimmungen der betreffenden Sprachen, die zugleich Abweichungen von den übrigen sind, gefunden werden» (LESKIEN 1876: vii)

of dialectology, provoked a reaction to both the ‘traditional’ tree model and the Neogrammarian view of sound change.

The focus shifted from diachronic change to spatial distribution, and from sound laws to lexical distribution. In particular, one should mention a group of Italian scholars who called their approach *neolinguistica* (in opposition to the Neogrammarians). The most important figure in this school is perhaps Matteo Giulio Bartoli, who – elaborating on the works of the proponents of the Wave model¹¹⁹ – conceived four ‘areal norms’ (*norme areali*)¹²⁰ which, in his view, could explain the spatial distribution of different forms (BARTOLI 1925, BARTOLI – VIDOSSÌ 1923, BERTONI – BARTOLI 1925). Specifically, he argued that, given two competing forms denoting the same concept, one usually finds the more archaic one in the:

1. Isolated area (*area isolata*), *i.e.* the area less affected by communication with other areas
2. Lateral areas (*aree laterali*), *i.e.* those areas at the fringes of the dialectal continuum
3. Greater area (*area maggiore*), *i.e.* the area with the greater extension on a physical level¹²¹
4. Later area (*area seriore*), *i.e.* the area colonised at a later period.

Examples (from the Romance languages):¹²² (1.) in Sardinia the outcomes of IANUA and DOMUS are preserved, whereas Italy has the outcomes of PORTA and CASA; (2.) the outcomes of CABALLA are found in Italy and France, while those of EQUA are found in Iberia and Dacia; (3.) the outcomes of FRATRE(M) are found in Italy, France, and Dacia, while those of GERMANU(M)

¹¹⁹ One could mention, for instance, Gilliéron’s observation that one often finds similar lexical forms in distant areas of the dialect continuum, separated by the alternative lexical type (GILLIÉRON 1918).

¹²⁰ Bartoli himself admitted that his norms only described tendencies, and should not be considered as rules.

¹²¹ Of course, this would not apply if the smaller area were isolated (1.) or ‘lateral’ (2.).

¹²² Following common practice in Romance linguistics, I write (vulgar) Latin pre-forms in small caps.

are found in Iberia; (4.) the outcomes of COMEDERE are found in Iberia, whereas those of MANDUCARE are found in Italy.

Bartoli's *norme areali* have been much discussed,¹²³ and even completely rejected by some historical linguists,¹²⁴ but the school of *Neolinguistica* as a whole has had an impact on IE studies. Among the Indo-Europeanists who rejected a strictly Neogrammarian approach, one should certainly mention Giuliano Bonfante, who argued that areal diffusion should contribute to determine the genealogical appurtenance of languages, which was a scalar notion and could even change in history¹²⁵ (BONFANTE 1947) and Vittore Pisani, who stressed the importance of the geographical dimension of language change and postulated intense contacts in the Aegean-Micrasiatic area on the basis of observations of similar nature (cf. 1.1.2 *supra*).

In the second half of the 20th century, linguistic studies expanded in several directions, and Comparative Philology has become only one of the *foci* of the discipline, and by no means the main one as it was in the 19th century. New sub-fields of linguistics (sociolinguistics, typology, developmental linguistics, cognitive linguistics, psycholinguistics, neurolinguistics) have risen to prominence, together with new frameworks of analysis (Transformational Grammar, Functionalism, LFG, Role and Reference Grammar, *etc.*), and the issues of language grouping and phylogenetics did not undergo further substantial methodological developments.¹²⁶

¹²³ Cf. recent assessments in LAZZERONI 1987: 42-5 and RENZI – ANDREOSE 2013: 330-3.

¹²⁴ HALL 1946 is one of the most critical voices.

¹²⁵ *Contra* Meillet, who stated that «la notion de parenté de langages est chose absolue et ne comporte pas de degrés» (MEILLET 1937: 16).

¹²⁶ This does not mean that previous positions were not discussed and refined further after the Neogrammarians. One should mention the works of Antoine Meillet, who applied some of the findings of his teacher Saussure on PIE, emphasised the importance of relative chronology of innovations, and integrated the isogloss boundary line in his sketch of the PIE dialects (MEILLET 1922, 1937).

It must be said, however, that over this relatively quiet period the scales tipped in favour of the Neo-Grammarian model: Bartoli's approach, and the *Wellentheorie* with it, somehow went out of fashion, mainly because of the difficulty of reconstructing enough reliable isoglosses at the prehistoric level, but also because of factual inaccuracies in some of the arguments.¹²⁷ In Indo-European studies, the new data coming from the newly-discovered Anatolian and Tocharian branches made their way into the picture of the IE family, and many (but not all) scholars were led to reconstruct a completely different Proto-Indo-European from the one previously sketched by Brugmann. The archaism of Hittite (= Anatolian) was soon recognised, and scholars started placing it at a high branch of the IE family tree, sometimes even hypothesising that Hittite was a sister language to the PIE that had been reconstructed until then (on the notion of Proto-Indo-Anatolian, cf. 1.4.1.4 *infra*).

1.4.1.3 *Recent times: 'New-grammarians' vs. 'arealists'*

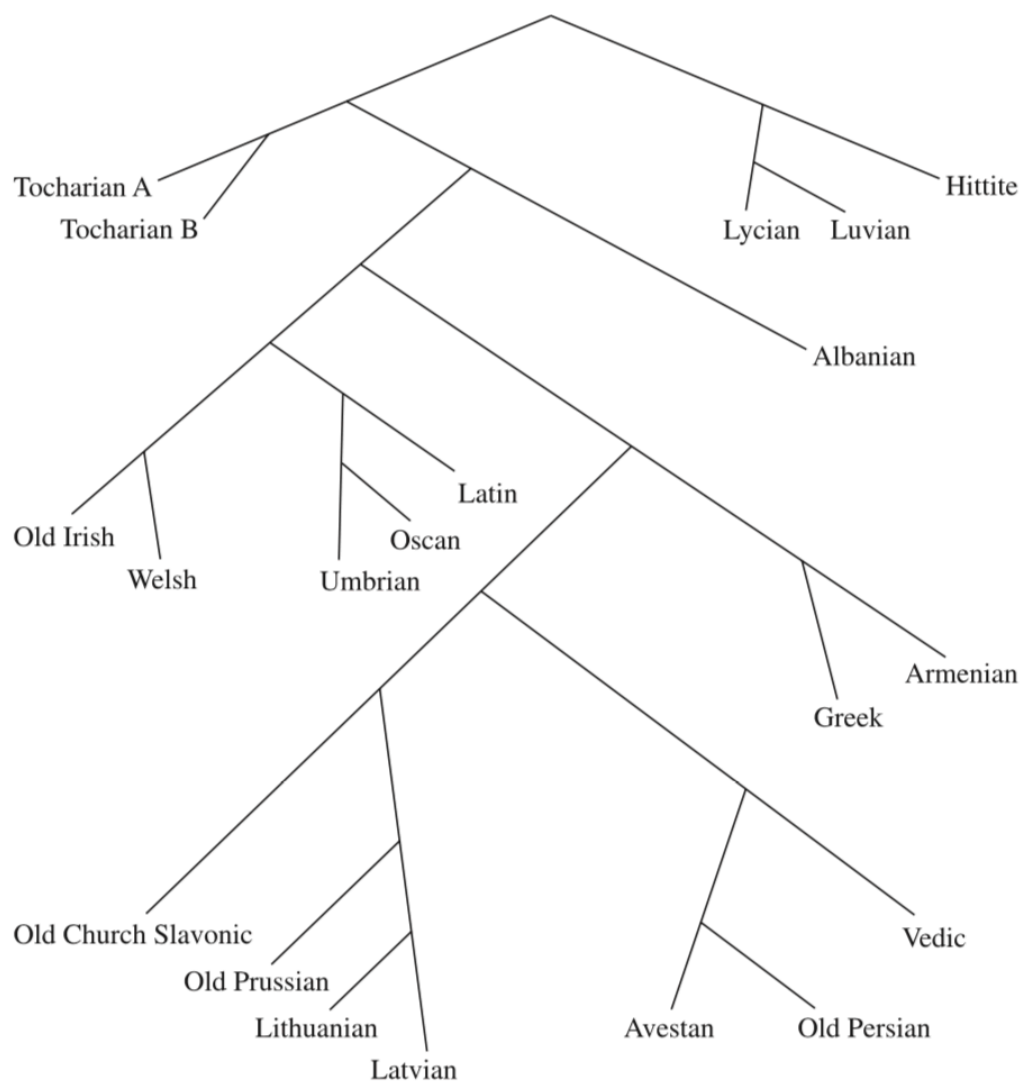
It is only in recent years, with the substantial development of language contact studies (cf. *infra*), that the two 'traditional' models of language sub-grouping are once again being seriously questioned, from both sides.

On the one hand, computational and statistical tools have provided us with increasingly refined representations of the genealogy and taxonomy of languages. This has caused a renewed interest in the construction of family trees (or phylogenies), now commonly known as *cladistics*. Two recent examples from the IE language family may be seen in FIGURES 6 and 7.

¹²⁷ For instance, Bartoli objected, on purely geographical grounds, against the need to reconstruct *ǵ or the palatalised velar series (*k̑ *ǵ̑ *ǵ̑ʰ) as separate phonemes for PIE (BARTOLI 1925: 49-50). His purely geographical arguments have been accepted by very few Indo-Europeanists, if any at all; the debate on the number of phonemic series of velars, instead, has not yet ended.

It goes without saying that the shape of the tree depends on the criteria used for grouping languages. The tree in FIGURE 7 is based on vocabulary items,¹²⁸ whereas FIGURE 6 takes phonological, morphological, and lexical features into account, and is therefore superior as a family tree, because morphological innovations are least likely to originate as parallel independent developments.¹²⁹

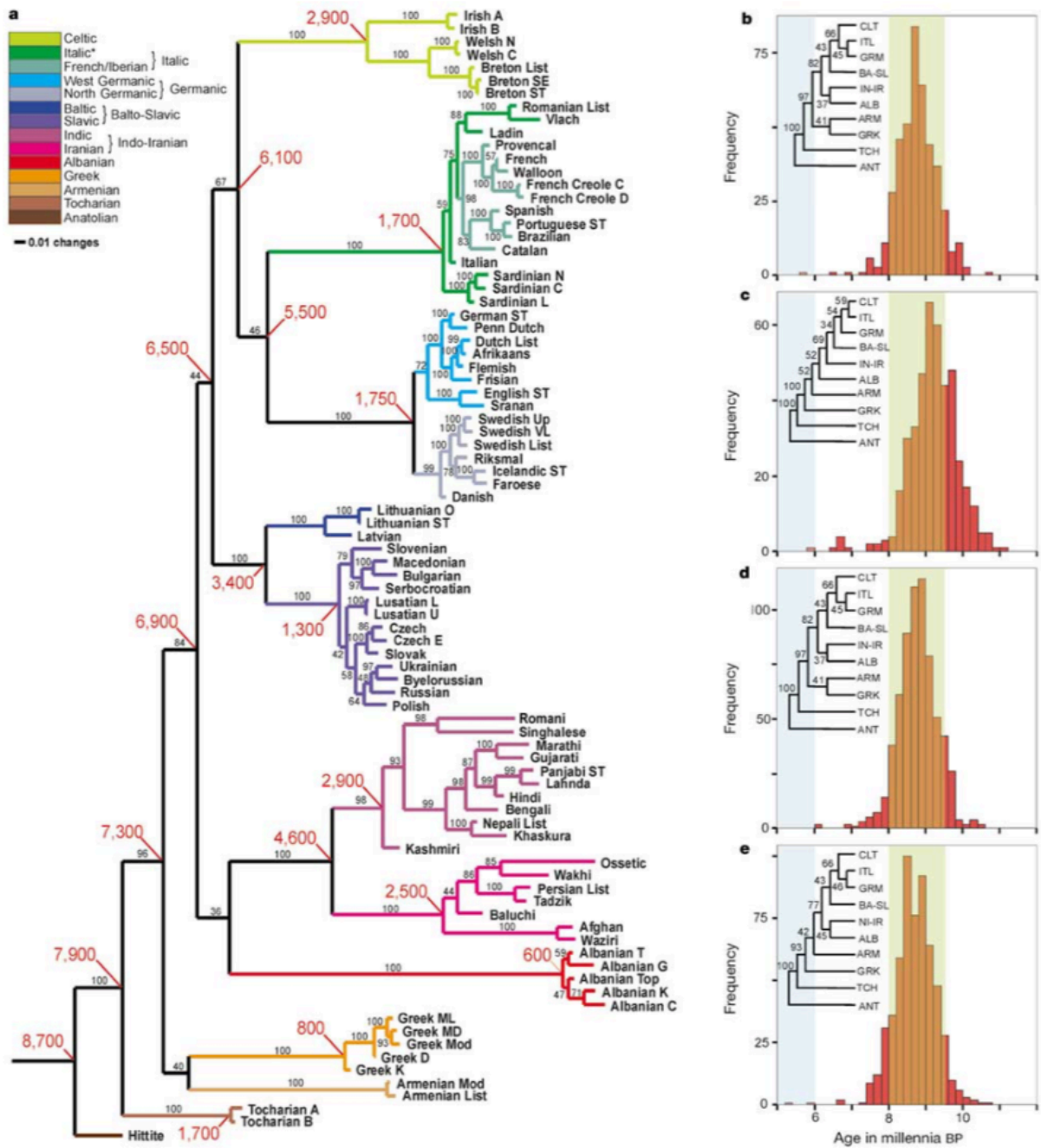
FIGURE 6: Family tree of the IE languages (from RINGE *et al.* 2002: 90)



¹²⁸ This is one of the most recent examples of a rather long tradition of comparing languages on the basis their core lexicon, which goes back to the work of Morris Swadesh. See critique in LAZZERONI 1987 and CLACKSON 2007. For a recent attempt at a glotto-chronological approach to the IE family, see BLAŽEK 2007.

¹²⁹ One will note the absence of Germanic from the tree: this branch has been removed because the pattern in which it shared states with other branches was anomalous. In particular, it shared states with various sub-groups not adjacent in the ‘best’ trees returned by the software, and – as a consequence, its position on the *Stammbaum* kept shifting at every run (RINGE *et al.* 2002: 88-9).

FIGURE 7: 'Consensus' tree of the IE languages (from GRAY – ATKINSON 2003: 437)



These are more sophisticated and accurate representations than their 19th-century predecessors, but if one considers the methodological premises, they are not much more than *Stammbäume* 2.0. For this reason, they have attracted some criticism by advocates of non-cladistic models of language grouping, which are thought to be the only ones suitable

for certain language families.¹³⁰ In their opinion, sub-groups often arise from the mutual unintelligibility of speakers in dialect continua, and «if trees fail to represent genealogical relations between dialects, then they must also fail to capture the relations between the languages that descend from them» (FRANÇOIS 2015: 170). Such (ex)-dialect continua whose speakers have lost mutual intelligibility have been named *linkages* by Malcolm Ross (ROSS 1988: 8).

As far as the IE family is concerned, most people work with a substantially unaltered, though certainly much more sophisticated, version of the Neogrammarian methodology and of the tree model.¹³¹ Voices on the opposite side are not as rare as they used to be, and very recent times have seen renewed critiques of this method: studies such as GARRETT 1999, 2006 and DRINKA 2013 attempt at rehabilitating the role of contact and convergence in language reconstruction. There have also been updated representations of IE isoglosses *à la* Schmidt, such as Raimo Anttila's in FIG. 8.

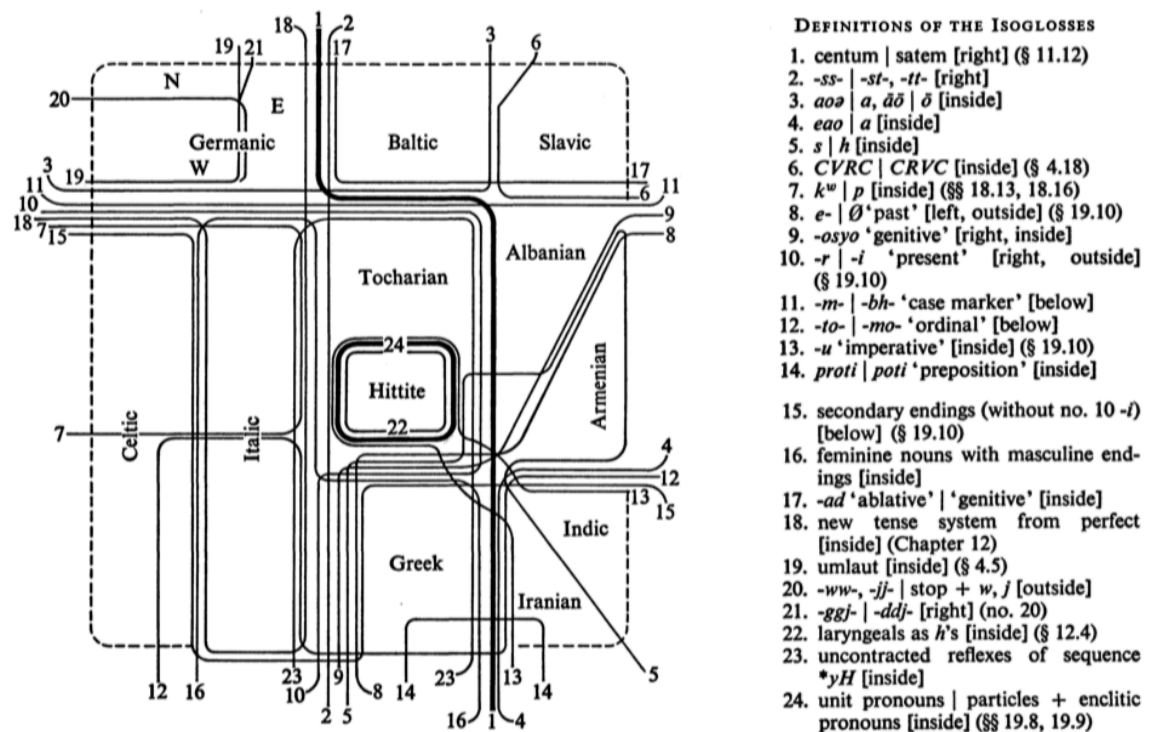
All in all, it seems to be a matter of trees vs. waves once again. Trees show how languages diverge, their focus is on language change through time, and they represent language diversification when social splits with loss of contact occur; waves show how languages converge, their focus is on language change through space, and they are better suited to representing scenarios in which languages remain in contact. Both are useful (though problematic) representations, neither is totally explicative (cf. WINTER 1973: 136-7). It will be

¹³⁰ The standard example is Oceanic languages and Austronesian languages (cf. ROSS 1988 and DIXON 1997), but see KIPARSKY 2015: 65 with lit. and HALE 2007 *passim* for a defense *tout court* of the traditional Comparative Method (even for languages in the Pacific).

¹³¹ See *e.g.* RINGE *et al.* 2002: 65. Sometimes we find powerful defences of the regularity of sound change. See also the following, from a recent handbook of historical linguistics: «Rejecting the hypothesis that there is a process of regular sound change isn't merely hypercautious or outdated; it's dead wrong, because it reveals a fundamental confusion about how science makes progress (RINGE – ESKA 2013: XIII)». Given their provenance, the English-speaking world (in its broadest sense), it seems appropriate to call this kind of approach '*New-grammarianism*'.

superfluous to repeat that we need to use both models, but at the same time it would be ideal to have a model suitable to represent divergence and convergence, space and time. This is no big news, and attempts at a synthesis started in the 19th century.¹³² Here we should just mention two among the most recent attempts.

FIGURE 8: dialect map of the IE languages (from ANTILA 1989: 305)

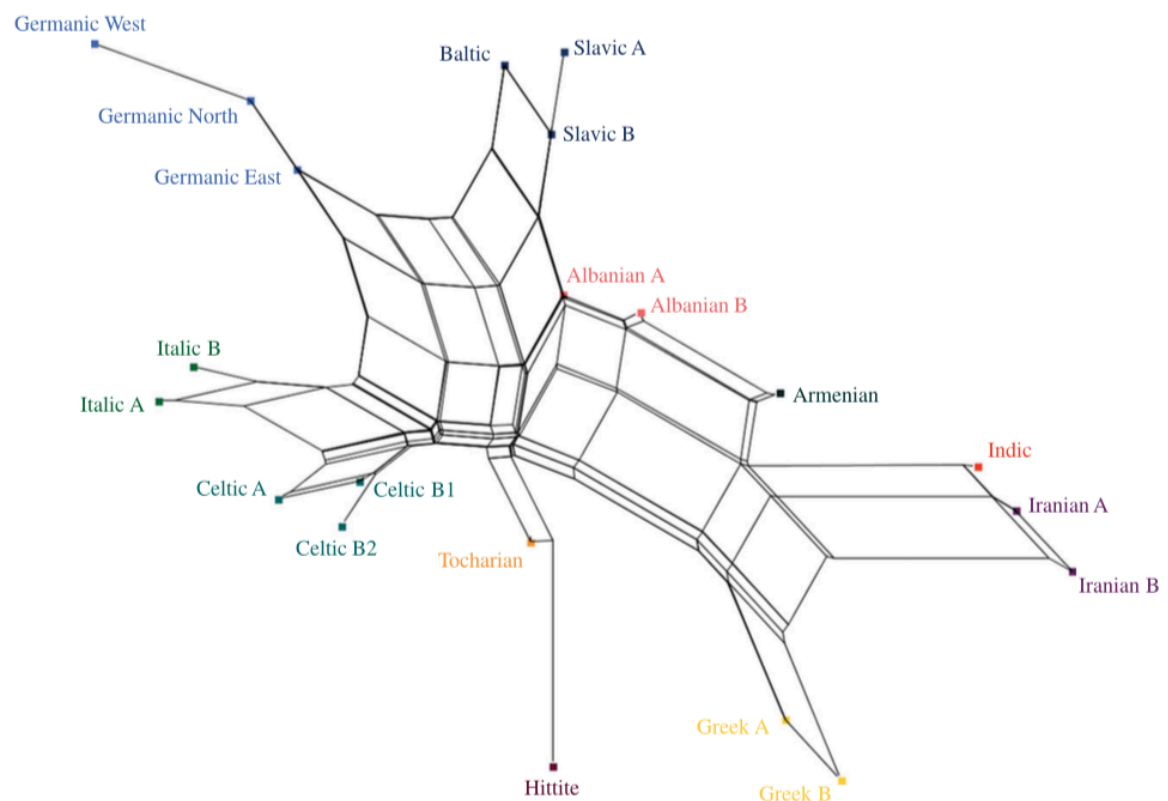


As we were saying *à propos* of trees, computers can now help us to handle a much bigger quantity of data than ever before. This means that sophisticated algorithms could be, and have been, used to produce new models alternative to tree and wave models, because «neither a branching tree nor a continuum model alone is sufficient to account for the complex relationships observed across many a language family. Nor, indeed, have we any

¹³² Already LESKIEN 1876: VIII ff. had pointed out that the tree model and the wave model describe two different events. More recently, WATKINS 2001: 59 «Both, I would submit, the diffusional and the genetic, may be discovered and handled by the comparative method [...] Even the much-maligned family-tree model has a perfectly good notation for areal or other 'influence', the dotted line of the classical manuscript stemma which is the source of the family tree. And recall that Trubetzkoy observed sixty years ago that the competing 'wave theory' model was equally applicable to genetic filiation and areal diffusion. I believe that the resilience and the power of the comparative method lies in its sensitivity to similarity due both to genetic filiation and areal diffusion alike. Both are historical models, and the goal of comparison is history.»

reason to expect either to be. The vagaries of history typically ensure that in the real world, both types of process may act upon the populations speaking any given language family, combining in any manner of ways across time and space. [...] to do justice to real language divergence histories, we need a model able to capture both split and wave mechanisms within a single analysis and representation. Indeed ideally we would wish for a model that allows us to tease apart the respective contributions of each to the overall story.» (HEGGARTY *et al.* 2010: 3831). One should then mention the recently proposed *network* models built with NeighbourNet, a software initially designed for biology, which is becoming more and more popular in historical linguistics. FIG. 9 shows a transposition of Anttila's dialect map shown in FIG. 8: this is a phenogram built on distance data, which gives an indication of relative distance, and every reticulate indicates ambiguities in the data, which can represent a trace of contacts (DRINKA 2013: 399).

FIGURE 9: NeighbourNet of a distance matrix derived from Anttila's Indo-European isogloss map (MCMAHON – MCMAHON 2005: 156)



Recent research has also stressed the importance of the third dimension of language change: society. In Romano Lazzeroni's words: «Ogni lingua è un diasistema: un insieme di sistemi presenti alla competenza dei parlanti che in parte si sovrappongono e in parte divergono. Le differenze co-occorrono con variabili extralinguistiche, sociali o situazionali. Il mutamento linguistico si attua nel diasistema, innescato dalla dinamica delle varianti: esso è un prodotto dell'interferenza, non importa (il meccanismo è lo stesso) se interlinguistica o intralinguistica.» (LAZZERONI 1987: 38).

A more fine-grained analysis reveals that, strictly speaking, borrowing is an almost all-encompassing category, a constituent component of language change: «If, however, we observe a distinction between speaker-innovation and linguistic change, it is clear that all changes involve borrowing in some sense, as they are “borrowed” by speakers from other speakers, and therefore that there is no principled way of distinguishing between them at the level of the speaker. It makes no difference at this level whether the change originates within a variety or outside of it» (MILROY – MILROY 1997: 98).

We have seen how often language contact comes up in one form or another, even when the focus is purely on phylogenetic issues. The results of a study on the relationship between two branches such as Greek and Anatolian are likely to vary according to the methodological paradigm(s) one chooses to adopt.

1.4.1.4 *Greek and Anatolian within the Indo-European language family*

In the preceding section, we have seen a graphic representation of the respective positions of Greek and Anatolian in the *Stammbaum* of the IE language family. It is now time to briefly recapitulate the main features according to which the great majority of scholars have placed these two branches where they currently stand.

Because of its almost uninterrupted attestations, spanning over three millennia, its prestige status in European culture, and the early recognised similarities with other IE branches (in particular with Indo-Iranian), Greek has always been at the very centre of Indo-European reconstruction. Despite being a *centum* language, Greek shares with Indo-Iranian, and also with Armenian and Phrygian, a number of core lexical items and, more importantly, a significant array of morphological structures, especially in the verbal paradigm: *e.g.* modal formations (subjunctive and optative), augment, personal endings, generalisation of reduplication in the perfect, and personal endings. The similarities in forms and categories of the Greek and Vedic verb are such that the PIE verbal system has traditionally been reconstructed on the basis of the comparison of these two languages alone. Scholars were usually able to derive the situation in other branches from this model.¹³³

This model, which reached its fullest expression in Brugmann and Delbrück's *Grundriß*, was challenged by the addition of Hittite (and subsequently Anatolian) to the family. One would perhaps expect the most archaic branch attested to be more similar to the mother language than the others, and to show most of the features that were previously reconstructed for PIE – and in this respect Anatolian confirmed some previous assumptions,

¹³³ For instance, it is relatively easy to argue that the Latin *perfectum* as a category is a conflation of the PIE aorist and perfect, because both its main morphological markers have precise correspondences in the Greek and Vedic aorist and perfect (*e.g.* *scrip-s-ī*, with the *-s-* characteristic of the *s*-aorist, cf. Gk. *ἔδειξα* 'I showed', Ved. *ayaukṣam* 'I yoked'; *ce-cin-ī*, 'I sang / have sung' with the reduplication characteristic of the perfect, cf. Gk. *δέδορκα* 'I have seen / I see', Ved. *cakara* 'I have made').

as it preserved ‘archaic’ features such as the consonantal outcomes of two PIE laryngeals ($*h_2$ and $*h_3$) and the productivity of the heteroclitic $-r/-n$ stems, which are only found in fossilised forms in the other branches. However, several fundamental constituents of the traditional ‘Indo-European grammar’ were lacking: the feminine gender, the aorist, the subjunctive and optative moods, and possibly the dual number, are completely absent in the Anatolian languages.

This has led scholars to adopt different approaches in the definition of the position of Anatolian with respect to the other IE branches, and even to reconsider the overall shape of the family tree in order to adapt it to the Anatolian data. There have been two main approaches: one is the *Schwundhypothese* (‘loss hypothesis’),¹³⁴ by which Anatolian lost the aforementioned categories, and is therefore to be considered a relatively innovative branch. Another view, called *Herkunftshypothese*¹³⁵ in past decades, considered Anatolian as a particularly archaic branch, and postulated that some categories are absent in this branch because they were created after it branched off from the rest of the family. This required a radical revision of PIE itself, and the *Zeit-Raum Modell* proposed by Neu and Meid is one of the possible answers to this need.¹³⁶

Some scholars went even further, arguing that Anatolian was to be placed on the same level of the *Stammbaum* as all the other IE languages put together (*i.e.* that it was a ‘sister’

¹³⁴ Among which we should list PEDERSEN 1938, EICHNER 1975, RISCH 1975 and KAMMENHUBER 1980.

¹³⁵ Cf. ADRADOS 1962, MEID 1975 and NEU 1984.

¹³⁶ Cf. NEU 1976, MEID 1979. In this model, the proto-language is a diasystem which can be represented in two dimensions, not an abstraction representable with a single point (SCHMIDT 1983, STRUNK 1994); the focus is on the relative chronology of PIE itself, and the goal is to describe diachronic language change taking into account the evolution of PIE itself when the single groups branched off.

language of IE),¹³⁷ and that it is therefore necessary to postulate a proto-language from which Anatolian branched off first. The hypothesis of this proto-language first saw the light with Edgar Sturtevant (STURTEVANT 1929, 1933), who named it ‘Indo-Hittite,’ and it has been much discussed ever since. Following strong opposition in the thirty years after its first proposition,¹³⁸ this hypothesis was supported by few scholars – unlike the *Schwundhypothese*, which was the majority view in Europe until the 1990s.

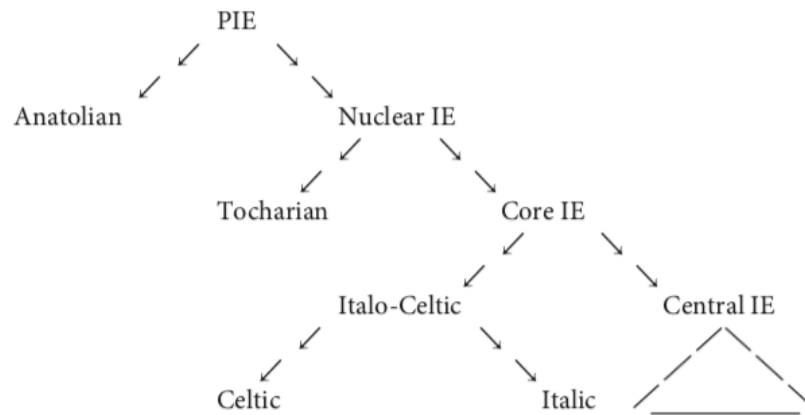
However, the progress in Anatolian philology of the last decades and the re-examination of old questions with new material has led most Indo-Europeanists to agree that the archaism of Anatolian is a real issue, that its prehistoric speakers separated or became isolated from other IE speakers, and that therefore their languages did not share common innovations of the other branches. This means that some revisions to ‘traditional’ PIE are required (MELCHERT *forthcoming*). The Indo-Hittite hypothesis has been revived as well and,¹³⁹ for the first time, it is gaining support even in Europe (notably, in the ‘Leiden School’, where one now finds the perhaps more accurate denomination ‘Indo-Anatolian’, cf. *e.g.* KLOEKHORST 2018). Along these lines, non-Anatolian IE has been recently referred to as ‘Nuclear IE’ (CHANG *et al.* 2015), cf. the *Stammbaum* in FIG. 10.

¹³⁷ It was Emil Forrer (1921: 26) who first advanced the idea: «Man wird also nicht umhin können, das Kanische als Schwestersprache des aus den indogermanischen Sprachen erschlossenen Urindogermanischen zu bezeichnen».

¹³⁸ See *e.g.* PUHVEL 1966 with reff.

¹³⁹ Cf. OETTINGER 1986, 2013-14; Ringe does not spell out the name ‘Indo-Hittite’, but claims that «there is by now a general consensus among Indo-Europeanists that the Anatolian subfamily is, in effect, one half of the IE family, all the other subgroups together forming the other half» RINGE 2017: 6.

FIGURE 10: a cladistics tree of the IE language family (from RINGE 2017: 7)



As for the *relative* closeness of Greek and Anatolian from the point of view of shared isoglosses, one would expect that, given their distance in the *Stammbaum*, they share relatively few. This is indeed what emerges from Porzig's overview of the position of Hittite, as he pointed out that this branch shares few traits with Greek, namely: the assibilation of /ti/, the forms for the [DOWNWARD] direction, Gk. *κατά* ~ Hitt. *kattan*, and the multiplicative suffix Gk. *-ακι(ς)* ~ Hitt. *-anki* (PORZIG 1954a: 189). It was clear even to the strongest proponents of the Graeco-Anatolian *Sprachbund* that the similarities between Greek and the Anatolian languages did not date back to a very archaic stage; on the contrary, they thought that new isoglosses came about once both groups settled down in their historic regions. As we shall see, several exclusive isoglosses of Greek and Anatolian have been postulated, regardless of their ultimate origin and of the time of their manifestation. We shall examine them throughout the rest of this work, and it will be crucial for our purposes to distinguish inherited traits from contact-acquired features (in both branches) and from typologically common facts.

1.4.2 Some methodological observations on language contact

«Es gibt keine Mischsprache» vs. «Es gibt keine völlig ungemischte Sprache». Several contributions on language contact mention either or both quotations, by Max Müller (1871: 86) and by Hugo Schuchardt (1884: 5) respectively, to illustrate the two extremes that the discussion on the extent to which languages may be modified by other languages can reach. As we have seen above, language contact was already a fundamental factor for some scholars in the 19th century, but it was only after the appearance of some seminal studies some 50 years ago¹⁴⁰ that language contact studies became universally fashionable.¹⁴¹

In what follows, I shall present a brief outline of some current views, with *foci* on the reasons, types, and outcomes of language contact, before offering specific considerations on our case study.

1.4.2.1 *Reasons for language contact*

Languages do not develop in a vacuum, and – as trivial as this might sound – it is crucial to remember that contact between languages means contact between speakers¹⁴² or, in a more limited set of cases with completely different effects, contact between a speaker and a written document. So, the first question would be: why would speakers of a linguistic variety (or *lect*), usually called Target Language (henceforth TL) want to (or need to) borrow

¹⁴⁰ WEINREICH 1963, GUSMANI 1981-83, THOMASON-KAUFMAN 1988. For specific studies on language contact in the ancient world see, among others, CAMPANILE – CARDONA – LAZZERONI 1988, BRIQUEL-CHATONNET 1996, BLANC – CHRISTOL 1999, ADAMS – JANSE – SWAIN 2002, ADAMS 2003, MEISER – HACKSTEIN 2005, McDONALD 2015.

¹⁴¹ The recent publication of several handbooks and companions (THOMASON 2001, MYERS-SCOTTON 2002, 2006 WINFORD 2003, CLYNE 2003, HEINE – KUTEVA 2005, MATRAS 2009, HASPELMATH – TADMOR 2009, HICKEY 2010, 2017, and BAKKER – MATRAS 2013 just to cite a few) is only one of many hints of the fact that language contact studies have entered a ‘golden era’.

¹⁴² I wholly subscribe to the view that «the history of a language is a function of the history of its speakers, and not an independent phenomenon that can be thoroughly studied without reference to the social context in which it is embedded» (THOMASON – KAUFMANN 1988: 4).

elements (a word, a morpheme, a syntactic pattern, *etc.*)¹⁴³ from another variety (or *lect*), usually called Source Language (henceforth SL)?¹⁴⁴ One should distinguish between linguistic and extra-linguistic factors, which, if understood, can be predictors of contact-induced change (THOMASON 2008). The latter group comprises all those historical, social, cultural, ideological and psychological factors which would prompt speakers to adopt traits from a different lect, whereas the former category has to do with the properties of the lect itself. Scholars have advocated the primacy of both groups, but I agree with Sarah Thomason (and others) that there are good reasons to believe that extra-linguistic factors play a primary role; it goes without saying that linguistic factors are not to be excluded (in fact, they may play a significant part).

Two commonly mentioned factors for contact-induced change are structural gaps and prestige (MATRAS 2009: 149). They could be defined as respectively linguistic and extra-linguistic, but one must note that these are not mutually exclusive categories. A language might lack a specific concept, or simply an object (and its name with it), hence it might need to borrow the name from somewhere else: this is easily observable in the lexicon,¹⁴⁵ but it may also take place at the grammatical level. If one wonders about the reasons for borrowing, though, the very presence and diffusion of the new item reflects the acceptance and will of the speakers to integrate the new *signifié* (and, therefore, the new *signifiant*) in their linguistic system. The reasons may well be of an extra-linguistic nature, and this might

¹⁴³ Because of the inaccuracy of the term ‘borrowing’, some linguists prefer using the term *replication*; cf. MATRAS 2009: 146. However, this is also used to define “structural borrowing” by some scholars (*e.g.* HEINE – KUTEVA 2008: 59), so we shall avoid it altogether for clarity reasons.

¹⁴⁴ The TL and SL are also known as the Replica Language and Model Language, respectively; cf. GUSMANI 1987: 88, HEINE – KUTEVA 2008: 59.

¹⁴⁵ Cf. respectively the Greek loanword *hybris*, used by the learned speaker of English who might not have a ready-made equivalent, and the Japanese, Italian and French loanwords *sushi*, *pizza*, or *crêpes* in English and in several other languages. Cultural loans / *Wanderwörter* (lit. ‘wandering words’) are typical gap-filling strategies; note the expression «borrowed names for borrowed things», which is also the title of an article by J.P. Wild (1970).

be reflected by the very nature of some borrowings. For instance, if there had been no social reason behind it, English speakers (from the Middle Ages onwards) would probably have called the ox, the pig, the sheep, the calf, and the deer by the same name even when they were to be eaten. After all, they had names for these animals, and there was no intrinsic reason for them to use the Anglo-Norman loanwords *beef*, *pork*, *mutton*, *veal*, and *venison*. If Cicero had been the only person interested in Greek thought, we would probably not be using words such as *essence*, *quality*, and *quantity* (ultimately from Lat. *essentia*, *qualitas*, and *quantitas*, which Cicero coined on the basis of Greek οὐσία, ποιότης, and ποσότης).¹⁴⁶ And this shifts the focus to the issue of prestige: this may be considered a cover term for all those reasons why speakers of a lect, in this case the TL, decide to adopt one or more linguistic strategies of another lect, this time the SL, regarded as more convenient, fashionable, appropriate, *etc.*

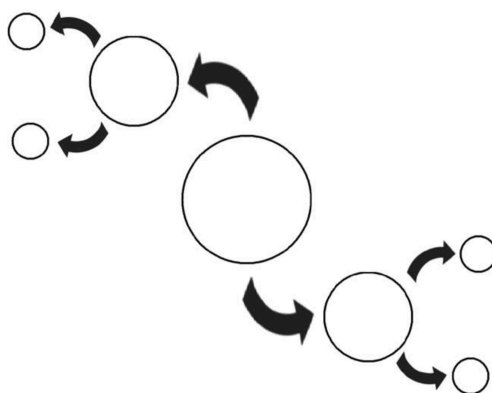
Sociolinguistics and contact linguistics often go hand in hand, and this is another point in favour of the conception of language as a dia-system (cf. 1.4.1.3 and LAZZERONI 1987) and of its representation with multi-dimensional models. One example should be sufficient: Peter Trudgill (1983: 56-9), in studying the distribution of the pronunciation of /r/ as an uvular trill [R] in continental Europe, has shown that the diffusion follows a precise socio-geographic pattern, “jumping” from one urban centre to the other (where it became generalised) and affecting only the educated speech of the more distant areas. This view is in sharp contrast with the previously held opinion by which the shift from [r] to [R] is a phonetically abrupt change: «aside from its spread by borrowing, the new habit, in whatever times and places it

¹⁴⁶ As the Milroys emphasised, innovations brought about by speakers are very frequent, but it is only with a certain degree of diffusion that they may determine language change in a system (MILROY – MILROY 1985).

might first have arisen, could have originated only as a sudden replacement of one trill by another» (BLOOMFIELD 1933: 390).

Such considerations allow for another model of language diffusion, which should be added to those presented above. What became known as the *gravity model* entails that changes may begin in large and densely populated cities and then radiate outwards; however, they do not strictly follow the pattern outlined by the Wave Model. Instead, they reach peripheral areas according to the density of the population. In other words, the main parameter to take into consideration is not distance, but density (hence the borrowing of the denomination for this model from physics)¹⁴⁷:

FIGURE 11: The Gravity Model (from WOLFRAM – SCHILLING-ESTES 2003: 724)



Within the Gravity Model, one also identifies the so-called *cascade diffusion* (when a change proceeds strictly from larger to smaller centres), and the *contagious diffusion* (changes spreading in wave-like patterns, closer to the original *Wellentheorie*).¹⁴⁸

All in all, the two macro-categories, the structural (= intrinsic) and the social (= extra-linguistic) are deeply intertwined, and this shows once more that a mono- or bi-dimensional model is most inadequate for their description and, more importantly, for their explanation.

¹⁴⁷ For further applications of this model to linguistics, cf. TRUDGILL 1974.

¹⁴⁸ For further specifications and a critical discussion of the gravity model, cf. WOLFRAM – SCHILLING-ESTES 2003.

1.4.2.2 *Typology and outcomes of language contact*

Our second question will be: to what extent can contact affect language change? One of the reasons why language contact has been at the margins of mainstream historical linguistics for a long time is the assumption that the Comparative Method and Internal Reconstruction, *i.e.* the main tools that have to do with the genealogical status of languages, could (at least in any Neo-Grammarians-based paradigm) account for most changes in a documented language.

Predictably, linguistic and extra-linguistic factors also affect the nature and modes of language contact. The familiarity of the speaker(s) of the TL with the SL is an important parameter that governs the type and modes of language change through contact. A first, important, distinction that needs to be made is that between contact-induced changes in which the competence in the SL that the speaker of the TL possesses plays a role and contact-induced changes in which it is not a significant factor. Depending on the speakers' competence in the SL, we observe different linguistic results which may eventually tell us something about the degree of contact between the two systems. When the speakers of the TL have a certain level of proficiency in the SL, we would expect to have a medium to intensive degree of language contact whose result is usually the transfer of structural (= grammatical) material. If, on the other hand, the speakers of the TL have little or no proficiency in the SL, we may expect a more superficial level of language contact, whose typical result should be the transfer of lexical material. 'Structural' (= morphological, syntactic) features should be less transferrable than lexical ones, and they could even be placed on an implicational hierarchy: a case of structural borrowing can be identified only if

we first identify a substantial amount of lexical borrowings. However, things are not that simple.

If one looks at the issue from another perspective, that of imperfect learning (THOMASON 2001: 129; 2008: 48), it emerges that when imperfect learning plays no role, only non-basic vocabulary tends to be transferred, and only later may basic vocabulary and structural features be affected. When imperfect learning does play a role, *i.e.* when a group of speakers shifts to another language failing to learn some features of this TL and at the same time introduces into the TL features of their own language, the SL, we may have what is called *shift-induced interference*, which tends to affect phonology and syntax (though morphology and lexicon may be transferred as well). In this view, imperfect learning (therefore shift-induced interference) tends to be found under conditions of a very high degree of language contact (= full bilingualism).¹⁴⁹ One must, of course, specify that the aforementioned are necessary but not sufficient conditions for contact-induced changes to take place (THOMASON 2008: 49), but in this perspective the degree of contact-induced change (*i.e.* how much a language changes in its structure) should not be considered directly proportional only to the competence of the speakers of the TL in the SL; on the contrary, the degree of contact-induced change seems to be correlated to the specific conditions of the two languages (is there a substrate, superstrate, or adstrate relation between the TL and the SL? What is the relative population size?) and to the disparity in the competence of their

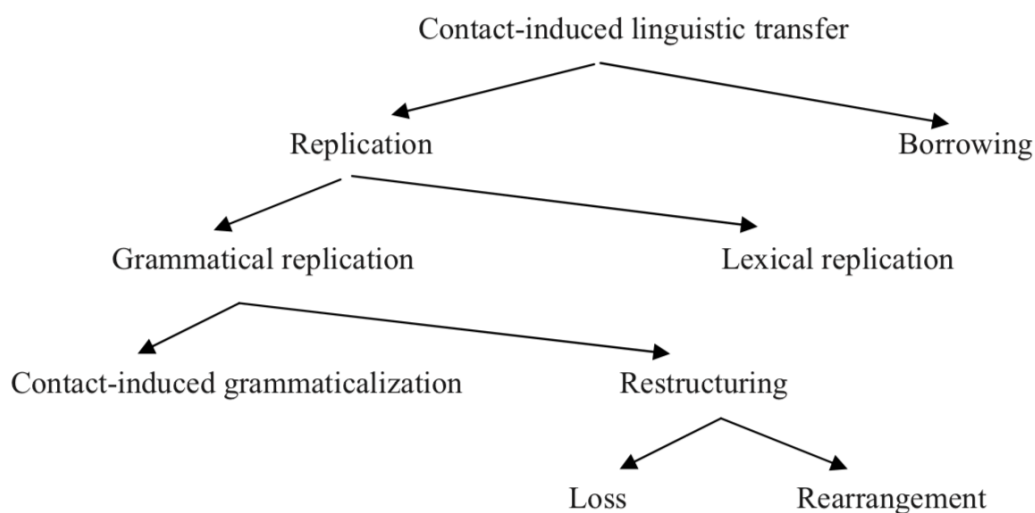
¹⁴⁹ «The process is complex. First, the shifting speakers may fail to learn certain features of the target language (TL)—often features that are universally marked and therefore relatively difficult to learn—that are lacking in their original language; and second, they may also carryover features from their first language (L1) into their version of the TL. These two kinds of interference features combine to form the shifting group's version of the TL, the TL2. In addition, however, if the shifting group is integrated into the TL speech community, original TL speakers may borrow a subset of the TL2 interference features, thus forming TL3, a melded version of the TL» (THOMASON 2008: 48).

speakers. This obviously needs to be analysed case by case, but if these principles hold, it is difficult to set up rigid implicational hierarchies.

This brings us to the question of what can be borrowed and whether there are any universal constraints on which features are transferable from one language to the other; but before closing this part with a few considerations on hierarchies of borrowability, some observations on borrowing itself should be made.

A distinction needs to be made between contact-induced changes in which the TL adopts phonetic material (a sound, a morpheme, or an entire word) directly from the SL and those in which the TL uses its own material to replicate a feature of the SL. Heine and Kuteva (2008) call these two types *borrowing* and *replication* respectively,¹⁵⁰ and distinguish between them between them as in FIG. 12:

FIGURE 12: Main types of contact-induced linguistic transfer, according to HEINE – KUTEVA 2008: 59.



This is most visible at the lexical level, where one distinguishes between *loanwords* and *calques* (under ‘borrowing’ and ‘lexical replication’, in Heine and Kuteva’s terms): the former are foreign words, which may be more or less integrated in the TL, whereas the latter are

¹⁵⁰ What Heine and Kuteva call ‘replication’ is also known as *convergence* (MCMAHON 1994: 214).

formations entirely composed of phonetic material of the TL. Calques are usually distinguished between structural and semantic (GUSMANI 1987: 106-09). Examples of structural calques are ModEngl. 'it goes without saying' < Fr. *ça va sans dire*, or ModGerm. *Wolkenkratzer*, ModGk. συρανοξύστης, It. *grattacielo*, Jap. 摩天楼 (*matenrou*, lit. 'sky-scraping tower'), all calqued on ModEngl. 'skyscraper'. In the semantic calque, a form of the TL is given an additional meaning from the SL: in Christian Latin, *aedificare*, originally meaning 'to build', acquires the meaning 'to edify (morally)' because of a calque on Gk. οἰκοδομεῖν, which had both meanings (GUSMANI 1987: 90). Similarly, the Italian verb *realizzare*, originally meaning 'to fulfil', 'to achieve', has in recent years acquired the meaning 'to realise', because of the influence of English 'realise' (which also preserves the other meaning).

When it comes to what we call *loanwords*, Eleanor Dickey has recently stressed the importance of distinguishing between *codeswitching* and true loanwords (DICKEY 2018). Codeswitching is commonly defined as the change of language within an utterance (some also call this *codemixing*, cf. MATRAS 2009: 101), and it happens when a speaker briefly switches into another language. The classicist who has read Cicero's *Epistulae* will be familiar with examples of codeswitching like the following: *ego autem usque eo sum enervatus, ut hoc otio, quo nunc tabescimus, malim ἐντυραννείσθαι quam cum optima spe dimicare*. «I, however, am weakened to the point that, because of this leisure in which I am now wasting away, I would prefer to *live under a tyranny* than to fight with the best hope» (Cic. *Ad Att.* II, 14, 1). The two parameters commonly used to distinguish between codeswitches and loanwords are frequency and integration (CLYNE 2003: 73): in principle, loanwords tend to be more frequent and integrated than codeswitches, which are more

idiosyncratic (= less frequent) and adopted by speakers who usually have a certain degree of proficiency in the other language (no need to adapt the word to the TL). One obviously needs to remember that these are not rules, that they are scalar notions, and that there is permeability between the categories (*e.g.* what is a codeswitch in a specific moment may well become a loanword later on in the history of the language).¹⁵¹ Nevertheless, it is often difficult to distinguish between codeswitching and loanwords proper in inscriptional texts (cf. the observations in ADAMS 2003: 18-29).

We have said that – generally speaking – lexicon is more easily borrowable than grammar, and that intense language contact is a pre-requisite for structural contact-induced change. Sarah Thomason (2008: 49; cf. also THOMASON 2001: 93-4) has proposed a five-step process to establish whether or not structural language contact can be established: 1. look at the overall linguistic system, keeping in mind that structural interference is rarely isolated; 2. identify a source language for the change; 3. identify (partially) shared features in the proposed SL and TL. 4: prove that the aforementioned features did not exist in the TL before it came into contact with the SL; 5. prove that the aforementioned features were present in the SL language before it came into contact with the TL.

As anticipated above, our two final questions will be: what can or cannot be borrowed? Is every language trait equally borrowable? The first question has been answered convincingly in recent years: anything goes, *i.e.* everything can be borrowed. This does not mean, though, that everything *is* actually borrowed with the same ease. The necessity of finding out whether there is any sort of order in which features are transferred from one

¹⁵¹ Following Dickey's example: «English speakers mentioning the *meat of an ox*, for example, regularly refer to it as 'beef' rather than 'ox', but there was a time when 'ox' was the normal term and 'beef' a less common synonym: at that period, 'beef' was still a codeswitch. The borrowing of 'beef' has led to a change in the meaning of 'ox', which is now restricted to living animals in order to, as it were, make room for the loanword.» DICKEY 2018: 9.

language to another and whether there are universal constraints in borrowing has led scholars to establish what are generally called *hierarchies of borrowability*.¹⁵² However, the number of counterexamples to each constraint, together with the often-encountered impossibility in gathering all the information needed in order to sketch each possible episode of contact-induced change made Cumow (2001: 434) state that «the attempt to develop any universal hierarchy of borrowing should perhaps be abandoned». A single example should suffice. We have said above that one of the most frequent alleged constraints on borrowability is of an implicational nature: lexicon is transferred first, and grammar, eventually, comes later. However, what does get transferred does not depend on the features themselves, but on social factors and on the type of contact. The presence of retroflex consonants in Vedic Sanskrit is usually thought to be due to contact with the Dravidian languages, which – in contrast with the other IE languages – show this feature. One would presume that Vedic has a substantial number of loanwords from Dravidian, but this is not what we find. Dravidian loanwords are in fact very rare in Vedic, and this situation is an outcome of the fact that Dravidian speakers must have (imperfectly) learnt Vedic as their second language, and transferred into it some features of their L1, in this case the SL (THOMASON 2001: 64).

¹⁵² Already in the 19th century, Whitney (1881) argued that nouns are more easily borrowed than the other parts of speech, and then suffixes, inflections, and finally sounds; Haugen (1950: 224) confirmed this trend by setting the following scale: nouns > verbs > adjectives > adverbs and prepositions > interjections > articles and pronouns. Ross (1988) distinguished between level-internal hierarchy (nouns > verbs > adjectives) and multiple-level hierarchy (lexicon > syntax > non-bound function words > bound morphemes > phonemes). Another type of hierarchy is that by THOMASON – KAUFMANN 1988: 74 and THOMASON 2001: 70-1: they rank borrowable features according to the degree of language contact, which is in turn largely determined by non-linguistic factors. Markedness and integration of the given feature, and structural similarity between the SL and the TL have been recognised as the other fundamental factors in determining what tends to be transferred. Other scholars also stress the importance of the place of the given item within the linguistic system, *i.e.* its regularity, productivity, and lexical or postlexical status (KIPARSKY 2015: 68-9).

1.4.2.3 *Language contact in the Aegean-Anatolian area: limitations and caveats*

There are a few factors which make a study of language contact between Greek and Anatolian a complicated task. Two sets of reasons are particularly significant.

The first, obvious, disadvantage is that we are dealing with corpus languages:¹⁵³ we have no living informant, and we can only rely on written sources which may not fully reflect some linguistic features,¹⁵⁴ and in any case only give us the voice of a limited part of the population. In several cases, such as second-millennium Greek or first-millennium Anatolian languages our sources consist of an extremely limited typology of texts written in a highly standardised language. Thirdly, the scarcity of linguistic material we possess makes many of our hypotheses rather tentative: «establishing that words have been borrowed is much less likely to present major difficulties for a historical linguist» (THOMASON 2008) might be true for living languages, or even for languages with a sufficiently attested corpus; however, this becomes a major heuristic task when we go this far back in (pre-)history with the actual material we possess. For instance, we have seen above that integration and frequency are relevant factors when it comes to distinguishing loanwords from codeswitches: in our case, we may be able to analyse integration (to a certain extent), but any attempt at calculating frequency will be doomed because of the extremely uneven nature of our sources. We do possess a fair number of texts in the Anatolian languages and in pre-Classical Greek, but it is a fact that linguistic material from the zones in which actual contact between Greek and Anatolian speakers might have taken place in the two millennia

¹⁵³ In a relatively recent article, David Langslow gives some interesting methodological insights on bilingualism in corpus languages (LANGSLOW 2002).

¹⁵⁴ *E.g.* a variation in spelling may be telling of a language change in progress, or may even be a hint of language contact, but sometimes its inconsistency may simply blur our interpretation of the data.

(*e.g.* Western Asia Minor, cf. 1.3 *supra*) are nearly non-existent (with the exception of Pamphylian, cf. 1.3 and ch. 5).

This problem is deeply related to a recently studied linguistic fact, which Curnow (2001: 422-5) calls ‘multiple causation’ of language change. Not only does multiple causation affect our (in)capability of setting up hierarchies of borrowability, but it also makes it difficult to choose whether a given feature is a retained archaism,¹⁵⁵ an internal development, or a contact-induced change. Only an adequate knowledge of the languages involved, of their history and their dialectal variation can help us distinguish between these possibilities, especially in light of the fact that changes do not always come about uniquely because of one of the above causes; language change may very often happen for a combination thereof (CURNOW 2001: 424 with *reff.*). This means that our partial knowledge of these linguistic systems can produce only tentative hypotheses when it comes to contact. The Comparative Method is of great help, obviously, but as we have seen above, its primary concern is not language contact. Also, while the study of linguistic phylogenetic issues does not usually take into account non-linguistic material, the study of language contact considers elements of a historical, sociological, and – when needed – archaeological and documentary nature.

We have said above that in order to argue for a contact-induced linguistic trait, it is important to sketch a possible framework in which the transfer might have happened. This includes both the identification of the given trait as an innovation in the TL, and the individuation of a possible SL. Doing so is much more complicated when it comes to corpus languages which also happen to be the first (and sometimes only) attestation of the language itself. In other words, it is not always easy to tell whether or not a specific trait of Mycenaean

¹⁵⁵ One should note that contact might also be responsible for *lack* of change, *i.e.* for the preservation of archaisms (THOMASON – KAUFMAN 1988: 58).

Greek or Old Hittite is an innovation if we just look at Greek and Hittite, because we have little idea of what the language looked like before then, and it often becomes hard to distinguish between innovations due to internal and those due to external factors. Na'ama Pat-El has recently shown that there are some tools that can help us in this respect. In cases of actual language contact, we can isolate the SL as the one attesting the various stages of the change and possessing a broader usage of a given pattern (PAT-EL 2013). She also argues that, when it comes to contact in genetically related languages, the change in distribution and frequency of a pattern which already existed in the TL is more likely to take place than simple borrowing.

This brings us to the second methodological *caveat*: Greek and Anatolian are genetically related, and the debate on whether languages belonging to the same family undergo the same kind or degree of contact-induced change has been lively.¹⁵⁶ The majority of modern studies on language contact have focussed on contact between non-related languages: here, external change is more easily identified, as the similarity between them can only be typological, and not genetic. Genetically related languages also bear the burden of another non-linguistic fact: unless there is a sharp separation (which is a minority of cases), «recently split languages tend to be located in the same geographical area, which means that their speakers may, therefore, continue to be in constant contact» (EPPS – HUENERGARD – PAT-EL 2013: 211). This is why contact and areal diffusion in genetically related languages is relatively less studied (with significant exceptions such as the Balkan *Sprachbund*, cf. fn. 34 *supra*).

¹⁵⁶ It is generally thought that a lect tends to borrow/replicate more from a lect that is genetically or typologically close. In Trudgills' words: «it appears to be psychologically and linguistically easiest to adopt linguistic features from those dialects or accents that most closely resemble one's own, largely, we can assume, because the adjustments that have to be made are smaller» (TRUDGILL 1983: 74). However, this is not always the case: cf. WOLFRAM – SCHILLING ESTES 2013: 726ff. For a recent assessment of the entire issue, see BOWERN 2013.

One should note that the structure of Greek is rather different from that of Anatolian (verbal system, nominal endings, *etc.*), and the two branches are rather distant when it comes to *Stammbaum* position or ‘archaic’ isoglosses. So, even if one follows the view that related languages tend to behave differently, Greek and the Anatolian languages should be treated differently from – say – Armenian and the Iranian languages. The remaining difficulties still apply.

Finally, in an area where the number of languages is not matched by a comparable availability of documents, studying the relations between two given languages alone is a rather difficult task: taking the single language (or a single feature) in isolation from the surrounding linguistic situation is always a risk, especially in light of the fact that, historically speaking, the majority of speakers’ communities are not monolingual. As we shall see, the Graeco-Anatolian area in the second millennium and in the first part of the first millennium is probably no exception in this respect.

2 Phonology

In his influential 1980 book “The Greek Language”, Leonard Palmer claimed that Greek and Luwian show some similarities in phonology (in particular phonotactics) that could point to some degree of language contact:

«There is one striking linguistic phenomenon linking Greek and Luwian that deserves mention, though its significance is difficult to assess. It concerns a point of phonemic structure. The word-final plosive consonants were lost in Greek (e.g. *γαλακτ > γάλα, [...]), while final *-m > -n. Consequently the only consonants which occur in final position are r, s and n. In Luwian, too, the only word-final consonants are s, n, r, along with l. Again, as in Greek, nearly all words originally beginning with *r- have developed a prothetic vowel [...]. There are a number of theoretical possibilities of explaining this striking resemblance in phonetic structure (e.g. a substratum common to Greek and the Luwian parts of Anatolia). However, if the morphological features discussed above [the -ss- and -nn- suffixes, the formation of the names Παρνασσός and Δίκτυννα, M.B.] favour the prior occupation of the country by Luwians, then the said transformation of the phonemic structure of Greek may well be ascribed to the Luwian substratum»

(PALMER 1980:16).

This relatively dense account raises the question of whether one can actually find similarities through the comparison of the phonological systems and phonotactic constraints not only of Greek and Luwian, but of the two branches overall (the second case cited by Palmer is a feature common to all Anatolian languages). I shall start by looking at the sound changes mentioned by Palmer, namely the change in the point of articulation of final nasals and the initial /r/ constraint (shared by Greek, Anatolian and other IE and non-IE languages of the area), before moving to the discussion of Greek assibilation (which has been attributed to contact with an Anatolian language), and then concluding with a study of psilosis, which is characteristic of some Eastern Greek dialects and has been explained as a contact phenomenon in recent times.¹

¹ I shall not discuss the /a:/ > /æ:/ sound change, typical of Attic-Ionic, and attributed to language contact (presumably with Lycian?) by Bartoněk: «Let us conclude that probably due to the substratum influence of non-Greek languages spoken in Asia Minor, and maybe partly also in connection with considerable overloading in the back long-vowel row [...] at first perhaps in Ionia but soon after also in the other Attic Ionic

2.1 Phonotactic restrictions in *Auslaut*

It is widely known that both Greek and Hittite had a sound change $m > n / _ \#$ in prehistoric times (e.g. PIE $*-om > \text{Hitt. } -an, \text{ Gk. } -\omicron\nu$). The *terminus ante quem* must be around 1450 BCE for Greek and 1700 (at the latest) for Hittite, but one could locate it further back in time.

From the point of view of IE dialectology, this is not an exclusive isogloss, since word-final $*-m$ becomes $-n$ in at least a few other Indo-European branches, namely Germanic, Baltic, Celtic, Armenian, and Phrygian.

The Proto-Germanic sound change $m > n / _ \#$ only left residual traces because most final nasals were lost and the preceding vowel was nasalised. However, according to some scholars it is still possible to detect it in Goth. *þan* ‘then’, a reflex of the PIE acc. sg. m. $*tóm$ ‘that’ in its temporal meaning ‘at that (time)’ (cf. Lat. *tum*), and in forms such as Goth. *þana*, OE *þone* ‘that’ < PGmc. $*þan\bar{q}$ < $*tón$ < PIE $*tóm$ or Goth. *hvana*, OE *hwone* < PGmc. $*h^wan\bar{q}$ ‘whom’ < $*k^wón$ ‘whom?’ < $*k^wóm$ ‘which?’, which show that an obscure particle (> PGmc. $*-\bar{q}$) was added to pronominal forms after $m > n / _ \#$ and before $n > \emptyset$.² Finally, the development from PIE word-final $*-m$ to $*-un$ (and eventually PGmc. $*-u$) seems to point in the same direction (RINGE 2017: 104-6).

areas, a shift of the phoneme \bar{a} to the front position of \bar{e} took place at some time in the period between the operations of the first and the second compensatory lengthenings» (BARTONĚK 1966: 101).

² Provided that this happened in monosyllables: the example of Goth. *þan* < $*tóm$ seems to dispute the loss of final $n/$ in monosyllables (RINGE 2017: 104).

We see this *Auslaut* sound change also in Baltic, but here it must have happened after the common Proto-Baltic phase, and in the single languages one finds nasalised vowels which are a further development of *-Vn*. The same can be said for the Slavonic languages.³

On a typological level, Martin Kümmel (2007: 220-1) notes that the development from labial nasal to dental in final position is quite widespread, and that it is not a change in place of articulation, but a process of neutralisation, where the more ‘general’ nasal sound /n/ prevails over the more marked /m/. According to him, a change *m > n / _#* can be observed in some 24 languages, among which one finds the aforementioned Proto-Anatolian, Proto-Greek, Proto-Germanic, Armenian, and Phrygian, along with Common Arabic, Medieval Hebrew, Late Aramaic, Proto-Tocharian, Venetic, Gaulish, and other more or less recent Indo-European languages or dialects.

It is noteworthy that Armenian and Phrygian – which are geographically contiguous to Greek and Anatolian – show the same development. But even if one neglects the typological datum (*i.e.* the fact that this seems to be a trivial development) and takes this sound change as a possible isogloss useful for sub-grouping (which is not possible, as we shall see in a moment), this may not mean too much, because at least two other IE branches display it. It is true that, in theory, the Baltic and Germanic sound changes could have taken place at different times, but this does not necessarily speak in favour of a special relationship among Greek, Anatolian, Armenian, and Phrygian. A look at the non-IE neighbouring languages does not provide further evidence in favour of an areal phenomenon: Hattic in fact had final

³ «Das Balt. gehört, wie das Slav., Germ., Griech., Phryg. und Hitt., zu den Sprachen, wo man in Auslaut den Nasal *-n*, nie *-m* findet. Im Urbalt. war dieser Nasal noch intakt. Im Lit. entwickelt sich die Verbindung Vokal + *-n* im Auslaut zu einem Nasalvokal, der später seine Nasalität meistens wieder verloren hat [...]. Auch im Lett. hat die Verbindung Vokal + *n* zunächst einen Nasalvokal ergeben.» (STANG 1966: 114).

/m/ (which the Hittites wrote <n> in loanwords!),⁴ and in the older stages of Hurrian /m/ could appear in *Auslaut* (as well as /T/, /K/, /Ḫ/ and /l/) despite the fact that in final position vowels or /n/ actually occur most of the time (WILHELM 2008: 85).

Finally, one should mention that this change should not be attributed to Proto-Anatolian: for instance, in Cuneiform Luwian the forms *ḫattaram=šan*, *muḫattaram=šan*, *pizzarnam=šan* and *tūrim=šan* (KBo XIII 260 Vs ii 1-4) show that the accusative common ending *-am* < **-om* was preserved before the enclitic possessive *=šan* ‘his’ (MELCHERT 1994: 87, 270). One can then infer that **m > n / _#* took place independently in Hittite, Hieroglyphic Luwian, and in the other Anatolian languages.

This seems enough to cast doubt on Palmer’s claim that this sound change is due to contact. This was a widespread phenomenon in the IE family, and the cross-linguistic evidence, together with the phonetic reasons of this merger, suggests that independent developments seem the most likely option: imagining a shared development of Proto-Greek and Proto-Anatolian, together with several other branches, would be at odds with the CLuw. evidence just presented.

We have, however, an example of possible *Auslaut* restriction exclusive to Greek and an Anatolian language. As we have seen above, Palmer observed that, besides vowels, Greek tolerated the resonants *n* and *r* and the sibilant *s* in word-final position, and that Luwian had a similar pattern, for the only word-final consonants we find are the resonants *n*, *l*, and *r*, and the sibilant *s*. Unlike **m > n / _#*, this is a more interesting constraint, in that this coincidence seems restricted to Greek and Luwian. Unless it is entirely due to chance –

⁴ «Im Gegensatz zu diesen Sprachen [*scil.* Hittite, Palaic and Hieroglyphic Luwian, M.B.] kennt das Hatt. aber auslautendes *-m* (gern von den Hethitern als *-n* verschrieben; vgl. z.B. *karam* „Libationsgefäß oder -getränk“ mit hethitisierter Schreibung *-karan* und *karamu* [...])» (KAMMENHUBER 1969: 448).

which is a possibility – it could potentially lead to eventual hypotheses about prehistoric contacts between these two languages. This, however, is very speculative, and there is not much material to elaborate upon. Moreover the very presence of Luwians in Western Anatolia (or in Crete, for that matter) in the second millennium is an extremely controversial topic (cf. 1.3.1 and 1.1.4 *supra*).

2.2 A phonotactic restriction in *Anlaut*: initial /r/

The absence of the phoneme /r/ in word-initial position is one of the main arguments of the proponents of the circum-Aegean *Sprachbund* (cf. 1.2.2 *supra*). On the one hand, it was very soon noted that whenever the reconstructed Indo-European root began by *r-, Greek developed a so-called ‘prothetic vowel’: e.g. Gk. ἐρυθρός vs. Skt. *rudhirá-* and Lat. *ruber*. At the same time, the rough breathing on words such as ῥήτωρ was generally thought to indicate a pronunciation [hr], which means that Greek probably did not have [r] in *Anlaut*. On the other hand, the Anatolian languages never display initial /r/, except as a result of secondary developments.

Several scholars, especially in the 1950s and 1960,⁵ argued that this Graeco-Anatolian restriction was not coincidental or independent. In their opinion, it was part of a much larger picture, because a similar constraint is also found in other IE and non IE languages of the area, namely Armenian, Hattic, Hurrian, Urartian, and – at a much later stage – even Turkish.⁶ This phenomenon was either attributed to a common substrate⁷ or to intense language contact in the region.

⁵ E.g. EVANGELISTI 1965, LAZZERONI 1967, 1969a, 1969b.

⁶ Albanian was initially considered part of this group, but see criticism in HAMP 1960 and BEEKES 1969: 20. We also know that Turkic had this feature before its arrival in Anatolia, so Turkish becomes irrelevant to the question.

The scenario just described radically changed with the development and general acceptance of the laryngeal theory. Greek prothetic vowels started to be considered as the vocalic reflexes of initial laryngeals (which dropped in other branches) and, consequently, the number of PIE lexemes with initial /r/ decreased so much that some scholars were led to think that PIE itself had an initial /r/ constraint.

In what follows, I shall examine the phonetics of Greek /r/ in initial position and its possible pre-forms. The focus will then shift first to the issue of the prothetic vowel in Greek and in Armenian, and then to the Anatolian evidence: I will assess whether or not and to what extent ‘prothetic vowels’ before /r/ should be regarded as the outcomes of laryngeals. As we will see, this is crucial for the hypothesis of a prohibition of initial /r/ in Greek and Anatolian.⁸ In the final part, I will try to establish whether or not this constraint should be projected back to PIE. A general re-consideration of the phonotactics of /r/ in initial position in light of more recent views on the phonologies of the individual IE branches (specifically, Greek, Armenian and Anatolian) has not yet been made, and understanding the issue both at the level of the daughter languages and at the PIE level will help us shed light on the prehistoric linguistic situation in the Graeco-Anatolian area.

⁷ Cf. Palmer, *supra*, and most recently Yakubovich: «Proto-Greek, and Common Anatolian famously share the constraint on the word-initial occurrence of *r*-, although *r*- secondarily emerges in Iron Age Luvian after the simplification of certain consonant clusters (e.g. **Kruntiya*- yield *Runtiya*-). This constraint, perhaps caused by a common linguistic substrate, also extends itself to Hurro-Urartian and Hattic» (YAKUBOVICH 2010: 148). The idea goes back to SOMMER 1947: 81, 98, cf. *infra*.

⁸ One should say that the overall discussion about prothetic vowels in Greek and Armenian (on which see e.g. BEEKES 1969: 18-95; LINDEMAN 1997: 122-39; CLACKSON 1994: 33-6) goes well beyond the problem of initial /r/; nonetheless, given the proximity of these topics in the literature, it will be inevitable to make reference to some contributions on a more general level.

2.2.1 Initial /r/ in Greek

The evidence provided by ancient grammarians, inscriptions, and loanwords into Latin suggests that the actual pronunciation of initial /r/ was not simply [r] (cf. PROBERT 2010, ALLEN 1968: 39-42, THREATTE 1980: 25). In an epitome of a grammatical work by Herodian ([Arc.] 226.24-227.2 SCHMIDT 1860), we read that

τὸ Ρ ἀρχόμενον λέξεως δασύνεται, οἷον· ῥανίς ῥάξ, πλὴν τοῦ Ῥάρος καὶ Ῥάριον.

«*rho* beginning a word has a rough breathing, as: ῥανίς (and) ῥάξ, except Ῥάρος and Ῥάριον.»

Forms such as Boeot. ΗΡΑΦΣΑ[ΦΟΙΔΟΙ] (= Att. ῥαψωδῶ;) seem to confirm the allophonic variation of /r/ in initial position, showing that initial *rV*- sequences were pronounced [hrV] – at least in the archaic period. Forms such as PHOFAIΣI (Corcyra, *IG* IX.1 868.3) and early loanwords in Latin (*e.g. rhetor*), however, seem to point to the fact that the aspiration *followed* the liquid. In order to include the entire evidence under a unified theory, it is generally thought (since STURTEVANT 1940: 62) that the aspiration was simultaneous with the [r], *i.e.* that the sound was a voiceless (or ‘breathed’) [r].

The presence of foreign loanwords with initial /r/ in Greek (*e.g.* ῥούσ(σ)εος/ῥούσιος ‘reddish’ < Lat. *russus* and cognates, or the very name of the Greek letter ῥῶ, coming from a Semitic language which tolerated initial /r/) does not alter the picture, as we have no way of knowing how Greek actually adapted this sound (*i.e.* if the Greeks would pronounce ῥούσιος [ˈrus̥ios], [ˈrhus̥ios], or [ˈhrus̥ios]).

We can therefore infer that, on a synchronic level, an aspirated/voiceless *allophone* of /r/ is found in initial position; what we do not know is how this allophonic variation came about, and – more importantly – why. Allophones are realisations of phonemes in specific

phonetic environments, and in order to find an explanation for this allophonic variation and to see if it somehow reflects an earlier prohibition of initial /r/, we need to look at these phonetic environments in a diachronic perspective.

From a simple search through the most recent etymological dictionary, it emerges that, whenever the etymology is known, most Greek lexemes with initial *rho* go back to forms with initial **sr*- or **wr*-. Out of the 89 items starting with *rho* listed in Beekes's *EDG*:⁹

- 12 come from a pre-form with **sr*-¹⁰
- 26 come from a pre-form with < **wr*-¹¹
- 19 are considered Pre-Greek, with no specification about the initial sound(s)¹²
- 8 are foreign words or loans from a specific non-Greek language¹³

⁹ I have excluded from this count the 'doublets' ῥα (cf. ἄρα), ῥᾶ (cf. ῥῆον), ῥεῖα/ῥέα (cf. ῥᾶ 'easily'), ῥοδάνη/ῥοδανός (cf. ῥαδινός), ῥῶξ 'grape' (cf. ῥάξ), the cognates ῥάθαγος (cf. ῥαθαπυγίζω), ῥάπυς/ῥαφύς (cf. ῥάφανος), ῥίπος (cf. ῥίψ), ῥόμβος (cf. ῥέμβομαι), ῥυβδέω (cf. ῥυφέω), ῥυθμός (cf. ῥέω), ῥύομαι (cf. ἔρυσμαι) the derivatives ῥᾶδιος and ῥαστώνη (cf. ῥᾶ 'easily'), ῥακτήριος/ῥάκτρια (cf. ῥάσσω), ῥακτός (cf. ῥήγνυμι), ῥανίς/ῥαντήρ (cf. ῥαίνω), ῥαπίζω (cf. ῥέπω, ῥάβδος or ῥάπτω; according to Beekes, this could also be Pre-Greek), ῥαχία/ῥηχίη (cf. ῥάσσω, ῥάττω ῥήσσω), ῥήγος (cf. ῥέζω 'to colour'), ῥῆμα/ῥήσις/ῥήτρα (cf. εἶρω), ῥήσσω (cf. ῥήγνυμι), ῥοικός (cf. ῥικνός), ῥόπαλον/ῥοπή/ῥόπτρον (cf. ῥέπω), ῥύαξ/ῥυάχετος (cf. ῥέω), ῥύμα (cf. ἐρύω), ῥύμη (cf. ῥύμα) ῥύμμα (cf. ῥύπος), ῥύσιον (cf. ἔρυσμαι) ῥύσις (cf. ῥέω), ῥυσός (perhaps cf. ἐρύω), ῥώκομαι (perhaps cf. ῥώχω), ῥῶξ 'tore' (cf. ῥήγνυμι), ῥωχμός (cf. ῥήγνυμι), and the compounds ῥᾶθυμος (cf. ῥᾶ 'easily'), ῥαψωδός (cf. *e.g.* Hes. Fr. 265 ῥάψαντες ἀοιδήν), ῥυμουλκέω (cf. ῥύμα).

¹⁰ ῥέω 'to flow', perhaps ῥέζω 'to colour' (here the reconstruction of initial *s- is completely *ad hoc*), ῥίγος 'frost', ῥοφέω 'to slurp', ῥύγχος 'snout', perhaps ῥύπος 'filth', ῥώννυμι 'to strengthen', ῥώομαι 'to move intensively' and possibly also ῥίον 'mountain peak' (cf. 4.2 *infra*). For the following, a pre-form with **sr*- is reconstructed, but it is debated whether they are inherited or Pre-Greek: ῥίς 'nose', ῥόθος 'roar' (although, in my opinion, this could be an onomatopoeic formation), ῥυκάνη 'plane'

¹¹ ῥέζω 'to perform (a sacrifice)', ῥήγνυμι 'to tear (up)', *ῥήν 'lamb', ῥήτωρ 'rhetor', ῥίζα 'root', ῥικνός 'bent', perhaps also ῥᾶ 'easily', ῥάσσω 'to beat', ῥίμφα 'rapidly', ῥίνη 'file', ῥόμος 'a type of insect', ῥόμιξα 'a kind of javelin', ῥοῦς '*Rhus coriaria*'. For the following, a pre-form with **wr*- is reconstructed, but it is debated whether they are inherited/cognate to inherited words or Pre-Greek: ῥαδινός 'taper', ῥάδιξ 'twig', ῥαιβός 'crooked', ῥαίνω 'to besprinkle', ῥάκος 'rag', ῥάμφος 'bird beak' (with its variant ῥέμφος 'mouth', 'nose'), *ῥατάνη 'stirring spoon', ῥάχης 'spine', ῥέμβομαι 'to wander', ῥινός 'skin', ῥίπτω 'to throw', ῥοβίλλος 'a type of bird'. The word ῥόδον probably has a pre-form **Fródon* (cf. Aeol. βρόδον), but it is probably a loanword.

¹² ῥαβάττειν 'to walk upwards and downwards', ῥάβδος 'rod', ῥάδαμνος 'branch', ῥαθάμιγξ 'drop', ῥαθαπυγίζω 'to kick someone's buttocks', ῥάμνος 'rhamnus', ῥάξ 'winegrape', ῥάπς 'a kind of shoe', ῥάφανος 'radish', ῥητίνη 'resin', ῥυτή '*Ruta graveolens*', ῥώδιγγες/ῥώτιγγες 'bruises', perhaps ῥαγή 'tore' (some take this as a derivative from ῥήγνυμι 'to tear (up)'), ῥέπω 'to decline' (some connect it with ῥάπτω 'to sew (together)'), ῥόα/ῥοίη/ῥοιά 'pomegranate' (some connect it to ῥέω), ῥυβόν 'curved [Aeol.]' (it could also be connected to ῥαιβός), ῥυτός 'dragged (?)' (some connect it to ἐρύω), ῥώθωνες 'nostrils' (some connect it to ῥόθος 'roar'), ῥώψ '[a delicate grass]' (some connect it to ῥαπίζω, ῥέπω, or ῥέμβομαι).

- 8 are of onomatopoeic origin¹⁴
- 16 are of unknown origin, without further specification¹⁵

This seems to indicate that no initial /r/ in Greek goes directly back to initial PIE *r, but again this is not sufficient to decide whether or not Greek had a rule by which original /r/ was prohibited in initial position. There are two options at this point: 1) either PIE had initial *r, and Greek somehow removed all of its instances, or 2) PIE never had initial *r in the first place.

The obvious consequence of 1) is that Greek adopted one or more strategies in order to eliminate initial /r/. The following theoretical possibilities apply:

- 1a) /#r/ became something else
- 1b) /#r/ dropped
- 1c) Another phoneme was inserted before inherited /#r/
- 1d) PIE words with /#r/ did not survive into Greek

All these possibilities clearly depend on the assumption that PIE *had* /#r/. If, on the contrary, 2) is correct and an initial /r/ constraint was operating already in PIE, Greek would simply preserve an archaic situation. Section 2.4.5 is devoted to the discussion of this possibility, but it is worth mentioning now that until relatively recent times 1) was accepted

¹³ ῥαδικάνη 'a kind of foul-smelling oil' (< Iranian), ῥελατωρία 'receipt' (< Latin), ῥήον 'rhubarb' (< *Rha*, name of the river Volga), ῥίσκος 'chest' (< Galatian?), ῥομφαία/ῥομφεῖς '[a large sword]' (< Thracian? According to some, it could be connected to ῥάμφος), ῥοῦσ(σ)εος/ῥούσιος 'reddish' (< Latin), ῥῶ '[name of the letter]' (< Semitic), ῥῶψ 'ship' (< Egyptian).

¹⁴ ῥάζω 'to growl', and ῥέγκω/ῥέγγω 'to snore', ῥοῖβδος 'buzzing', ῥοῖζος 'buzzing' (according to Beekes, these could also be Pre-Greek), ῥοχθέω 'to roar', ῥύζω 'to growl', ῥυππαπαῖ '[cry of Athenian rowers]', ῥώχω 'to hiss'.

¹⁵ ῥαιβίας 'ἀζήμιος δῆμος (*deme* that has impunity)' (with its variant ῥαμβάς 'ὁ δῆμιος (public executioner)'), ῥαίω 'to smash', ῥάπτω 'to sew (together)', ῥέθος 'face', ῥεῖτος '?', ῥήσός '?', ῥήτανον '[name of a plant]', ῥίμβαι 'ῥοῖαι μεγάλοι', ῥινεστήρ 'halter', ῥίψ 'willow rod', ῥογός 'depot of cereals', ῥύζα 'strength', ῥύτρος '*Echinops Viscosus*' (though some connect it to ῥέω), ῥωβίδας '[name of seven-year-old Spartans]', ῥῶπος 'odds and ends' (perhaps related to ῥῶψ).

by the majority of scholars, and 1c) was considered the chief strategy adopted by Greek in order to eliminate initial **r* in inherited words. There is no evidence that /#r/ changed, merged with other phonemes, or dropped, and – provided that one accepts the existence of initial **r-* in PIE – PIE lexemes with initial **r* that we reconstruct through other languages are found in Greek (with a preceding vowel, α -, ϵ -, or \omicron -). In the next section, we shall explore this possibility, *i.e.* the insertion of a vowel before (supposedly) inherited /#r/.

2.2.2 Prothetic vowels in Greek and Armenian

The discussion of ‘prothetic vowels’ is deeply intertwined with the issue of initial /r/ in Greek, but it is certainly not limited or restricted to it. A full treatment of prothetic vowels goes beyond the scope of this work, but it will be useful to give a brief overview of the issue, before assessing whether or not ‘real’ prothetic vowels were employed in words inherited from PIE into Greek.

Already in the 19th century¹⁶ it was noted that some Greek words descriptively show an initial vowel (ϵ , α or \omicron), whereas their cognates in other Indo-European languages do not:

Gk. $\epsilon\rho\upsilon\theta\rho\acute{o}\varsigma$ ‘red’	~	Skt. <i>rudhirá-</i> , Lat. <i>ruber</i> ‘red’
Gk. $\alpha\nu\acute{\eta}\rho$ ‘man’	~	Skt. <i>nar-</i> ‘man’, Lat. <i>Nerō</i> (PN)
Gk. $\delta\nu\omicron\mu\alpha$ ‘name’	~	Skt. <i>nāma</i> , Lat. <i>nōmen</i> ‘name’

The adjective ‘prothetic’ is itself a hint at the assumption that these vowels were added in Greek. Although prothetic vowels were more often inserted before resonants (as in the examples just given), one must say that words beginning with all kinds of consonants were

¹⁶ For some early treatments, cf. GG I: 411 with references.

affected by this ‘vocalic prothesis’: *e.g.* ἀστήρ ‘star’ (vs. Lat. *stella*, Goth. *stairno*), ὀδούς ‘tooth’ (vs. Lat. *dens*, Skt. *dán*), *etc.*

Armenian also has prothetic vowels, which are largely found in the same words as in Greek:¹⁷ *astt* ~ ἀστήρ ‘star’, *atamn* ~ ὀδούς ‘tooth’, *ayr* ~ ἀνὴρ ‘man’, ἀλώπηξ ~ *atowês* ‘fox’, *erek* ‘evening’ ~ ἔρεβος ‘darkness’, *orcam* ~ ἐρεύγομαι ‘belch’, *anêck* ‘curse’ ~ ὀνειδος ‘reproach’, *inn* ~ ἐννέα ‘nine’.

The general opinion on ‘prothetic vowels’ (henceforth PVs) changed quite radically with the discovery of laryngeals.¹⁸ It was Jerzy Kuryłowicz who first suggested that the prothetic vowels *é-*, *â-*, and *ô-* could be vocalic outcomes of **h₁-*, **h₂-*, and **h₃-* respectively. As Kuryłowicz himself acknowledged, this was one of the consequences of the assumption that every IE root should start with a consonant.¹⁹ Greek forms such as ἐρυθρός, ἀνὴρ and ὁμείχω ought to be reconstructed as **h₁reud^h-*, **h₂ner-* and **h₃meiĝ^h-*. In this view, there is no need to postulate a ‘prothetic vowel’ otherwise difficult to explain, or a rather uncommon **ReC* root structure (BEEKES 1969, in particular pp. 73-4). Similarly, most cases of Armenian ‘prothetic vowels’ are now seen as regular development of PIE laryngeals: *e.g.* *erek(oy)* ‘evening’ < **h₁reg^w-e/os-* and *arew* ‘sun’ < **h₂reu-i-*, and so on. All of this obviously applies only to words inherited from PIE; in loanwords from substrate language(s), the prothesis is not constant, nor is the timbre of the vowel (*e.g.* ἀσταφίς/ὀσταφίς/σταφίς).

¹⁷ The list is taken from CLACKSON 1994: 33. Some scholars believed that the prothetic vowel was one of the many common innovations of Greek and Armenian (GG: 57, 412; PORZIG 1954a: 155), but now it is generally thought that these two branches are not part of a specific sub-group, and that the insertion of prothetic vowels is a relatively independent phenomenon (cf. CLACKSON 1994: 33-6).

¹⁸ For a pre-laryngeals account see *e.g.* MEILLET 1926.

¹⁹ KURYŁOWICZ 1927: 207: «pour expliquer ce fait curieux que devant initiale simple la voyelle prothétique n’apparaît que pour les sonnantes, nous partons de la supposition que chaque racine indoeuropéenne commençait par un élément consonantique. L’esprit doux grec possède une triple origine (< *ǵ*, *ǵ₂*, *ǵ₃*), reflétée par le triple timbre de la voyelle fondamentale».

Despite the fact that PVs were thought to be the chief strategy that Greek adopted to remove /r/ from initial position, even an early laryngealist like Beekes admitted that considering former PVs as the regular reflexes of initial laryngeals does not mean that one should rule out the possibility of PIE roots beginning by *r-. At the same time, he stated that there is no «reason to assume that PIE r- would have been given a prothetic vowel in Greek» (BEEKES 1969: 74). Years later, however, he returned to the issue, stating without further arguments that «PIE did not have a word-initial r-; apparent instances had an initial laryngeal. This laryngeal or its reflex (in Armenian and Greek) was always there: there was no period where a (real) prothetic vowel could have been added before the r- (as there was no initial r-)» (BEEKES 2003b: 185, cf. also *EDG*: 146). This idea goes back to LEHMANN 1951, and still finds wide support in the Leiden school (*e.g.* SCHRIJVER 1991: 13-4, KLOEKHORST 2006: 78, fn. 9) and beyond (*e.g.* KIMBALL 2017: 252, though more cautiously), but it has never been properly proved (or disproved, for that matter). In current handbooks, we read that «PIE probably did not have *r in Anlaut. Apparent cases had *Hr-» (BEEKES 2011: 171), but also that «the lack of r-initial words in Anatolian, rather than reflecting something inherited from PIE, could be an areal feature» (FORTSON 2010: 172; cf. also KIM 2018).

In order to prove that PIE did not have initial /r/, we need to demonstrate that all Greek and Armenian /PV-r/ sequences go back to *Hr-. Since we only have access to the historical languages, the only way to go is to scrutinise all Greek lexemes beginning with ἄρ-, ἐρ-, and ὀρ-, and to see how many of them have cognates pointing to initial laryngeals. When it comes to inherited words, the best proof of the fact that a PV is a vocalised laryngeal is finding a cognate in a different branch which preserves laryngeals (Anatolian) or traces

thereof (Indo-Iranian).²⁰ As we will see, it is impossible to positively demonstrate that most /PV-*r*/ sequences go back to **Hr-*, so the assumption that PIE did not have initial /*r*/ rests on anything but solid grounds. Let us start with the analysis of the Greek data.

I have gathered (*Appendix 1*, TABLES 1-3) all the words starting with $\alpha\rho-$, $\epsilon\rho-$, and $\omicron\rho-$ inherited from hypothetical PIE **Hr-* sequences, and I have given the PIE root (or formation, whenever available), together with the main cognates in other branches.²¹ A fundamental distinction needs to be made between *#arC-*, *#erC-*, *#orC-* and *#arV-*, *#erV-*, *#orV-* sequences: the former may go back to **H(V)rC-* or, in the case of *#arC-*, to **rC-*,²² so it is only through the latter that we are really able to evaluate if the vowels in the initial sequences $\alpha\rho-$, $\epsilon\rho-$, and $\omicron\rho-$ go back to a laryngeal or if they are ‘real’ PVs.

It turns out that in most, if not all, Greek *#arV-*, *#erV-*, and *#orV-* sequences the initial laryngeal is reconstructed on the basis of Greek alone, for in the other branches there is no

²⁰ For example, we can be fairly certain that $\alpha\sigma\tau\eta\rho$ ‘star’ goes back to a root beginning with a laryngeal, because we have the Hittite cognate *hasterza* ‘star’ (although the precise reconstruction of the PIE form is not entirely clear, cf. ALFIERI 2010: 10-11); similarly, the α - in $\alpha\nu\eta\rho$ is the vocalisation of a laryngeal and not a ‘real’ prothetic vowel, because the Sanskrit compound *sūnāra-* ‘having good heroes’ points to a laryngeal-initial root (the *-u-* is normally short, but the lengthening is explainable by postulating a root **Hner-* instead of **ner-*). This obviously applies to inherited words, and only to them; as for non-inherited words, all we can do is look at forms in the source language (if available), to see whether or not there is variation in the Greek form itself (*i.e.* if the word is always attested with a prothetic vowel and if the timbre of the vowel is consistently the same), and – in case of *Wanderwörter* or of ‘Mediterranean’ words – look for similar forms in other languages of the area.

²¹ This list has been produced by searching Beekes’s etymological dictionary. I have excluded from the count all the words supposedly deriving from **HVr-*, and secondary derivatives, cognates, and compounds of words supposedly deriving from **Hr-*. For obvious reasons, forms with initial digamma (*e.g.* $\alpha\rho\eta\nu$) or initial **HVr-* (*e.g.* $\alpha\rho\alpha\rho\iota\sigma\chi\omega$ ‘to fit together’ < **h₂er-* ‘to fit’) are uninteresting for our purposes and have been ignored. In addition to these items, one should also list the following, which are thought to be zero-grade formations from **HVr(C)* roots: $\alpha\rho(\alpha)$ ‘then’, ‘so’ < **h₂(e)r* (but cf. Cyp. $\epsilon\rho(\alpha)$); possible connection with the root of $\alpha\rho\alpha\rho\iota\sigma\chi\omega$; $\alpha\rho\tau\acute{\upsilon}\omega$ ‘to arrange’, ‘to prepare’ < **h₂(e)r-tu-* ‘order’; cognates: Skt. *ṛtú-* ‘order’, Arm. *ard*, Lat. *artus*; $\omicron\rho\acute{\upsilon}\omega$ ‘to hurry’ < **h₃r-u-* ‘to stir’, ‘to rise’; cognates: Lat. *ruō* ‘to collapse’. The first two items, $\alpha\rho(\alpha)$ and $\alpha\rho\tau\acute{\upsilon}\omega$, could be outcomes of pre-forms in **Her-*.

²² Regardless of one’s acceptance of the *Lex Rix* (by which there would be ‘triple representation of schwa’ in initial zero grade forms with a laryngeal followed by a vocalic resonant: **h₂RC-* > Gk. *erC-*, **h₂RC-* > *arC-*, and **h₃RC-* > *orC-*, RIX 1970), these forms tell us little about initial /*r*/ in PIE (Rix’s law has been much debated over the past decades: cf. LINDEMAN 1997, MEISNER 1998 VINE 2005). Even admitting *contra* Rix that some of these forms came from **rC-*, vocalic [ɾ] does not necessarily point to root-initial /*r*/, unless of course one admits the possibility of roots beginning with a vowel. An overall assessment of the *Lex Rix*, together with the related problems of PIE root structure, PIE **a*, and the outcomes of initial **h₃* in Anatolian (on which see fn. 35 *infra*) goes beyond the aims of this work.

trace of any other phoneme before initial /r/.²³ The Greek pre-forms behind the vast majority of the words listed in the *Appendix* could in theory begin with *r-, if we admit the existence of real prothetic vowels. Specifically:

- ἀρήγω and ἀριθμός may go back to pre-forms starting with *r- instead of *h₂r-
- ἔρεβος, ἐρείκω, ἐρείπω, ἐρέπτομαι, ἐρεύγομαι, ἐρευνάω, ἐρέφω, ἐρήμος, ἐρυθρός, ἐρωή may go back to pre-forms starting with *r- instead of *h₁r-
- ὀρέγω and ὀρύσσω are more disputed cases,²⁴ but they may go back to pre-forms starting with *r- instead of *h₃r-

As for borrowed words, one should bear in mind that in most cases it cannot be certain that the source language had initial /r/. A Vr- sequence could in fact come from /sVr-/,²⁵ /wVr-/, /yVr-/ (with eventual psilosis and depending on the time of the loan), or simply reflect original /Vr-/, and when the etymology is unknown and no similar forms are found in other languages, it is impossible to establish what the *Anlaut* of the original word was, and what kind of changes the word underwent in order to be adapted to Greek phonotactic rules. This is why a complete list is not necessary here.

In sum, on the basis of the evidence above, there is no reason to suppose that *all* Greek Vr- sequences that are not derived from *ser (with psilosis), *wer or *Her- should go back to forms with *Hr-. At the same time, Greek alone does not provide sufficient reasons to assume that /r/ could not occur in *Anlaut* in PIE. It will then be useful to look at the

²³ In addition to the items listed, Beekes derives ἡρέμα 'quietly', 'slowly' from *h₂remH- 'to rest', 'to be quiet'; the Thessalian form ἐρέας 'children' is perhaps IE (< *h₁(e)r- 'arise'), but no cognate forms are given. In a case such as ἐρείδω, Beekes mechanically reconstructs a pre-form with initial laryngeal (*h₁reid-).

²⁴ According to the *communis opinio*, Gk. ὀρέγω is connected to Hitt. ḫarganāu- 'palm (of the hand)', 'sole (of the foot)', but Kloekhorst (2006 and *EDHIL*) argued that the Hittite etymology cannot be upheld; as for ὀρύσσω, Melchert recently connected it to CLuw. ḫarwa-, which comes from a pre-form *h₃rw-o- 'dug (through)', with the same semantics as Hittite palsa- 'road' < *bels- 'to dig', as per KIMBALL 1999: 450 (paper presented at the 2014 *ECIEC*; I am indebted to H. Craig Melchert for sharing his handout with me).

²⁵ If the loanword pre-dated the common Greek sound change *s > h / #_ and then underwent psilosis.

Anatolian languages before re-assessing all arguments for and against the absence of initial **r-* in PIE.

2.2.3 (Absence of) initial /r/ in Anatolia(n)

Several languages attested in the Anatolian area do not have initial /r/:²⁶ Hittite and Cuneiform Luwian famously lack words starting with *r-*. Hieroglyphic Luwian and Lycian, on the other hand, synchronically display *r-* in some forms, but all of them can be traced back to pre-forms with no /#r/:²⁷

- Hieroglyphic Luwian: *Runtappi(ya)-* (PN), *Runti(ya)-* (PN), *Runti(ya)-* (DN), *Ruwa-* (PN), *ruwan-* (adv.) ‘formerly’, *Ruwanti(ya)-* (PN).
- Lycian: *rbbinezis* (Lyc. B), *rinase* (Lyc. B), *ripsse* (Lyc. B), *rñmazata*, *rñpaimi* (Lyc. B), *rñpali* (Lyc. B).

The HLuw. PNs (and DN) *Runti(ya)-*, *Runtappi(ya)-* and *Ruwanti(ya)-* go back to **krunt°*, showing therefore a simplification of the cluster /kr/ > /r/: these clearly have the same base as the name of the king *Kurunta* (NH 652). As for the adverb *ruwan-* it is probably cognate with Hitt. *karū* ‘formerly’ (see lit. in HED IV: 114).

Only one out of six items listed under ‘Lycian’ belongs to Lycian A: *rñmazata* (found in 131, 4) is generally interpreted as reflecting **arma-zata* (*arma* being the Hittite and Luwian word for ‘month’), an accusative neuter plural or a dative-locative plural, and translated as

²⁶ The absence of initial *r-* in Hittite was first observed by Hrozný: «In den mir zugänglichen Texten findet sich kein Wort, das mit *r-* anlauten würde» (HROZNÝ 1917: 188, fn. 6, 237). Incidentally, he also noticed that a similar restriction is found in Lydian (p. 193), indirectly citing Enno Littmann, who thought that this feature was reminiscent of Turkish and who was in turn reminded by Wackernagel that no genuine Greek or Basque word had initial *r-* (LITTMANN 1916: 64, and fn. 1). Lycian, Armenian and Hurrian (“Mitanni”) were added to this group by FRIEDRICH 1931: 26, and Luwian and Hattic by SOMMER 1947: 71.

²⁷ The online dictionary by I. Yakubovich (<http://web-corpora.net/LuwianCorpus/search/>) has been used for Hieroglyphic Luwian, while NEUMANN 2007 has been used for Lycian.

‘monthly offering’ (MELCHERT 1993b: 6, NEUMANN 2007: 309), This form might have undergone aphaeresis because of the accentual shift in compounds. All other Lycian forms belong to Milyan. While the *r-* in *rbbinezis*, *rṃpaimi* and *rṃpali* is explainable as a syllabic [r] produced by aphaeresis of previous [ar] (cf. *rṃmazata*), *rinase* and *ripsse* are genuine forms with initial /r/ (MELCHERT 1994: 297).

One should note that the former, only found in one instance (55, 5) is a restored form [r]inase, so it has little or no probative value.²⁸ The latter is found in more than one instance, but despite the obscurity of its meaning, one can trace back the initial *ri-* to **eri-* (various hypotheses in NEUMANN 2007: 308-9).

Carian only has an apparent exception, *rtim*, which can be explained by aphaeresis or by orthographical practices (ADIEGO 2007: 254). As for Lydian, one only finds the word *rawal*, a 3rd p. sg. of a verb *rava-* whose meaning should be ‘to grant’ (LW: 189) but whose etymology is not entirely clear.²⁹

As anticipated above, non-Indo-European languages of the area have an identical restriction: as is the case for Hittite, Palaic and Cuneiform Luwian, Hattic does not have words with initial /r/ (KAMMENHUBER 1969a: 448). In Hurrian, the liquids /l/ and /r/ do not appear in initial position, except in loanwords (WEGNER 2007: 47, cf. already BERKOOZ 1937: 57), and in the closely-related Urartian *r-* is only found in the name of the king *Rusa*, which was probably pronounced /ursa/ (SALVINI – WEGNER 2014: 16).

All in all, it seems quite clear that no Anatolian language originally had initial *r-*, and the same applies to other non-IE languages of the area. What remains to be seen is whether this

²⁸ An alternative restoration is [z]inase (DLL³: 137).

²⁹ The connection with Hitt. *arawahh-* ‘to release’, ‘to set free’ would hold from a formal point of view, but it is not semantically unquestionable (GUSMANI 1980-6: 86).

feature of Anatolian is an archaism inherited from PIE or an innovation. In order to choose between the two options, it will be necessary to assess whether or not there are Hittite words which can be traced back to PIE initial **r-*, *i.e.* look for Anatolian cognates of words beginning with *r-* in other branches (or non-laryngeal-derived /#Vr-/ sequences in Greek).

As we have seen for Greek, we have no reason to believe that initial *r-* dropped or merged with a different phoneme. It is then legitimate to ask ourselves if initial *Vr-* sequences in inherited words reflect earlier **Hr-*, or if Anatolian also had ‘real’ prothetic vowels. Since initial *a-* in Hittite *may* go back to **h₁*,³⁰ initial **h₂* is generally preserved as a consonant in *Anlaut* (*e.g.* *ḫapa-* ‘river’ < **h₂eb^h-o-*), and **h₃* is preserved as well, at least in some environments (*e.g.* *ḫāran-* ‘eagle’ < **h₃ér-on*),³¹ one may wonder whether initial *ar-* sequences reflect **h₁r-* or go back to simple **r-* with the addition of a prothetic vowel *a-*.

Johann Tischler went in this direction in a 1972 article in which he tried to understand whether or not some of the PIE roots beginning with **r-* left any traces in Hittite. He concluded that some words could be traced back to PIE **r-* and as a consequence Hittite had examples of prothetic vowels (TISCHLER 1972: 284-6):

³⁰ As some assume on the basis of examples such as *ašanzi* ‘they are’ < **h₁s-enti*; others instead believe that initial *a-* is analogical and that **h₁* was lost altogether; cf. MELCHERT 1994: 64ff. and KLOEKHORST 2006: 77-81.

³¹ The outcomes of initial **h₃* in Anatolian are a rather controversial issue. There is now some agreement that **h₃* is preserved initially (at least in some environments) in Hittite, Palaic and Cuneiform Luwian, but the precise conditions are still under scrutiny. The main scholarly views can be divided in three groups: 1) *#h₃* > *#h-* (MELCHERT 1994, KIMBALL 1987, OETTINGER 2004); 2) *#h₃* > \emptyset (EICHNER 1988); 3) *#h₃* > \emptyset , *#h-* (RASMUSSEN 1992, KORTLANDT 2003-2004, KLOEKHORST 2006). While the proponents of the first theory argue for a consistent preservation of initial **h₃* and those of the second maintain that the initial laryngeal was lost in all environments, other scholars look for a compromise, arguing that **h₃* was sometimes lost, sometimes retained as *h-*. Since Rasmussen does not seem to give an explanation to the fact that words like Hitt. *arki-* ‘testicle’ (cf. Gk. ὀρχίς ‘id.’) seem to point both to retention and loss of the laryngeal, but contents himself with a situation of chaos, Kloekhorst (2006: 94-5) tried to find a distributional pattern that would be conditioned by the phonetic environment. Following KORTLANDT 2003-2004, who argued that initial **h₃* becomes **h₁* before **o* (and is then regularly lost) but is preserved before **e* (therefore *a* < **h₁o* < **h₃o* while *ha-* < **h₃e*), he takes into consideration a set of words whose reconstructed form begins with the third laryngeal and concludes that in Hittite initial **h₃* is preserved before **e* (*ḫāran-* ‘eagle’ < **h₃er-on*), lost before **o* (*ārki-* ‘to mount sexually’ < **h₃orġ^hei*) and before resonants (*arai-* ‘to (a)rise’ < **h₃r-oi-*). This hypothesis would, of course, imply that a connection such as Hitt. *ḫarganāu-* ‘palm of the hand’ < **h₃rġnōu* ‘extension’ ~ Gk. ὀρέγω ‘stretch out’ < **h₃rég^h-* is impossible (and this is indeed what Kloekhorst maintains in his *EDHIL* s.v.). More on this in 2.4.1 *infra*.

- *arandaliya*- ‘to grumble’ (?) < **re(n)t*- ‘to stir’
- *arḥa* ‘off’ < **rHe*- (cf. Lat. *re*-),
- *arrir(a)*- ‘to scratch’ < **ri-ir*- ‘to scratch,
- *ark*- ‘to divide’ < **rek*- ‘to divide’,
- *argatiya*- ‘to fight’ < **reġ-t*- ‘to stretch’,
- *armizzi*- ‘bridge’ < **rem*- ‘to support,
- *arpa*- ‘disfavour’ < **rep*- ‘to wipe out’

However, one must say that his analysis rested on the assumption that PIE *did* have initial **r*-.³² By contrast, Kloekhorst, who believes that PIE had no initial **r*- (cf. KLOEKHORST 2006: 78 fn. 9), does not list most of these words in his *EDHIL*.³³ He tries to reconstruct a system *où tout se tient*, tracing back all Hittite *ar*- sequences to various combinations of **H(V)r*-.³⁴ This is coherent with the framework of the Leiden School, according to which PIE had no initial **r*-, no **/a/*, and no roots beginning with a vowel.³⁵ Melchert (1994: 67)

³² At p. 269, he openly referred to Pokorny’s list of more than 30 independent roots starting with **r*-, and the PIE roots listed above are unsurprisingly those found in *IEW*, which is notoriously a pre-laryngealistic repertoire.

³³ Only two of them are treated: *arḥa* ‘off’ < **h₁erh_{2/3}*- / **h₁rh_{2/3}*-, cf. Lat. *ōra*, and *ārḥ* / *ark*- ‘to divide’ < **h₁or^(k)*- / *h₁or^(k)*- (root *h₁er^(k)*-); *arandalliya*-, *arrir(a)*-, *arpa*-, *argatiya*- ‘to fight’, and *armizzi*- are not listed at all.

³⁴ See a complete list on TABLE 4 in the *Appendix*.

³⁵ This account is not wholly unproblematic. First of all, there are some inconsistencies in the treatment of the Anatolian data: if **h₁er*- > *ar*- (as in *ārku*-²ⁱ / *arku*- ‘to chant’ and *ārš*-²ⁱ / *arš*- ‘to flow’), why do we also have **h₁er*- > *er*- (as in *erḥ*- / *arḥ*- / *arḥ*-, *erḥa*-, *arḥa*- and *erman* / *armn*- ‘illness’)? Secondly, these words have, unsurprisingly, very few possible cognates in Greek: ἀραιόσχω (to *āra*), ὄρρος (to ^(vzu)*arra*-), ἐρέω (to *ariye/a*-²ⁱ), ἔρχομαι (to *ār*-ⁱ / *ar*-), ὀρνυμι (to *arnu*-²ⁱ), and ὄρχις (to *arki*- ‘testicle’ from *ark*-^{a(r)} / *ārḥ*-ⁱ / *ark*-). Not all of them are to be taken for granted, though: only Gk. ἐρέω, whose etymology has always been a *crux* (see e.g. *DELG*: 370), is connected by some to Hitt. *ariye/a*-²ⁱ < **h₁r-ye/o*- (after KIMBALL 1987: 189). The etymology of ἔρχομαι is even more problematic (cf. *DELG* s.v.). Thirdly, most given reconstructions depend on the acceptance of the *Lex Rix*: on the basis of Hitt. *arnu*-²ⁱ and Gk. ὀρνυμι, a pre-form in **h₃r*- is generally postulated, but nothing prevents us from reconstructing **(h₁)or*- instead (this would also remove the difficulties of connecting ἔρρος to the same root, with a pre-form **h₁er-n-o*-; the only difficulty would be the *o*-grade in a nasal present). The same holds for Gk. ὄρχις and Hitt. *arki*- and in general for Gk. ὄρ- ~ Hitt. *ar*-. This means that Hitt. **h₃r*- > *ar*- is not as straightforward as Kloekhorst would want it to be, as it implies the acceptance of the *Lex Rix*, the absence of **a* from the phonemic inventory of PIE, the absence of **VC* roots, and also the absence of initial /r/ (for a recent analysis of many of these issues, see ALFIERI 2010).

tentatively suggested that Hittite inserted a prothetic vowel before /r/, but according to him this must have happened after the loss of initial laryngeals.³⁶

Once more, it is crucial to distinguish between *arV-* and *arC-* sequences, since only the former can give positive evidence.³⁷ In Tischler's list, only *arandaliya-* and perhaps *arrir(a)-* fall under this category, and their etymology is unsurprisingly unclear (cf. *HED* s.v.). Melchert (1994: 67) adds the example of *arāi/ariyanzi* 'to rise' *arV-*, and this is the only form which scholars usually reconstruct with a laryngeal. Here the initial laryngeal could be either **h₁* or **h₃*, depending on which set of cognates we accept, but this is a much-debated form on which no consensus has been reached,³⁸ and it is therefore extremely unsafe to use it as proof for one or the other theory.

In other words, descriptively speaking, whenever the laryngeal is not preserved in its consonantal form, Hittite shows an initial vowel before *-r-*. Anatolian might have inherited some PIE roots beginning with **r-*, but it is objectively hard to prove that it inserted actual prothetic vowels: there is always (except in the case of *arāi/ariyanzi*) the possibility that *ar-* is produced by an allomorph with zero-grade and a syllabic sonorant **r̥* which regularly yields *ar-* (this obviously applies also to the cases of reconstructed **HR-*). Therefore, it is methodologically unsound to rewrite *all* Hittite *Vr-* sequences as **HVr-* or **Hr-*, because very often there is no evidence whatsoever that the initial vowel is produced by the vocalisation

³⁶ This is however not sufficient to *prove* that PIE had no initial /r/, as R. Woodhouse seems to imply: «according to Melchert the putative PIE **h₁-* was no longer required to explain the Hittite prothetic vowel, or, to put it another way, Hittite did not inherit an intolerance of anlaut **r-* from PIE but developed this intolerance independently» (WOODHOUSE 2011: 58).

³⁷ Any Hittite zero-grade formation which had cognates beginning with /r/ could in theory constitute additional proofs, but unless we have a cognate in a language which preserves traces of initial laryngeals before /r/, this evidence is inconclusive.

³⁸ Scholars debate on whether *arāi/ariyanzi* should go back to 1) **h₁réih_{1/3}yēi* / **h₁rih_{1/3}yénti* (MELCHERT 1994: 67) or **HroiH-* / *HreiH-* (JASANOFF 1981, 2003: 93, 211-2) and therefore be connected to the series of Arm. *ari* 'stand up' (imp.), *y-areay* 'I stood up' (aor.), and perhaps Goth. *ur-reisan* 'to rise' (*LIV*²: 252), or to 2) **h₃roi-ei* / **h₃ri-enti* (as per OETTINGER 2004 AND KLOEKHORST 2006b) and therefore be connected to the series of Greek ὀρίνω 'to stir' (zero-grade from **h₃er* with **h₃r > ὀρ-* by the *Lex Rix*), Lat. *orior* 'to arise'.

of a laryngeal. Saying that Hitt. *ar-* *always* comes from a laryngeal + *r* is simply a non-falsifiable statement,³⁹ and the mechanic rewriting of all *Vr-* sequences as **HVr-* or **Hr-* rests on rather shaky grounds.

Summing up, it is not strictly provable that /r/ was removed from the initial position through a prothetic vowel, but one cannot exclude that Anatolian did preserve some PIE roots beginning with **r-*. In any case, we have seen that IE and non-IE languages in Anatolia synchronically share this phonotactic constraint, whatever its origin. One may then wonder what the situation might have been in the only other IE language in the area: Phrygian.

2.2.4 Initial /r/ in Phrygian

Phrygian has a remarkably low number of words beginning with *r-*: the only forms reported in the main Phrygian glossaries are ριδιτι, ρεκτεον, *rimaru*, *rola*, *ronogioy*, [ρ]ουπασς (OREL 1997) and ροχα (DIAKONOFF – NEROZNAK 1985). This scarcity may well be due to chance, but what is most remarkable is that none of these forms can be reasonably traced back to PIE roots with either **r-* or **Hr-*.

The PN *rola* is originally Thracian (Ῥώλης), and the PNs *ronogioyi* and *rimaru*⁴⁰ might well be non-Phrygian.⁴¹ Even if one admits that Neo-Phrygian (2nd-3rd c. CE, written in Greek

³⁹ This also applies to *arC-* sequences, even though these are less probative. Let us take *ardu-* ‘to saw’ as an example. Puhvel (*HED* I: 175) connects it to Skt. *rādati*, ‘to dig’, ‘to scrape’ and Lat. *rōdere* ‘to gnaw’, which could make sense from a semantic point of view. If one strictly follows the “Leiden-style” sound laws listed above, the pre-form (a *u*-present) would be **Hrh₃d-u-*, an *Ablaut* variant of a root **Hreh₃d-*. Kloekhorst himself characterises this reconstruction as «not very appealing» (*EDHIL*: 211), and one can easily see that it is once again due to the assumption that there was no initial **r-* in PIE. I believe that this form can be explained in one or two different ways, provided that we assume that PIE tolerated initial **r-*. We may postulate a root **reh₃d-*, which in the *e*-grade could easily account for Skt. *rādati* and Lat. *rōdere*, with the laryngeal accounting for the Latin long *ō*, and dropping in Indo-Iranian by Lubotsky’s Law (Iir. **H* dropped before by a voiced stop plus another consonant, cf. LUBOTSKY 1981). Hitt. *ardu-* could then be derived from **rh₃d-u-*, with a regular development **r > ar-*. One could even dispose of **h₃* by giving up the Latin form, which could also belong with the Germanic series of OE *wrōtan* ‘to dig’, OIc. *róta* ‘to stir’, etc., which would point to a proto-form with **wr-*. This would allow an *e*-grade **red-* and a zero-grade **rd-*, which would account for the Sanskrit and Hittite forms respectively. Alternatively, one could connect Lat. *rādere* ‘to shave’ to this series, and this would require **reHd-/ *rHd-*.

script) may have preserved this constraint at a phonetic (but not graphic) level, ρεκτεον is a loanword (from Lat. *rectiō*), [ρ]ουπασς⁴² (a PN) is the Phrygian version of Lat. *rufus*, and ροχα (usually translated as ‘children’, ‘offspring’) could also be read εροχα.⁴³ The only form which may carry some weight is ριδιτι. This is translated as ‘to establish’, ‘to put’, ‘to set’ from the context, and it has been compared to Gk. ἐρείδω ‘to prop’, ‘to support’. If this connection is valid, there are two options, which depend on the reconstruction of the PIE form: either ἐρείδω points to a laryngeal-initial PIE root⁴⁴ and thus Phrygian drops initial laryngeals in front of *-r-*, or the PIE root is **reid-*, and Greek develops a prothetic vowel while Phrygian tolerates and keeps initial /r/. This is clearly too little evidence to make a final call, because nothing else supports the connection between the two words.

Absence of evidence is not evidence of absence,⁴⁵ so it is impossible to argue that Phrygian developed ‘prothetic vowels’ in front of initial /r/ or that it did not inherit any PIE roots beginning with **r-*. However, one should note that Phrygian is generally thought to share several sound changes with Greek,⁴⁶ so it would not be surprising if Phrygian shared this constraint with it and with the other languages of the area.

⁴⁰ *rigaru* is the reading preferred in *CPP*: 179.

⁴¹ The former has no etymology at all. As for the latter, cf. the PN Πιμάρου, attested in a Greek inscription from Teimiussa (n° 113 in PETERSEN – VON LUSCHAN 1889: 58).

⁴² There is little doubt that <ρ> is to be restored, because the Greek text in this bilingual inscription reads Κοίτος Πούφου.

⁴³ Cf. DIAKONOFF – NEROZNAK 1985: 131-2.

⁴⁴ As Beekes assumes when he mechanically reconstructs **h₁reid-*, cf. *supra*.

⁴⁵ The absence of the words for ‘red’, ‘bear’, *vel sim.*, which could give us clues on the outcome of initial **(H)r-*, prevents us from considering Phrygian as a primary source for the study of initial **r-* or laryngeals before **r-*.

⁴⁶ See in particular the ‘prothetic vowels’ / reflexes of initial laryngeals: *e.g.* Phr. *anar* ‘man’ and Gk. ἀνὴρ vs. Skt. *nár-*, Phr. *onoman* (acc.) ‘name’ and Gk. ὄνομα vs. Skt. *nāman-* and Lat. *nōmen*.

2.2.5 Initial /r/ constraint: archaism or innovation?

It is now time to answer the long-postponed question of whether or not PIE already had a phonotactic constraint by which **r-* could not appear at the beginning of words. Finding an answer to this question is fundamental for our purposes, because if PIE itself did not tolerate words with initial /r/, then Anatolian and Greek (whatever the origin of prothetic vowels) would only preserve an older situation, and this shared constraint would only be marginally significant in terms of language contact or sub-grouping.⁴⁷

The main arguments in favour of the prohibition of initial **r-* in PIE are the interpretation of Greek and Armenian prothetic vowels as reflexes of laryngeals and the absence of initial *r-* in Anatolian. According to some scholars, PIE laryngeals have the following outcomes before *r-* (regardless of what follows /r/): **h₁r-* > Gk. ῥ-, Hitt. *ar-*; **h₂r-* > Gk. ῥ-, Hitt. *har-*; **h₃r-* > Gk. ῥ-, Hitt. *ar-*. However, we have seen that the available evidence is not sufficient to prove that PIE did not have initial **r-*. Most Greek *Vr-* sequences cannot be positively proven to be derived from **Hr-* because one finds no support in cognates from other branches which unequivocally preserve traces of laryngeals, and some Hittite *ar-* sequences *can* in theory (or cannot be proven not to) go back to roots with initial **r-*. As for Armenian, if one does not follow KORTLAND 1984 in assuming a threefold reflex of laryngeals in initial position, but accepts that all laryngeals yielded *a-* in preconsonantal position,⁴⁸ then at least one word with PV which also has a Greek cognate can be reconstructed with initial /r/: the series of Arm. *erek* ~ Gk. ῥεβος, Skt. *rájas-*, etc. can only be reconstructed as **rég^wos*. Finally, there is no reason to assume that words such as Skt. *rátha-* ~ Lat. *rōta* ~ OIr.

⁴⁷ It would of course be interesting to know whether there is a correlation between this preserved archaism and the fact that Anatolian, Greek and Armenian (perhaps Phrygian?) are the branches in which the laryngeals are 'vocalised' in *Anlaut*.

⁴⁸ This type of laryngeal "vocalization" would be more similar to that in internal position, and is thus more likely.

reith ~ Lith. *rātas*, etc. which have no obvious cognates in Greek, Armenian, or Anatolian, should be reconstructed with an initial laryngeal.

Nor does a look at the problem in the opposite direction – namely taking a repertoire of PIE roots and looking at those with initial **Hr-* and **r-* – provide arguments in support of a PIE constraint. Leaving aside (Walde-)Pokorny's *IEW*, which does not take laryngeals into consideration, a search in *LIV*² (*Appendix 1*, TABLES 5-8) shows that there are 19 verbal roots possibly beginning with **Hr-*. The authors of *LIV*² list 9 of these (all beginning in **h₁r-*, cf. *Appendix 1*, TABLE 8) together with the roots beginning with **r-* (*Appendix 1*, TABLE 9; cf. *infra*), because they believe that the Greek evidence is not sufficient to reconstruct an initial laryngeal. In other words, they leave open the possibility that initial *é-* in Greek could be a real prothetic vowel. The remaining 10 roots are thought to begin with a laryngeal:

- 4 with **h₁r-* (1. **h₁reh₁-*, 2. **h₁reh₁-*, **h₁rei₁-*, and **h₁rem-*)
- 2 with **h₂r-* (**h₂reh₂(^h)₂-* and **h₂res-*)
- 4 with **h₃r-* (**h₃reġ₃-*, **h₃reiH₃-*, **h₃reμH₃-*, and **h₃reuk₃-*)

*LIV*² also lists 28 roots beginning with **r-*:⁴⁹ the presence of **Hr-* here cannot be positively demonstrated because there is no evidence at all from branches preserving initial laryngeals in vocalic or consonantal form (Greek, Anatolian and Armenian); besides, those branches normally preserving traces of initial laryngeals do not show any in these roots. For instance, if only *anlauting* **Hr-* (and not **r-*) were acceptable in PIE, one would expect all (or most) Indo-Iranian roots beginning with original *r*-⁵⁰ to leave traces of the preceding laryngeal (*e.g.* lengthening in compounds as in *sūnára-*, cf. fn. 20 *supra*). Now, many of them (**ram-*, **rā-*,

⁴⁹ See TABLE 8 in *Appendix 1*. This count excludes the nine roots in **(h₁)r-* in TABLE 7. One should note that 8 out of these 28 roots are considered uncertain: these are the ones preceded by a question mark.

⁵⁰ One should recall that in many Indo-Iranian dialects, PIE **r* and **l* merge into /r/.

**rādh-*, **raić-*, **raikh-*, **racš-*, **raudh-*, **rauH-*, **raup-*.) show no trace of laryngeal whatsoever, so the Indo-Iranian evidence cannot be used in support of a prohibition of initial **r-* in PIE.

Expanding on Zair's observation that the apparent preponderance of roots in **h_r-* (compared to the number of **h₂r-* and **h₃r-* roots) may be a hint at their secondary origin,⁵¹ one may even go further and question the very existence of some generally accepted instances of **Hr-* in PIE. The correspondence between Gk *ōp-* and Hitt. *ar-* could as well be traced back to PIE **(h_r)or-*, and Gk. *ōp-* ~ Hitt. *har-* is only certain in the pair *ἄρκτος* ~ *hartagga* (which is considered uncertain by *e.g.* BEEKES 1969: 35). As for the first laryngeal before *r*, in all cases of **h_rrV-* **h_r-* finds no external confirmatory evidence; in **h_rrC-* sequences, instead, the entire evidence for **h_rr-* > Gk. *ēp-*, Hitt. *ar-* rests on the connection between Gk. *ἐρχομαι* and Hitt. *ār-ⁱ/ar-* 'to arrive', which is quite uncertain (cf. the alternative proposed by MEILLET 1929).

One may wonder whether *e-* was the 'standard' (and only) prothetic vowel used whenever Greek needed to remove inherited **r-* from initial position. The same might have happened in Armenian, where we can perhaps argue that there was only one prothetic vowel, which however could sometimes undergo assimilation depending on *Inlaut* vowels (*e.g.* *orucam* < **erucam*).

Whatever stance one may take on the existence of **Hr-* sequences, the above evidence seems to suggest that the burden of proof now lies on whoever wants to argue *for* a

⁵¹ «It should be noted that the number of roots apparently beginning **h_rr-* only on the evidence of Greek is much greater than the number beginning **h₂r-* and **h₃r-*: a search in LIV finds 9 (with another 4 reconstructed on the basis of other languages), as opposed to 2 with **h₂r-* and 4 with **h₃r-*. The proportion of roots beginning with laryngeal plus another sonorant is 7 (**h_rR-*), 13 (**h₂R-*) and 3 (**h₃R-*), while the total numbers for all roots beginning with a laryngeal are 42 (**h_r-*), 83 (**h₂-*) and 21 (**h₃-*). In the light of this, the apparent preponderance of *ēp-* may be secondary rather than the result of **h_rr-*. A firm conclusion that no Proto-Indo-European roots began with **r-* cannot be drawn» ZAIR 2012: 10.

prohibition of initial /r/ in PIE, and that the idea that this feature shared by Greek, Anatolian and Armenian is an archaism should be regarded with due scepticism.

If this constraint is an innovation, as I believe, one should try to understand its genesis. An obvious possibility is that this is a common innovation of Anatolian, Greek, and Armenian, all of which are contiguous IE branches. This would perhaps be compatible with the geo-linguistic notion of the ‘lateral area’,⁵² but it would simply be unrealistic to think that a proto-Greek-Armeno-Anatolian speech community did not tolerate initial /r/. Such an intermediate unit is extremely unlikely to have existed to begin with, and – as CLACKSON 1994 showed – even in Greek and Armenian (which have been thought to constitute a subgroup of the IE family for a long time) ‘prothetic vowels’ (or laryngeal vocalisations, for that matter) are an independent phenomenon. For these reasons, Greek, Armenian and Anatolian innovated from PIE, but this is likely to have happened independently, perhaps at different times. Nonetheless, given their geographical proximity, it is reasonable to postulate a single cause for this change.

Given that the restriction of initial /r/ is found in other non-related languages of the area, such as Hattic and Hurrian, the most common explanation given by those who believe that we are not facing a PIE archaism is that the aforementioned restriction is an areal feature due to the presence of a common substrate. This idea goes back to Ferdinand Sommer, who also postulated a connection with Caucasian languages, which also lack roots with initial *r*- (SOMMER 1947: 81, 98-9).

Common substrate *is* a possibility, but a very remote one that we can hardly prove with the data we have. Not only are there no further isoglosses shared by all these languages, but

⁵² By which an archaism – in this case the preservation of initial **r*- – is more likely to be found at the margins of a speech community; cf. 1.4.1.2 *supra*.

also it is also objectively difficult to imagine a uniform substrate linguistic community stretching from Western Mesopotamia to continental Greece. By contrast, the hypothesis of an areal trait which somehow diffused in prehistoric times (pre-mid-second millennium) across genetically related and unrelated languages is much more viable, though ultimately impossible to prove in the strictest sense. The starting point could have been either an IE sub-group or a single IE or non-IE language, and the impossibility to define the path of diffusion forces us to leave the question open, keeping in mind that the hypothesis of an areal phenomenon has more explanatory value than that of a PIE restriction. The latter, based on specific (arguable and not strictly falsifiable) assumptions, would consider the data from the non-IE languages of the Anatolian area either a mere coincidence or secondary developments (even if of areal nature); the former, instead, has the advantage of giving a more coherent picture and is based on more falsifiable assumptions.

2.2.6 Initial /r/ in the Graeco-Anatolian area: conclusions

We have seen that the question of whether Greek and Anatolian share a phonotactic constraint prohibiting initial /r/ is deeply intertwined with and dependent on the nature of prothetic vowels. It is also connected to the outcomes of initial laryngeals, to the structure of the PIE root, and to the presence of /a/ in PIE. A complete re-evaluation of these problems goes well beyond the scope of this work, but a scenario in which the prohibition of initial /r/ goes back to PIE, all Greek (and Armenian) prothetic vowels are the reflexes of laryngeals, and most *ar*- sequences in Hittite go back to $*h_{i/3}(V)r$ - is based on several *ad hoc* assumptions.

The main problem with the idea of an *r*-constraint of PIE date is that we have no *independent* proofs: this alleged constraint has in fact been postulated mainly because of bits

and pieces of Greek, Armenian, and Anatolian evidence, which – brought together – do not offer enough support for pushing this restriction back to the common phase. This hypothesis is based on often uncertain data and is thus speculative beyond reason. PIE probably had forms beginning with both **r-* and **Hr-*, and there is no reason to exclude either, although – interestingly – the evidence in support of the former is perhaps stronger than that in support of the latter. A re-evaluation of roots beginning with **Hr-* has in fact shown that this sequence can be reconstructed through very few forms, most of which have a relatively unclear etymology, or can be reconstructed differently.

It is therefore more likely that the prohibition of initial /r/ is an innovation in Greek, Anatolian and Armenian, and the presence of neighbouring languages which also avoid initial /r/ (Hattic, Hurrian, perhaps Phrygian) makes the possibility of a contact-induced phenomenon more likely than a common innovation in the genetic sense. If this is the case, a possible reason for this change in Greek, Anatolian and Armenian is a common substrate, which is however virtually impossible to prove. This is why, unless new data change the current situation, the safest solution is to consider the prohibition of initial /r/ in the Graeco-Anatolian area an areal phenomenon of undetermined geographical extent dating back at least to the early second millennium BCE.

2.3 Assibilation

In Greek, voiceless alveolar consonants undergo assibilation, *i.e.* they change their manner of articulation from plosive to fricative (/t/ > /s/) before /i/. The same term is used in Hittite phonology to refer to a similar sound change undergone by /t/, which under certain conditions becomes /ts/ (the change is, again, in the manner of articulation, this time from plosive to affricate). It is generally thought that a change /ti/ > /si/ goes through an

intermediate affricate stage: [ti] > [tsi] > [si].⁵³ What seems relevant for Greek dialectology is the fact that assibilation is one of the main isoglosses dividing Eastern/Southern Greek from Western/Northern Greek:⁵⁴ specifically, Mycenaean, Attic-Ionic, Lesbian and Arcado-Cypriot show this phenomenon.

In the Anatolian branch, only Hittite shows the sound change $t > ts$ (spelled $-z-$) / $-i$ (e.g. *asanzi* ‘they are’ < $*h_2s-enti$); Luwian, instead, does not assibilate (e.g. HLUw. *á-sa-ti* /*asanti*/ ‘they are’), nor do Lycian (e.g. *prñawati* 3sg.pres.act. of *prñawa-* ‘to build’) and Lydian (*wcpaqēnt* ‘he will destroy’, with $-t < -ti$). Carian may have lacked assibilation, but there is no proof thereof.⁵⁵

This similarity between some varieties of Greek and the best-attested Anatolian language has not gone unnoticed. Miller (2014: 12) claimed that Hittite and Eastern/Southern Greek share the same constraints on assibilation, and that this is one among several traces of linguistic contacts between Greek and Hittite. Specifically, [ti] does (allegedly) not undergo assibilation if:

1. [s] immediately precedes: e.g. Hitt. *dalugašti-* ‘length’, cf. MELCHERT 1994: 166; Gk. ἐστί, etc.
2. there is morpheme boundary in between: e.g. dat. sg. of dental-stems: *ú-i-(it)-ti* = /wet+i/, from *witt-/wē(t)t-* ‘year’, cf. KIMBALL 1999: 269; Gk. ὀνόματι = /onomat+i/, etc.
3. the word is mono- or bi-syllabic: e.g. Hitt. *katti* $-(m)mi$, $-šši$ ‘(along) with (me, him/her)’ /*kati*/ < $*k_2mt-i-$, *ḫantī* ‘opposite’, ‘against’ < $*h_2ént-i$; Gk. ἀντί ‘opposite’,

⁵³ The different accounts of RISCH 1979: 270, LEJEUNE 1987: 63 and BRIKHE 1996: 45 all presuppose an affricate stage [tʰi].

⁵⁴ For the situation in the second-millennium, with specific reference to assibilation in Mycenaean, cf. BARTONĚK 2003: 141ff.

⁵⁵ Car. *ybt* < $*ubeti$ may in theory be a present ((‘s)he offers’), but the context also allows a preterite reading ((‘s)he offered’, cf. Lyc. *ubete* ‘id.’); cf. ADIEGO 2007: 321.

‘against’ < **h₂ént-i*, *ἔτι* ‘still’, ‘yet’, ‘besides’ = Skt. *áti* ‘beyond’, while *πέρυτι* (Doric) >

πέρυσι ‘last year’

4. /ti/ is in a reduplicated syllable: *e.g.* Hitt. *ti-t(ta)nu-* ‘install, seat’, *ti-ttiya-* ‘install, assign’ < **d^hi-d^hh_i-*; Gk. *τί-θη-μι* ‘I place, put’ (< **d^hi-d^heh_i-*), *τί-κτ-ω* ‘I beget’ (< **ti-tek-*)

While it is true that a preceding [s] “protects” the dental from assibilation in both languages and that morpheme boundary also seems to prevent the sound change, the claim under 3. is simply wrong: assibilation *does* take place in Greek in bi-syllabic words (*e.g.* Gk. *ποτί* vs. *πός* < **ποσί*; *προτί* vs. *πρός* < **προσί*, or *δόσις* < **δότις*), and there is no such restriction in Hittite,⁵⁶ as shown by the forms *zīk* ‘you’ and *ḫanz(a)* ‘in front of’, which respectively come from **tī* (which is in turn the reflex of **tū* or **ti_h*) and **h₂ént-i*.⁵⁷ Also, the situation is not as simple as Miller pictures it: not only has he not considered another restriction operating in Greek but not in Hittite (*i.e.* the lack of assibilation of initial /t/, regardless of its origin: *e.g.* Gk. *τιμή*, *τινάσσω*, *etc.* vs. Hitt. *zīk*, *zinni-^{zi}*, *etc.*), but he has also omitted to mention doublets like Hom. *Ὀρτίλοχος/Ὀρσίλοχος*, and more generally to acknowledge that the Greek examples do not allow a clear-cut analysis of this phenomenon, which should instead be considered within the larger picture of palatalisation phenomena (see LEJEUNE 1987: 63-5).

One should also note that “assibilation” is a relatively common sound change. A brief comparison with similar developments in some non-IE languages (after RINGE *et al.* 2002) confirms this typological frequency:

- Proto-Finno-Ugric **ti* > Finnish *si*

⁵⁶ Hitt. *katti* does not undergo assibilation by analogy to *katta* ‘with’ (cf. MELCHERT 1994: 117); *ḫantī* is the renewed paradigmatic dat.-loc. of *ḫant-* ‘face’.

⁵⁷ Even though some have argued that *ḫanz(a)* is a nom. sg. /*ḫant-s*/ (Hittite) or a nom.-acc. sg. neuter (Luwian) /*ḫant-sa*/ (STARKE 1990: 125); cf. EDHIL: 289.

- Proto-Polynesian **ti* > Tongan *si*

One should then be careful in comparing the phonetics of Hittite with those of one or more Greek dialects attested from the 6th century BCE onwards. On the Greek side, one should either consider Mycenaean Greek as a *comparandum*, or take into account the second-millennium dialectal group labelled ‘Eastern (or Southern) Greek’. Dialect geography could in theory admit an external source for this change, since it seems that all dialects that assibilate, with the exception of Arcadian and perhaps Attic, are located in the Eastern part of the Greek-speaking world. However, another geographical fact speaks against any assibilation as a contact-induced phenomenon: second-millennium Luwian, Lycian, Lydian, and Carian do not assibilate. It is then arduous to imagine how this kind of change would have happened: the only way to justify such a contact-induced sound change would be by postulating a relatively high degree of bilingualism between Eastern Greek and Hittite in the period preceding our first attestations of Mycenaean, and this is impossible to prove and unsafe to postulate, given the available data. One should then conclude that assibilation in Greek, despite not being an entirely trivial development,⁵⁸ is not to be traced back to the relatively similar Hittite sound change, because its constraints are not entirely the same, and because this type of sound change is typologically common.

⁵⁸ Otherwise it should not count as a significant isogloss for dialect grouping.

2.4 Psilosis

The term psilosis (Gk. ψίλωσις ‘baring’, ‘stripping’), denotes the loss of ‘aspiration’, or /h/, in initial prevocalic position (/h/ > Ø / #_V) which took place in several Greek dialects with a different degree of consistency and became generalised in the κοινή, starting from the more popular varieties of the language and eventually affecting the more prestigious registers (HORROCKS 2010: 171).

The phoneme /h/ is not inherited from Indo-European as such, and it does not have continuations in Modern Greek. As one can see from the following examples (mostly taken from LEJEUNE 1987: §320), initial /h/ may derive from the sibilant *s, from *(H)y,⁵⁹ from the cluster *sy, and (at a later stage) from a voiceless *w deriving from *sw, and possibly also from an original *w:

*sek ^w -	>	ἥπομαι	/hepomai/	(cf. Skt. <i>sácate</i>)
*(H)yos	>	ὅς (rel.)	/hos/	(cf. Skt. <i>yaḥ</i>)
*syuH-mn-	>	ὕμην	/humɛ:n/	(cf. Skt. <i>syúman</i>) ⁶⁰
*wesper- ⁶¹	>	ἑσπερος	/hesperos/	(cf. Lat. <i>vesper</i>)
*swos	>	ὅς (poss.)	/hos/	(cf. Skt. <i>svá</i> , Lat. <i>suus</i>)

⁵⁹ Older scholarship (*status quaestionis* in BOZZONE 2013: 1-2 and LEJEUNE 1987: §168) tried to solve the problem of the ‘double reflex of initial yod’ (i.e. why are ὅς and ζυγόν the respective cognates of Skt. *yaḥ*, OPhr. *ios*, etc. and Skt. *yugám*, Hitt. *iugan*, Lat. *iugum*, ModEng. *yoke*, etc., which otherwise seem to point to PIE *y?) by looking for conditioning phonetic environments, by postulating two yods in PIE (*y₁ and *y₂), or by envisaging variation of sociolinguistic nature (“rural” *y- > ζ- vs. “high-class” *y- > h-; cf. BRIXHE 1996: 20). In recent years scholars have hypothesised that ζ- < *y-, y- < *Hy- (so ζυγόν < *yugóm and ὅς < *Hyos), and post-Proto-Greek *y > h; cf. RAU 2010: 176-7. The initial aspiration in Gk. ἵππος (Myc. *i-qo*) is a well-known problem, but does not affect the present argument, so it need not concern us here (for a recent *status quaestionis*, cf. BOZZONE 2013, which however presents an account a bit too complicated to be convincing).

⁶⁰ ὕμην is the only attestation of *sy- > h- in initial position (LEJEUNE 1987: §127), but this does not affect the present argumentation.

⁶¹ Beekes’ derivation of ἑσπερος from a *ue-k^wsp-er-o ‘to(wards) the night, evening’ (EDG: s.v.) is not convincing, but this does not affect the present argument.

The attestations of /h/ in Greek are by and large found in initial position, but there are cases – especially in older inscriptions – of preservation of this phoneme in internal position (or restitution in composition), both in *V_V* and *C_V* environments. This is particularly evident in compounds such as εὔχορον, πάρηδροι, ἔσχοδον (Attic, 5th c. BCE), παρηεταξαμένος, προέδρα (Arcadian, 5th c. BCE), *etc.* (GG I: 219). Mycenaean is quite peculiar in this respect, as it seems to preserve both initial and intervocalic /h/, providing us with a useful *terminus post quem*, at least for a part of the dialects of Greece (see 2.4.2 and 2.4.4.1 *infra*).

What today is called *spiritus asper*, or ‘rough breathing’ (Gk. δασὺ πνεῦμα or δασεία) is nothing but a later convention for noting initial aspiration: its origin dates back to Alexandrian editorial conventions, and its introduction is attributed to Aristophanes of Byzantium (LUNDQUIST 2014); neither the *spiritus asper*, nor the *spiritus lenis* (as we know them from medieval and modern texts) were attested before Hellenistic times.

In what follows, I am going to assess a hypothesis on the origin of Greek psilosis, and in doing so I am going to consider the evidence from the Greek dialects and the outcomes of initial laryngeals in the Anatolian languages.

2.4.1 Oettinger’s 2002 hypothesis: psilosis as a contact-induced phenomenon

In relatively recent times, Norbert Oettinger has argued that the Ionian and Lesbian psilosis is the result of contact with Lydian, one of the westernmost Anatolian languages (OETTINGER 2002). His argument, which we shall now look at in some detail, is tightly connected with the reflexes of initial laryngeals in Anatolian.

Most scholars agree that of the three laryngeal sounds commonly reconstructed for PIE ($*h_1$, $*h_2$, and $*h_3$) two are preserved in Common Anatolian ($*h_2$ and $*h_3$), and one ($*h_1$) leaves no trace in any position (see MELCHERT 1994: 64ff. with examples). As for the individual languages (and subgroups), the situation is more variable: in the Anatolian languages of the second millennium (Hittite, Cuneiform Luwian and Palaic) laryngeals tend to be better preserved, while – Oettinger argues – in the 1st-millennium alphabetic languages (Lycian, Lydian, Carian, Pisidian, and Sidetic) we find these sounds in fewer positions. Let us review his argument.

Oettinger (2002: 96-7) maintains that in Hittite, Palaic, and Cuneiform Luwian $*h_2$ is preserved in most environments, whereas $*h_3$ is only preserved in *Anlaut*. He adduces cases such as Hitt. *ḫarganāu*- ‘palm of the hand’ < $*h_3rġnōu$ ‘extension’ (cf. Gk. ὀρέγω ‘stretch out’ < $*h_3rġ-$),⁶² Hitt./Pal. *ḫāran*- ‘eagle’ < $*h_3ér-on$ (cf. Gk. ὄρνειν ‘bird’ as a thematised form from $*h_3rn-éi$ (collective) ‘swarm of birds’) and Hitt. *ḫarp*- ‘to separate oneself and (re)associate oneself elsewhere’, ‘to change allegiance’ < $*h_3erb^h$ (cf. Lat. *orbus* ‘orphan’)⁶³ in support of the latter claim. As for the second laryngeal, he states that «Beispiele für anlautendes $*h_2$ sind so zahlreich und im Grundsätzlichen auch nicht umstritten, dass die Nennung von heth. und keilschrift-luwisch (k-luw) *hant*- ‘Vorderseite, Front’ < $*h_2ent$ - unter Verweis auf gr. ἀντί ‘gegenüber’ < $*h_2nt-i$ hier genüge». In *Inlaut*, instead, he maintains that the second laryngeal is generally preserved, except after vowel and before /u/ ($*h_2 > \emptyset$ / *V_u*), and after resonant and before /w/ ($*h_2 > \emptyset$ / *R_w*).⁶⁴

⁶² This specific case has been criticised by KLOEKHORST 2006: 93-94, who nonetheless admits the retention of initial $*h_3$ in Hittite under particular circumstances (cf. fn. 31 *supra*).

⁶³ On the PIE root, cf. now WEISS 2006, who argues that the original meaning was [TURN].

⁶⁴ The latter obviously applies exclusively to Luwian, cf. MELCHERT 1994: 258 with reff.

For the first millennium languages, instead, Oettinger observed a general reduction of the reflexes of PIE laryngeals.

Lycian forms like $\chi\tilde{n}tawat(i)$ - ‘ruler’ < $*h_2ent$ - (cf. CLuw. $\dot{h}andawat(i)$ - and HLuw. REX-*ti-sa* = /hantawatt(i)-/ ‘ruler’), $\chi u\gamma a$ - ‘grandfather’ < $*h_2auh_2o$ - (cf. CLuw. $\dot{H}\ddot{u}\dot{h}anani$ -, personal name, and HLuw. (AVUS)*hu-ha-zi* ‘grandfather’) and *epirije*- ‘to sell’ < $*h_3op\bar{e}r$ -ye-, a denominative formation (cf. Hitt. $\dot{h}apparae$ - / $\dot{h}appirae$ - ‘to sell’ and $\dot{h}appariye$ - ‘to entrust’, which instead have consonantal outcomes for initial $*h_3$) show that $*h_2$ was ultimately preserved both in *Anlaut* and *Inlaut* (in most environments), while $*h_3$ has disappeared in every position.

Finally, Lydian – which is geographically closest to the Greek dialects of Asia Minor – was, in his view, the language with the fewest reflexes of inherited laryngeals. While, as expected, we find no trace of $*h_3$ in any position (just as in the other first-millennium Anatolian languages), not only did $*h_2$ become *k* in *Inlaut* (a change similar to that of Lycian) but it also disappeared in initial position: Lyd. *wesfa* ‘alive’ < $*h_2w\acute{e}s$ -wo- (cf. Hitt. $\dot{h}uiswant$ - ‘id.’) and perhaps *eša*- «descendant» < $*h_2\acute{o}n$ -so- (cf. Hitt. $\dot{h}ašša$ -). This change $*h_2 > k$, which is regularly found intervocalically, is perhaps found also in *Anlaut*.⁶⁵ This does not affect the argument, according to Oettinger, since «auch in diesem Fall besäße das Lydische kein *h* mehr, und die Lyder konnten daher auch fremdes *h* nicht (hören bzw.) sprechen» (OETTINGER 2002: 98).

⁶⁵ This if the personal name Κανδαύλης actually reflects a form $*kantawla$ - (possibly a title of the ruler, or the word ‘ruler’ itself) comparable to Luw. $\dot{h}andawat(i)$ - (cf. *supra*).

The observations just made may be summarised in the following table:

	Hittite, CLuw., Palaic	Lycian	Lydian
* <i>h</i> ₂ in <i>Anlaut</i>	<i>h</i> -	<i>χ</i> - (/k/)	Ø, <i>k</i> -?
* <i>h</i> ₂ in <i>Inlaut</i>	- <i>hh</i> - or - <i>h</i> -	- <i>χ</i> - (/k/) or - <i>γ</i> - (/g/)	- <i>k</i> -
* <i>h</i> ₃ in <i>Anlaut</i>	<i>h</i> -	Ø	Ø
* <i>h</i> ₃ in <i>Inlaut</i>	Ø	Ø	Ø

(*h*- = preservation in *Anlaut*; -*hh*- = preservation in *Inlaut*)

After studying the distribution of the loss of initial laryngeals, Oettinger concluded that the tendency of losing initial /h/ was more accentuated in the later and westernmost Anatolian languages,⁶⁶ and that the influence from Lydian could be a possible explanation for the presence of psilosis in the neighbouring Greek dialects.⁶⁷ Specifically, he argued that since Lydian speakers had no sound resembling [h], they failed to learn it, pronouncing Greek words beginning with [hV-] as simple [V-] and influencing the next generation of Greek speakers.

This theory now needs to be updated by taking into account the distribution of psilosis in Greek, the outcomes of initial laryngeals in Lydian, and the typology of changes affecting /h/ and the reflexes of the second laryngeal. Oettinger himself has recently come back to the last issue, presenting further examples of likely **h*₂ > *k* in Lydian in word-initial position (OETTINGER, *forthcoming*).

2.4.2 Psilosis in Greek: the dialectal distribution

In surveying the occurrence of psilosis in the Greek dialects, we shall mainly focus on epigraphic sources, because literary texts heavily depend on transmission and different

⁶⁶ In his words, «je westlicher eine Sprache angesiedelt und je später sie bezeugt ist, desto mehr h-Laute (ehemalige Laryngale) sind in ihr geschwunden» (OETTINGER 2002: 99).

⁶⁷ An influence in the opposite direction, though theoretically possible, should be ruled out in his opinion. We shall come back to this issue in 2.4.5.

graphic habits: Ionian literary texts were transmitted and edited according to the Attic model, which had initial aspiration (our text of Herodotus, which displays rough breathings but voiceless consonants instead of “regular” aspirates as first members of compounds, cannot be considered probative), Lesbian texts are left psilotic in modern editions, and the Homeric tradition shows psilosis only for those forms not shared with Attic (LEJEUNE 1987: 321, fn. 2).

The Greek dialects which are traditionally considered ‘psilotic’ are Eastern Ionian, Lesbian, Elean, Cretan and perhaps Cypriot (BUCK 1955: 53, LUNDQUIST 2014). In most of these dialects, the lack of an alphabetic sign for /h/ and of the use of (plain) voiceless instead of aspirated consonants in *external sandhi* or in compounds such as ἀπ’οὔ (instead of ἀφ’οὔ) or καταπερ (instead of καθάπερ) are hints – though based on negative evidence – at the absence of /h/ in initial position, if not even in the phonemic inventory. Cypriot should be placed at the margins of this category – perhaps even removed from the discussion – because its syllabary (which belongs, together with Linear A and Linear B, to the so-called ‘Aegean Scripts’) does not allow us to decide whether or not initial /h/ was present. Although this dialect is mentioned among the psilotic ones, and often accepted as such, the issue remains unsettled (EGETMEYER 2010: 182).

The alphabets of Attica,⁶⁸ Euboia, Boiotia, Thessaly, Corinth, Megara, Argos and Laconia, on the one hand, employ the grapheme Η (later simplified as H and, in some areas like Tarentum, Ξ)⁶⁹, an adaptation of the Phoenician *hēt*, a voiceless emphatic fricative, for the representation of /h/. On the other hand, those dialects without initial aspiration were free to use the same grapheme for the notation of the long open vowel [ɛ:] = H, which was

⁶⁸ Before Eukleides’ reform of 403-402 BCE, which introduced the Ionic alphabet.

⁶⁹ The modern sign <’> is nothing but the simplification of a small Ξ sign placed over the ‘aspirated’ vowel.

written with *epsilon* in the script of the non-psilotic dialects (WOODARD 2014: 37, JEFFERY 1990: 28-29).

The absence of initial ‘aspiration’ in Ionic was well known to ancient and medieval grammarians,⁷⁰ and in modern times it was soon recognised as a defining feature of Eastern Ionic: «A divergence in the treatment of the initial *spiritus asper* between the divisions of Ionic constitutes one of the chief marks of sub-dialectal difference. Only the Asiatic Ionians adopted ψιλότης. The dialect of Western Ionic and that of the Kyklades have retained the rough breathing» (SMYTH 1894: §398). While in the inscriptions from Miletos, Prokonnesos, Ephesos, Chios, Samos, Halycarnassos *etc.*, Ξ and H do not denote /h/, in those from Euboia (Kyme, Rhegion, Eretria, Oropos, Styra, and in vases of Chalcidian provenance) the two graphemes express in most cases what we believe to be an aspirated sound. The Ionic Cyclades, instead, seem to stand in between: here, Ξ and H represent both the *spiritus asper* and long *e* (in particular /ε:/ ([æ:]) < /a:/).⁷¹ It goes without saying that Attic was not touched by this sound change. So, from an inner-Ionic perspective, it seems that psilosis originated in the East and tried to make its way westward, losing intensity and leaving some Ionic-speaking areas untouched.

The situation in Lesbian seems relatively uniform: as Hodot remarks, «des indices clairs permettent de dire que le lesbien, comme d’autres dialectes, avait perdu le phonème /h/ à l’initiale» (HODOT 1990: 51); and these «indices clairs» are, as we have seen for the case of Ionic, the absence of a grapheme for /h/, compounds such as κατεστακόντων (NAS 01 = IG

⁷⁰ Apoll. Dys. *Synt.* 55.19 ἐπεὶ τὰ ψιλὰ μετατιθέασιν οἱ Ἴωνες καὶ τὰ δασέα εἰς ψιλὰ; Eust. 1564.9 ψιλοτικοὶ γὰρ ὥσπερ Ἴωνες οὕτω καὶ Αἰολεῖς; Tzetz. *Ex. Il.* 62.20 οἱ Αἰολεῖς τε καὶ Ἴωνες πάντα τὰ παρ’ ἡμῖν δασυνόμενα ψιλοῦ(σι) καὶ διὰ ψιλοῦ συμφώνου εκφωνοῦσιν.

⁷¹ Famous, in this respect, is the Nikandre inscription from Delos (CEG I, 403, JEFFERY 1990: 303 n. 2), dedicated to a Naxian woman, where we can notice uncertainties in the usage of Ξ and the creation of a grapheme □, only used before Σ; see LEJEUNE 1971.

XII, 2, 645, l. 21), and also the usage of the letter E for the numeral ‘100’. We do not find any trace of initial aspiration in our earliest documents, so we must assume that psilosis took place before the 7th c. BCE. As we shall discuss below, it cannot be excluded that this phenomenon happened as the result of contact with neighbouring Ionic (cf. also assibilation of -τι- > -σι- and the prepositions εἰς and πρὸς).

There is not much discussion on psilosis in Elean, a Doric dialect close to the North-Western group (MINON 2007: 626-630): most surveys state that this dialect has simply lost the initial aspiration. However, the situation here is slightly more complicated.

Our Elean documents⁷² show a few occurrences of initial ‘aspiration’:

1. *ἡιαρὸν* (with <h> = Θ)⁷³ in n°41 (*SEG* 31, 356a), a dedication to Artemis Limnatis (ca. 500-475 BCE);
2. *ἡυῖ[ύς -]* (with <h> = Θ) in n°42, l. 1 (*SEG* 15, 253), a dedication by Kordaphos of Lepreon (ca. 475-450 BCE);
3. *ἡυῖν* (with <h> = H) in n°24, l. 3, a decree of *προξενία* for Diphilos, a man from Athens (ca. 425 BCE);
4. *ἀφῆκε* (with <φ> = aspiration in the second part of the compound) in n°17 (*SEG* 11, 1253), l. 2, a manumission through consecration (ca. 475-450 BCE);
5. *ποθελομ[ένῳ]* (with <θ> = aspiration in the second part of the compound) in n°22 (*SEG* 11, 1184), l. 10, a decision on the Skillontians (ca. 450/425 BCE);
6. *ἐφιστίορ* (with <φ> = aspiration in the second part of the compound) in n°32 (*SEG* 12, 371), a decree of asylum of the sanctuary of Asclepius at Kos (dated 242 BCE);

⁷² The numbering is after the corpus in MINON 2007; I shall also give *SEG* references.

⁷³ On the introduction of the grapheme Θ in the Elean alphabet (in particular with respect to coin legends), see MINON 2007: 262-5.

7. *κάθωρ* (with <θ> = aspiration in the second part of the compound), attested twice (ll. 13 and 27) in n°34 (*SEG* 11, 1188), a decree of *προξενία* for Damokrates of Tenedos (end 3rd – beginning 2nd c. BCE).

There seems to be an *ad hoc* explanation for almost each one of these occurrences: the prevailing view about 1. and 2. is that the inscriptions to which these forms belong (found in the region of Triphylia) are influenced by neighbouring Laconian and Arcadian, rather than by an alleged Triphylian substrate (Siewert and Ruggeri *apud* MINON 2007: 341); 3. is thought to be written in a mixture of Attic and Elean, with *θυυυ* as a Doric form, while 4. and 5. would be a genuine example of conservatism (see *infra*); 6. either retains its etymological aspiration or is influenced by *κοινή*;⁷⁴ finally, 7 is also thought to be influenced by *κοινή*.

It would be useful, at this stage, to have a repertoire of forms clearly pointing to psilosis.⁷⁵ Fortunately, Sophie Minon, whose data we present here, provides such a list (MINON 2007: 342-3):

- In composition: *ἐπιάροι* (n°10, line 9 and n°22, line 14), *προστιζῖδον* (n°13, line 7), *κατιαράύσειε* (n°20, line 2), *κατιαράων* (n°30, line 5), *κατιστα<ι>ε* (n°22, line 2) and *ποταρμόξαιτο* (n°22, lines 4 and 5).
- In external *sandhi*: *τιάροῖ* (n°4, line 1), *τιάρδον* (n°3, line 1), *τιαρομάο* (n°9, lines 4-5), *τιάρο* (n°13, line 3), *ἐπ' ὁποῖα* (n°9, line 6), *κόπόταροι* (n°14, line 3), *τέλλα[νοδίκας]*

⁷⁴ Oddly enough, these two positions are argued for respectively in MINON 2007: 215 («Il n'est, en revanche, pas possible de se prononcer ici sur la psilose : la forme *ἐφιστίοιρ*, l. 9, qui peut avoir conservé en composition son aspirée étymologique, ne permet pas d'exclure que le dialecte ait été encore à cette date psilotique») and MINON 2007: 343 («les deux autres [*ἐφιστίοιρ* and *κάθωρ*, MB] s'expliquent par l'adoption de la norme orthographique de la *koinè*»). Given the date of the document (242 BCE) and the presence of the form *Ἡράκλειον* six lines above, the latter seems much more plausible.

⁷⁵ We are taking into consideration here compounds and external *sandhi*, since in initial position /h/ could have been pronounced without being written with a specific sign (see MÉNDEZ DOSUNA 1980).

(n°18, line 4), κέρρατονβαν (n°18, line 5), κέκατ[όν] (n°21, line 2), κ' ἄ (n°22, line 14), κατ' ὀποῖον (n°30, lines 1-2) and τέτέρει (n°65).

From these data, we could say – as a working hypothesis – that psilosis was present, possibly prevailing, in the Elean documents we possess; however, it seems likely that an ‘aspirated’ pronunciation was somehow retained, perhaps as a form of conservatism or confined to specific types of texts (graphic conservatism, as per GARCÍA RAMÓN 1991), or also to specific fixed lexemes. Looking at the issue from the opposite perspective, we could maybe postulate that psilosis was a phenomenon which started in the spoken language and slowly made its way to written documents. In either case, it looks as if psilosis did not have the time to completely oust initial /h/, since neighbouring dialects first and κοινή Greek later had an influence, and re-introduced (or reinforced) a trait that was lost, or which was simply very weak and therefore rarely used. Of course, this is impossible to prove unless we find more documents, but for the moment it seems the most economic explanation, because it would account both for the majority of psilotic forms and for the ‘exceptions’ above.

Finally, let us turn to Cretan, which is also traditionally counted among the psilotic dialects. In the earlier texts, which were engraved in an alphabet possessing a sign for /t/ and a different one for /t^h/, we have examples such as πέντ' ἀμέρας (Axos 1, l. 6), κατ' α (Eleutherna 13, l. 7) and κατιστάτῳ (G 10 z), which show that /h/ was absent both in absolute initial position and in compounds. From the 3rd c. onwards, aspiration appears under κοινή influence (BILE 1988: 101). However, two ambiguous examples show that the situation may not have been entirely clear-cut in the archaic period:

- In an inscription from Phaistos (n°10 Bile, l. 1; end of the 6th century) the name of Heracles is transcribed as HEPAKΛΕΣ. According to some scholars (in particular M.

Guarducci) this is an analytical writing, while others think that it is just uncertain and/or pleonastic spelling.

- In another inscription from the 6th century (*IC II Axos* 7, l. 3), we have a verbal form [κ]αθονυμαινε--- (from κατονυμαινομαι), which – based on the etymology, looks like a graphic mistake.

It is thus difficult to date Cretan psilosis, or to consider it a completely unitary phenomenon. The possibility of influence from neighbouring dialects cannot be excluded at this stage. On the hypothesis of psilosis in Cretan being present since Mycenaean times, see 2.4.4.1 *infra*.

So much for the Greek dialects. Can we give them a unified interpretation? Are we able to give any temporal coordinates for the phenomenon? What is clear from this survey is that the phoneme /h/ has been extremely unstable throughout the history of Greek: «ignorée de l'indo-européen, ignorée du grec moderne, la consonne *h* n'a donc eu, dans le développement du système phonique grec, qu'une existence passagère» (LEJEUNE 1987: §321).

As we have seen, Ionic and Eastern Aeolic are the varieties of Greek in which psilosis is best attested. These are neighbouring dialects spoken in Asia Minor, where they coexisted with some Anatolian languages, and as we have seen Oettinger has tried to explain this peculiarity of Ionic and Lesbian by invoking language contact. We have also seen that the interpretation of laryngeal reflexes in Anatolian, and specifically in Lydian, plays a crucial part in his argument.

2.4.3 Initial laryngeals in Lydian

As we have already seen above (fn. 31 and 2.4.1), the outcome of laryngeals in the Anatolian languages is a rather debated topic. Too many details would be out of place in a chapter devoted to Greek psilosis, so we shall immediately turn to Lydian, which is probably the most relevant case to the current argument. Geographical proximity is fundamental for most contact-induced language change, and Lydian is the closest Anatolian language to the Greek dialects showing psilosis, and the key component in Oettinger's argument on the origin of Greek psilosis.

We shall begin by considering the evidence from Gusmani's repertoire, and in particular the lists of lexical correspondences in the last section of his *Wörterbuch* (GUSMANI 1980-6: 169). Here, we find five Lydian items that correspond to Hittite words beginning with *ḫ*- (and continuing **h₂-*):

Lyd. <i>ãṇṛẽ, êtam-</i> ?	~	Hitt. <i>ḫandāi, -as</i>
Lyd. <i>afari-</i>	~	Hitt. <i>ḫapparāi-</i>
Lyd. <i>esa-</i>	~	Hitt. <i>ḫašša-</i>
Lyd. <i>attis ??</i>	~	Hitt. <i>ḫattant-</i>
Lyd. <i>wesfa</i>	~	Hitt. <i>ḫuišwant-</i>

Though it may seem that there is no trace of initial **h₂* in Lydian, a brief discussion on the prehistory of these words is needed. This will show that most of these etymologies are extremely controversial.

The verb *āntē-* should probably not be compared with Hitt. *ḫandāi-* «to prepare», «to arrange» for two reasons: first, it is now reasonably clear that an original nasal before obstruent was lost with nasalization of the preceding vowel (as in Lycian). Thus, an attested sequence *-nT-* must be the result of syncope of an intervening vowel.⁷⁶ Furthermore, Eichner's rules for Lydian accent (EICHNER 1986a, 1986b) strongly suggest that *āntē-* is a compound verb, since it has two nasalized vowels. On the other hand, *ētam-* would be phonologically sound if derived from **ḫandV-mo-*, and the contexts would be good for the meaning «determination» (*vel. sim.*). However, these would also permit other options. The connection between Lyd. *afari-* and Hitt. *ḫapparāi-* is defended by Puhvel (*HED* 3: 126), but doubted by Kloekhorst (*EDHIL*: 296). The gloss *attis* is not particularly probative, as Gusmani's double question mark indicates.⁷⁷ The adjective *wesfa-* could mean 'living', but if Kloekhorst is correct in assuming that **h₂w* had already become a unitary labiovelar fricative in Proto-Anatolian, a reflex with just /w/ is problematic. The word *esa-* probably does mean something close to «offspring» (thus related to Hittite *ḫašša-*), but the phonetic explanation is not completely satisfying: Gérard's idea (GÉRARD 2005: 45) of a spontaneous change of (**on* >) **an* > **en* seems *ad hoc* (why would the nasal have raised /a/ to /e/?), and a denasalisation of **ēš* to *eš* (as per MELCHERT 2004a: 148, fn. 21) is called into question by the form *mλwēsi-* (unclear meaning; n°12, l. 3).⁷⁸

⁷⁶ This is confirmed by the *ā*, which results either from an original long vowel plus nasal or from an accented non-high vowel in an open syllable. Since the only known source of <τ> is **-ty-* (MELCHERT 1994: 333), one must start etymologising from a pre-Lydian form **(H)VnVtyV-*.

⁷⁷ The gloss comes from a passages of Arnobius (*Adv. Nat.* V, 6): *et quoniam Lydia scitulos sic vocat, vel quia hirquos Phryges suis attagos elocutionibus nuncupant, inde Attis nomen ut sortiretur effluxit*. As Gusmani notes «Carruba [...] und Neumann (brieflich machen auf kh. *hattant-* „klug“ aufmerksam. Es fragt sich nur, welchen Wert man einer Glosse beimessen darf, die in Zusammenhang mit einer falschen Etymologie des namens Attis überliefert ist» (GUSMANI 1964-86: 272).

⁷⁸ The difference between dental and palatal sibilant should not induce such a contrast.

Except for a couple of tentative suggestions, it seems that there are no truly compelling examples for initial prevocalic k - < $*h_2$ - (or q - < $*h_2^w$ -), but also none for loss in that position. In the forthcoming paper cited above, Oettinger offers further examples of word-initial kV - from $*h_2V$ - and $*h_3V$ -.⁷⁹

Here is a schematic representation of the outcomes of initial prevocalic laryngeals in Lydian:

- $*h_1$ > \emptyset (or > a / $_R$, if one follows SIMON 2012)⁸⁰
- $*h_2$ > (?) (perhaps > k , following OETTINGER, *forthcoming*)
- $*h_3$ > (?) (perhaps > g > k -, following OETTINGER, *forthcoming*)

If the etymology of at least one of the words presumably showing absence of initial antevocalic $*h_2$ were uncontrovertibly confirmed, Lydian would be in a more isolated position compared to the other Anatolian languages. If, instead, $*h_2$ and $*h_3$ underwent a ‘fortition’, Lydian would be more similar to the other Western Anatolian languages of the first millennium.⁸¹

⁷⁹ The paper is going to be published in BIANCONI, *forthcoming*, but since the book is still under review, I have chosen not cite or assess any specific example.

⁸⁰ On the basis of KLOEKHORST 2004 and 2006 and of some Lydian etymologies (two more ‘certain’ – amu < $*h_1mú$; $dēt$ < $*h_1yónt$ – and three more ambiguous – $akta$ < $*h_1y_3énti$, $bi(d)$ < $*abid$ < $h_1pói-ei$ / $h_1pi-énti$; $aśfa$ < $*h_1i_3-h_1s-u$ / $h_1h_1s-éu$ –) SIMON 2012 (493-4) postulates a specific sound law describing the vocalization of $*h_1$ (interpreted as a glottal stop [ʔ]) in *Anlaut* before a consonantal element, specifically a resonant: $*h_1$ > a / $_R$, where $R = m, n, r, l, y, w$.

⁸¹ According to Kloekhorst (2006), in Lycian $*h_2e$ - > χa - and $*h_3e$ - > χe - (*contra* MELCHERT 1994 and KIMBALL 1999, who also assume that Lyc. *epirije*- ‘to sell’ reflects the same etymon as Hittite *ḫappirai*-). As for Carian, which has not been taken into account by Oettinger in his article, most scholars agree that $*h_2$ - and $*h_3$ - have consonantal outcomes [k] in *Anlaut* (cf. ADIEGO 2007, SCHÜRR 2001, KLOEKHORST 2008, SIMON 2011).

2.4.4 A new look at the contact hypothesis

Quite a few things have changed in Anatolian historical phonology since Oettinger's 2002 article, and despite the fact that his proposal has been tentatively accepted in recent scholarship,⁸² part of it needs to be revised.

In a recent paper, Ivo Hajnal raises two objections, concerning both Anatolian and Greek. On the one hand, he states that «the loss of reflexes of the inherited laryngeals in Anatolian affects original */# h_3 V°/ in both Lycian and Lydian. The reflex of original */# h_2 V°/ is affected in Lydian only. It is improbable that these languages went through a stage with an aspirate */# h V°/ – which could have influenced the surrounding Greek dialects. Original */# h_2 V°/ results in velar reflexes, in Lycian in all positions, and in Lydian in word interior position. Thus, original */# h_3 V°/ remains as the only possible source, on the development of which nothing exact can be said because of a lack of evidence» (HAJNAL 2018: 2045). On the other hand, he observes that psilosis is independently attested, before the first wave of Greek-Anatolian contacts, in the Mycenaean Greek of the Aegean region. This assumption would be supported by «the infrequency of the sign < a_2 > / h a/ in the Linear B tablets of Knossos» and the fact that the Greek dialects of first-millennium Crete are psilotic (HAJNAL 2018: 2046).

Hajnal is correct in saying that nothing can be said about prevocalic */# h_3 because of a lack of evidence, but his first objection seems a bit puzzling: at first, he says that initial */# h_3 is lost in Lycian and Lydian, and initial */# h_2 drops only in Lydian, while */# h_2 V°/ (or, more accurately, */# h_2 before vowel, not necessarily in *Anlaut*!) has velar reflexes in Lycian in all positions and in Lydian only in internal position. Then he adds that such a distribution

⁸² See e.g. HÖGEMANN 2003, YAKUBOVICH 2010 and MELCHERT 2014b.

forces us to conclude that the only possible manifestation of this sound change would be the outcome of initial $*h_3$, on which nothing sure can be said. He seems, however, to misunderstand Oettinger's characterisation of psilosis as a contact phenomenon. Oettinger did *not* believe that psilosis simply spread from Lydian to Greek; he argued instead that Lydian speakers who were learning Greek as L2 failed to pronounce initial [h] because there was *no* [h] (or similar sound) in their own L1. It is ultimately irrelevant whether or not initial laryngeals underwent fortition or lenition. Obviously, if $*h_{2/3}V- > V-$ (which is now questioned by Oettinger!), one must necessarily postulate a progressive weakening of the type $*/\#h_2V/ > /\#xV/ > /\#hV/ > /\#V/$. If one wanted to argue for a hypothetical direct transmission to Greek, one should postulate that such weakening affected Greek only *after* the $/\#xV/ > /\#hV/$ stage. However, the core problem with supposing a loss of $*h_2$ in *Anlaut* (arguably via an intermediate $*[h]$) is the tendency in Anatolian for $*h_2$ – where preserved – to undergo “fortition”, not “lenition”: the other Western Anatolian languages show indeed that $*h_2$ may become a velar *stop* [k] (as *e.g.* in Carian) when it does not retain its fricative manner of articulation.⁸³

The second objection, involving Mycenaean, needs some further consideration, as we should take into account the graphic usages of the writers of this dialect.

2.4.4.1 *Psilosis in Mycenaean Crete?*

As is commonly known (BERNABÉ – LUJÁN 2006: 32, BARTONĚK 2003: 104-5), the Linear B sign $*_{25} = \overline{\eta}$ (transcribed as $\langle a_2 \rangle$) indicates a sequence /ha/, *i.e.* a vowel preceded by ‘aspiration’, which can be found in every position: *e.g.* PY Ma 365.2 a_2 -te-ro /hateron/ (‘other’, cf. Dor. ἄτερος, Att. ἔτερος) < $*smtero-$; PY An 657.1 o-pi-a₂-ra /opi-hala/ (‘coastal

⁸³ Provided that the PANat. outcome of $*h_2$ was a fricative – which now KLOEKHORST 2018 disputes.

region'; cf. Hom. ἔπαλός) < *-sal-; PY Sh 733++ *me-zo-a₂* /med^zoha/ ('bigger', nom.-acc. neut. pl., cf. Att. μελίζω) < *megyosa, etc.

It should be noted, though, that on the one hand the Mycenaean script did not have the possibility of a systematic and homogeneous rendering of the 'aspiration', in whatever way we interpret it;⁸⁴ on the other hand that even those words that do display <a₂> are not consistently spelled with this sign, which can sometimes be replaced by 𐀓 = <a>⁸⁵ (but not the other way around: we find no case of <a₂> representing non-aspirated /a/) or – if 𐀓 is the first sign of the second part of a compound – by <a>, <ja> and <a₃>.⁸⁶

Most occurrences of this sign are found at the beginning of the word and at the start of the second element of a compound. However, as Melena remarks, only the root of ἄλς /sal-s/ < *sh₂el-s⁸⁷ shows <a₂> in both positions. When *25 only appears at a compound boundary, «we do not always know how to account for it; it could be due to an initial etymological aspiration of the second element of the compound or conceivably to the aspiration of the final /s/ of the first element if followed by a second element which started with /a-/, though this is more difficult to justify» (MELENA 2014: 74).

⁸⁴ We find a representation of the phoneme /h/ in intervocalic position, through the so-called "graphic hiatus", by which we have a graphic sequence <(C)V-(j)V> pointing to a /((C)Vh(y)V/ phonetic rendering: e.g. PY Eb 297.1.f.++ *e-ke-e* /hek^hehen/ «to have» (cf. Att. ἔχειν) < *seġ^he-sen. It is also possible that some instances of the sign *jo* should have phonetic realisation [ho]: e.g. *a-ro-jo* /arjohos/, gen.sg. (?) with *h* < *-s-.

⁸⁵ See KN Ld 786.B++ *pa-we-a₂* ~ KN Lc 481.A++ *pa-we-a* /p^harweha/ «pieces of cloth» (cf. Hom. φᾶρος), < *b^harwesa. This is why the signs 𐀓 = *25 = <a₂> = /ha/, and 𐀔 = *29 = <pu₂> = /p^hu/ have been labelled as *doublets* (LEJEUNE 1966: 137).

⁸⁶ PY Cn 314.3 *au-to-a₂-ta* ~ KN Ch 972 *au-to-a₃-ta*. Melena includes the alternation PY Un 267.5 *ko-ri-a₂-da-na* ~ *ko-ri-ja-da-na*, arguing that this word «was associated at an early stage with κόρις 'bed-bug', so the phytonym could have been analysed as a compound justifying the writing of *a₂* as a boundary mark» (MELENA 2014: 75). This explanation seems very much *ad hoc*, and it is entirely unfalsifiable, therefore it must be regarded with caution.

⁸⁷ Some languages point to *se_hel-, others to *sh₂el-; cf. EDG: 75.

Now, since the sign $*_{25} = \overline{\text{P}}$ is less common in the tablets from Knossos than in those from the mainland (Pylos, Mycenae, Tiryns),⁸⁸ some scholars have assumed that a de-aspiration of the initial vowels was taking place already in Mycenaean times in Crete. One of the most recent formulations of this theory is the following:

In Pylos ist das aus $*s$ entstandene $/^h/$ grundsätzlich fest. Dagegen fällt für Knossos und Theben auf, dass anlautendes $<\# a_2^\circ>$ nur je einmal in $a_2\text{-ke-te-re}$ KN V 118 ($<a_2>$ korrigiert für $<a>!$) bzw. $a_2\text{-pa-}a_2\text{-de}$ TH Wu 94,β bezeugt ist. Dabei ist es denkbar, dass diese geringe Bezeugung von anlautendem $<a_2>$ zumindest in Knossos nicht auf andere graphische Gewohnheiten weist, sondern Anzeichen für den Schwund von $/^h/$ ist (s. den Hinweis bei Risch, *Hiat*, 386). Eine derartige ‘Psilose’ ist nämlich im ersten Jahrtausend für Kreta typisch (s. Bile 1990, 101ff.).

(RISCH – HAJNAL 2006: 310)

This argument is quite sound: psilosis must have occurred early in Crete because “Cretan Mycenaean” almost never displays the $<a_2>$ sign in initial position, while later Cretan Greek shows initial de-aspiration. However, both premises have a few problems: first, $<a_2>$ does appear both in initial and in internal position, even if very rarely (and this might be due to the insufficiency of our material), and then we do find an example of initial ‘aspiration’ in at least one alphabetic inscription from Crete (cf. *supra*). This seems to point to a situation of graphic uncertainty in Crete rather than to a complete absence of initial $/h/$.

One further point should be made: if the sign $<a_2>$ does not have a corresponding sign in Linear A (as per BARTONĚK 2003: 104), and cannot be derived from this script, it means that the users of the Linear B script must have created the $*_{25}$ sign to express something that was not otherwise present in the phonemic/graphic inventory of the language of Linear A. And since Crete is quite likely to have been the birthplace of Linear B, it would not make much sense to create a new sign for a sound that was already fading and spread it to the palaces on the mainland, unless – of course – we assume that there was a very relevant chronological

⁸⁸ There are 124 attestations of $<a_2>$ in Pylos, 8 in Knossos and 5 in Mycenae, according to the count in BARTONĚK 2003: 105.

gap between the adoption of the sign and its abandonment in Cnossos, which would make the abandonment of $\langle a_2 \rangle$ a very late process, happening when the change $/h/ > \emptyset / \#_V$ was complete. One may, alternatively, entertain the thought that $*_{25}$ was created in the mainland at a second stage, and that this tells us nothing about psilosis in Crete in the second millennium.

In any case, we should probably not be as confident as those scholars (*e.g.* JIMENEZ DELGADO 2008: 83, fn. 20) who maintain that Crete did not have any kind of psilosis in Mycenaean times. We may rather suppose that there was some sort of initial aspiration, perhaps more uncertain and weaker in Crete than in the mainland, that had a continuity until the 6th century BCE. The oscillations in the Mycenaean and alphabetic evidence prevent us from considering pre-6th-century Cretan entirely ‘psilotic’ without a doubt. There is simply not enough evidence. For now, it is safer to assume that systematic psilosis in later Cretan inscriptions is a secondary phenomenon, independent from anything happening in Mycenaean times.

2.4.4.2 *Some typological remarks*

Two questions ought to be raised at this stage: what was the phonetic nature of the Anatolian reflexes of $*h_2$? How common is a phenomenon like psilosis? I might not be able to offer a final answer, but a brief discussion of this issue is nevertheless worthwhile, especially with a look at the typological dimension.

Let us start from Proto-Indo-European. The phonetic value of PIE laryngeals is an intricate problem, still relatively unsolved (and perhaps unsolvable),⁸⁹ but most scholars agree that the second laryngeal is a sound with a greater articulatory force than simple [h].

In Anatolian, its reflexes show “fortition” rather than “lenition” (cf. the merger of [x^w] < PAnat. *h₂^w and [k^w] < PAnat. *k^w into [k^w] in HLuw., the hardening of both PAnat. *h₂ and *h₂^w into stops in Lycian and Carian and – perhaps – the hardening of *h₂ in medial position in Lydian). Greek initial /h/ and the Anatolian outcomes of *h₂ – are quite different, and it is unlikely that they indiscriminately underwent the same kind of sound change.⁹⁰ While the former implies the loss of a phoneme (/h/ > ∅) and the loss of opposition between what previously were minimal pairs (e.g. Gk. ἐν and ἔν both merging into ἐν), the latter consists of the merger of a phoneme into another one already attested in the language and, possibly, in the same phonetic environment. Psilosis is inarguably an example of the former, so all the phenomena that have to do with laryngeals becoming something different from zero (e.g. a hypothetical *h₂ > k / #_ in Lydian) should be considered separately.

A change (s) > h > ∅ / #_V is not restricted to varieties of Greek. In his survey of sound changes involving consonants, Martin Kümmel gathered evidence from several languages showing a sound change similar to psilosis. He remarked that the loss of the glottal fricative is less common in *Anlaut*, but that – when it is found – it could be a consequence of previous losses in internal position. He gave the following list, which includes the ‘psilotic’ Greek dialects (KÜMMEL 2007: 118):

⁸⁹ For a synthesis of the main theories until 2007, cf. KÜMMEL 2007: 327-8. Today, it is commonly thought that *h₁ was either a [ʔ] or [h]; Weiss (2016) has argued that *h₂ and *h₃ were originally uvular fricatives, while Kloekhorst (2018) has recently made the case for uvular stops.

⁹⁰ Greek eventually developed a [x] sound but – as is widely known – that is a secondary development ([k^h] > [x]). It must however be noted that alternations between [h], [x] and [k] are quite frequent in the world’s languages (see a large survey in MERLINGEN 1977: 7-16).

- $h > \emptyset / \#_V$ Yaghnobi
- $h > \emptyset / \#_$ Armenian (sporadic)
- $h > \emptyset / \#_$ Ancient Greek (Lesbian, East Ionic, Central Cretan, Elean)
- $h > \emptyset / \#_$ Medieval Greek
- $h > \emptyset / \#_$ Central Franconian
- $h > \emptyset / \#_V$ Middle English dialects
- $\text{ɦ} > \emptyset / \#_$ Upper Sorbian
- $h > \emptyset / \#_$ Votic, North Estonian
- $h > \emptyset / \#_$ Hungarian

To this, we could perhaps add the case of the disappearance of initial /h/ from Classical to Late Latin and of *h*-dropping varieties of Modern English. All in all, phenomena analogous to Greek psilosis are quite common from a cross-linguistic point of view.

2.4.4.3 *Psilosis as an internal Greek phenomenon, or contact in the opposite direction?*

We have seen that, as far as the reflexes of initial antevocalic laryngeals in Lydian are concerned, we have two mutually exclusive options: (1.) $*h_{2/3} > \emptyset / _V$ and (2.) $*h_{2/3} > k / _V$.

If the former is true, Lydian would be somewhat isolated, and this anomaly would call for an explanation. If (1.) entails an intermediate stage [h], one could also imagine an influence *from* Greek, namely from its Eastern Ionic variety, to Lydian. There are two main reasons.

The difference between Ionic and Attic, between Lesbian and the rest of Aeolic (and perhaps between Cyprian and Arcadian) confirms that psilosis is not an inherited feature: it is a secondary development, and in theory it could be an areal phenomenon mainly

concerning Asia Minor. If we were to consider psilosis an areal phenomenon, and wanted to pin down the starting point of $h > \emptyset / _V$, the easiest solution would be to see its origin in (Ionic) Greek and then a subsequent spread to the regions surrounding Ionia. Let us assume that Ionia were the epicentre of the sound change, which then spread to East, North, West and perhaps even to the South,⁹¹ affecting both Greek dialects and Anatolian languages. We would then have a geographically symmetrical situation, with psilosis ‘traveling’ from Ionia (which is at the centre of our area) to the North (Eastern Aeolic), to the West (Central Ionic), perhaps to the South (Cyprus and Crete), and – more importantly – to the East (Lydian). Besides, Ionic could be the best candidate to spread the change to other dialects because of its cultural prestige in the first half of the 1st millennium (if we consider psilosis one of the traits that Lesbian borrowed from Ionic).

However, the example of Elean (and the uncertainties about Cyprian and Cretan) confirms – together with the developments in Late Greek and, perhaps, in a part of Mycenaean – the instability of initial /h/ in Greek and keeps the possibility of independent developments well open.

The relative frequency of this sound change in Greek shows on the one hand that we might be dealing with a typologically common development, but on the other hand that – *if* Lydian required an external explanation (which is not certain!) – it would be better to look for the solution in Greek.

Another (highly hypothetical) parallel may be drawn. If Jimenez Delgado is right in saying that the *h*-dropping in Mycenaean began in intervocalic position (JIMENEZ DELGADO

⁹¹ If one wants to consider this a unified phenomenon, the South-Eastern region including Crete and Cyprus could be included. However, this would imply that Ionic was a prestige variety already from the times of our earliest documents – which is doubtful.

2008), we could see the loss of /h/ as a right-to-left change, affecting first internal and then initial position. This seems to be supported by the first-millennium Greek evidence, where we seldom find intervocalic (and, more generally, internal) /h/, while we have a whole series of dialects preserving initial prevocalic /h/. The loss of laryngeals in Anatolian seems to be a right-to-left change as well, as the laryngeal is dropped first in *Inlaut* and then in *Anlaut*: see the examples of **h₃*, which can now be identified in *Anlaut* (but not in *Inlaut*) in Hittite, Luwian and Lycian (cf. also **h₁*, which could perhaps be identified in *Anlaut* but never in *Inlaut* in Luwian [Kloekhorst] and Lydian [Simon]). Finally **h₂*, which seems to be the most ‘resistant’, is widely attested, both in *Inlaut* and in *Anlaut*, with the very exception of Lydian.

This assumption of Greek influence on Lydian could incidentally work regardless of what set of laryngeals we accept for the other Western Anatolian 1st-millennium languages. If we take Oettinger’s old view (according to which the more you go West, the more laryngeals you lose in initial position), thinking of Ionia as the epicentre of the change $h > \emptyset / \#_V$ would also give an explanation to this Anatolian feature, especially because it mostly affects the 1st-millennium languages which are close to that region. If, on the other hand, we follow the more recent theories according to which Lycian and Carian preserved more outcomes of laryngeals than previously thought, this perspective could even better explain the anomalous situation of Lydian.

Even if all of these points were proved and accepted, however, there would be two further problems: we would, indeed, need to assume both a Lydian fricativisation of the initial laryngeal and an *ad hoc* weakening $[x] > [h]$ *only* in *Anlaut* before ‘psilosis’ had its effect and reduced $[h]$ to zero.

If, by contrast, (2.) is true, as Oettinger now believes, Lydian would behave similarly to the other Western Anatolian languages, and the idea of a Greek influence would be implausible (not least because there would be no Lydian [h] to start with!). In both cases, the scenario of imperfect learning envisaged by Oettinger would in theory still be possible, even though the sociolinguistic situation envisaged (*i.e.* the presence of enough diffused bilingualism that Lydian-speaking nannies or wives of Greek speakers would have influenced the children of Greek-speaking families both in the Eastern Aeolic regions *and* in Ionia) is hardly provable because of the lack of sufficient data, and may therefore be doubted. In addition, the sound change $h > \emptyset / \#_V$ is so trivial that there is equal chance that it might independently have occurred in Greek.

2.4.5 Psilosis: conclusion

After a re-evaluation of the hypothesis of psilosis as a language contact phenomenon informed by a survey of the evidence from the Greek dialects and from laryngeal reflexes in Lydian, we can conclude the following.

It is now clear that the Anatolian languages of 1st-millennium languages show almost as many reflexes of laryngeals as 2nd-millennium Anatolian languages, though often these merged with velars ('fortition'). In Lydian, initial antevocalic laryngeals may either undergo fortition (= [k]) or lenition (= \emptyset , presumably through one or more fricative stages). In the latter case, this language would be isolated in this respect from the other Western Anatolian languages, and the reason for this isolation (*i.e.* for the fact that Lydian goes against the general fortition tendency of the second laryngeal *only in Anlaut*) might be looked for outside Anatolian, namely in Greek. If instead $*h_{2/3} > k / _V$, Oettinger's hypothesis of psilosis as a contact phenomenon could still be upheld – keeping in mind that is difficult to find

evidence in favour of the sociolinguistic scenario portrayed. A final answer must await future, fortunate, findings, but one must always keep in mind that the loss of /h/ in initial (antevocalic) position is a very frequent phenomenon, and this speaks against a contact hypothesis, at least in principle.

3 Morphosyntax

This chapter focusses on two dialectal features of morphosyntactic nature that some scholars have suggested are the result of contact with Anatolian languages. Unlike the phenomena discussed in other parts of this work, here we will be dealing with grammatical/structural similarities that could, in principle, point to a more significant degree of language contact (cf. 1.4.2.2 *supra*).

3.1 The ‘Ionic Preterites’

The Ionic Preterites (henceforth IPs)¹ are a group of verbs mainly attested in Homer and Herodotus (but also in Hesiod and in later authors). They are formed with a suffix -(ε)σκ- attached to a present or aorist stem followed by secondary endings: *e.g.* φαίν-έσκ-ετο from φαίνομαι, φύγ-εσκ-ον from φύγω. They almost never display the augment, are only found in the indicative, and occur in any person or number (with a high incidence of 3rd person forms). Although they may resemble other Greek verbal formations in -σκ-, they differ from them in significant ways, as we will see below.

This verbal category has been studied by many scholars over the past decades, and there have been several attempts to count all the occurrences of these verbs, but at present there is no complete list with precise textual references.² This is why a complete recount (cf.

¹ The literature offers different denominations: *Ionic preterites-iteratives*, *past-iteratives*, *iteratives-intensives*, *sk-iteratives*, *preterites-duratives*, *iterative-distributive*, etc.. Since they are mainly found in Homer (and imitators) and Herodotus, and are generally considered ‘Ionic’ (*contra* only BOTTIN 1969 and FRANCIONE 1999) I have chosen the more ‘neutral’ denomination *Ionic Preterites* (from now on IPs).

² Ernst Risch (1974: 277-8) offers an almost complete list of IPs, which DAUES 2009 reports and ZERDIN 2002 uses, after checking it against other less complete repertoires. A more detailed list is given by Bottin (1969: 121-4), and a complete one can be found in FRANCIONE 1999, an unpublished bachelor’s thesis from the University of Pisa. Unfortunately, though, there are a few mistakes and omissions, and not even here can one find *precise* figures on the distribution in different books, on the frequency of string occurrence and – most importantly – on *Aktionsart* and Aspect.

Appendix 2) becomes necessary before trying to identify their function and reconstruct their origin.

From my recount, it emerges that the Homeric poems have 252 occurrences of about 140 verbal forms (141 in the *Iliad* and 111 in the *Odyssey*).³ Although Chantraine (1958: 325) was right to identify a substantial number of IPs in the last book of the *Iliad*,⁴ the relative distribution of these verbs shows that the IPs are not necessarily a late feature of the epic language. There are in fact a fair number (10) of IPs in the second book of the *Iliad* – generally considered quite ‘archaic’ – and only one in the tenth (the so-called *Doloneia*), which is generally considered to be a later addition. Finally, the IPs are often found in strings in the Homeric text:⁵

(1) H 136-141

τοῖσι δ' Ἐρευθαλίῳ πρόμος ἴστατο ἰσόθεος φῶς

τεύχε' ἔχων ὥμοισιν Ἀρηϊθόοιο ἀνακτος

δίου Ἀρηϊθόου, τὸν ἐπὶ κλησιν κορυνήτην

ἄνδρες κίκλησκον καλλιζωνοί τε γυναῖκες

οὔνεκ' ἄρ' οὐ τόξοισι μαχέσκετο δουρί τε μακρῷ,

ἀλλὰ σιδηρεῖη κορύνῃ ῥήγνυσκε φάλαγγας.

«Their champion stood forth, Ereuthalion, a man godlike,

wearing upon his shoulders the armour of lord Areithoös,

³ I have excluded the ambiguous forms ἔσκ- and φάσκ- and counted simple and preverbated verbs as different forms: for example, ἔσκ- *could* be considered together with the IPs on a purely synchronic level. However, it is probably a form of direct IE descent as we find cognates in other branches (Lat. *escit, escunt*, perhaps Pal. *iška*).

⁴ «le développement des itératifs en -σκον est une particularité ionienne. Dans la langue épique ils constituent un ionisme et se développent librement. Ce n'est peut-être pas par hasard qu'on les trouve toujours en groupe, et surtout dans des développements de l'épopée que l'on peut considérer comme relativement récents (en particulier le début du chant Ω et la description du supplice de Tantale dans la *Nekyia* (λ 585-600)» (CHANTRAINE 1958: 325); cf. also GIACALONE RAMAT 1967: 115-6.

⁵ Homeric translations in this section are from Lattimore (*Iliad*) and Huddleston (*Odyssey*).

Areïthoös the brilliant, given by the men of that time
and the fair-girdled women the name club-fighter, because he
went into battle armed neither with the bow nor the long spear,
but with a great bar clubbed of iron broke the battalions.»

(2) Ω 9-17

τῶν μιμνησκόμενος θαλερὸν κατὰ δάκρυον εἶβεν,
ἄλλοτ' ἐπὶ πλευρὰς κατακείμενος, ἄλλοτε δ' αὖτε
ὑπτιος, ἄλλοτε δὲ πρηγνῆς· τοτὲ δ' ὀρθὸς ἀναστὰς
δινεύεσκ' ἀλύων παρὰ θῖν' ἄλός· οὐδέ μιν ἡὼς
φαινομένη λήθεσκεν ὑπεῖρ ἄλλα τ' ἡϊόνας τε.
ἀλλ' ὃ γ' ἐπεὶ ζεύξειεν ὑφ' ἄρμασιν ὠκέας ἵππους,
Ἑκτορα δ' ἔλκεσθαι **δησάσκετο** δίφρου ὀπισθεν,
τρὶς δ' ἐρύσας περὶ σῆμα Μενoitιάδαο θανόντος
αὖτις ἐνὶ κλισίῃ **παυέσκετο**, [...]

«Remembering all these things he let fall the swelling tears, lying
sometimes along his side, sometimes on his back, and now again
prone on his face; then he would stand upright, and pace turning
in distraction along the beach of the sea, nor did dawn rising
escape him as she brightened across the sea and the beaches.
Then, when he had yoked running horses under the chariot
he would fasten Hektor behind the chariot, so as to drag him,
and draw him three times around the tomb of Menoitios' fallen
son, then rest again in his shelter, and throw down the dead man

and leave him to lie sprawled on his face in the dust.»

The Hesiodic corpus is not traditionally taken into account in the studies of IPs, but one can find a considerable number of IPs in this author as well. These verbs are mostly found in the fragments, so it is sometimes difficult to use them as strong proof for one or the other theory about their function or origin. Generally speaking, the usage and distribution of the IPs in Hesiod is quite similar to that in Homer. However, three forms can disprove what was generally believed to be a constraint of this verbal category.

The erroneous claim is that the IPs are incompatible with verbs that are already formed with -σκ- (GIACALONE RAMAT 1967: 122, LAZZERONI 2017: 47). The common explanation for the two verbs in -σκω that do have an IP (βόσκω and μίσγω) is that these were *originally formed with -σκ-* but their suffix was reanalysed as part of the stem.⁶ However, no one seems to have taken into account the forms κικλήσκεισκον, which is found in a Hesiodic fragment (κικλήσκεισκον F 17a, l. 11 Merkelbach – West; P. Mich. 6234, fr. 1), and μνησάσκετο (Λ 566), which cannot go back to anything but μμνήσκω. Also, one finds βουσκέσκονθ' in the Odyssey, (μ 355). As scanty as the evidence may be, it is certainly sufficient to abandon the idea that the IPs are never built on other σκω-verbs.

In Herodotus the situation is somewhat different: most IPs are based on present stems, and the few aorist IPs are all based on thematic aorists. Once again, however, they frequently occur in sequence:

⁶ The future βουσκη-σω tells us that -σκ- was well integrated into the stem; the same applies to μίσγω vs. μισγει-άκεια. See ZERDIN 2002: 106, fn. 12.

(3) I, 196, 1-2

ὥς ἂν αἱ παρθένοι γενοῖατο γάμων ὥραιαι, ταύτας ὅκως συναγάγοιεν πάσας, ἐς ἓν χωρίον ἐσάγεσκον ἀλέας, περίξ δὲ αὐτάς ἴστατο ὄμιλος ἀνδρῶν, ἀνιστάς δὲ κατὰ μίαν ἐκάστην κήρυξ πωλέεσκε, πρῶτα μὲν τὴν εὐειδεστάτην ἐκ πασέων· μετὰ δέ, ὅκως αὕτη εὐροῦσα πολλὸν χρυσίον πρηθείη, ἄλλην ἂν ἐκήρυσσε ἢ μετ' ἐκείνην ἔσκε εὐειδεστάτη, ἐπωλέοντο δὲ ἐπὶ συνοικήσι.

«Once a year in every village all the maidens as they attained marriageable age were collected and brought together into one place, with a crowd of men standing around. Then a crier would display and offer them for sale one by one, first the fairest of all; and then, when she had fetched a great price, he put up for sale the next most attractive, selling all the maidens as lawful wives» (transl. Godley)

IPs are generally considered particular to epic because 69 of them are only found once in Homer.⁷ We find both simple and compound verbs, and in some cases there are both morphological and semantic “doublets”, *i.e.* IPs built on the present and aorist stem of the same verb⁸ and IPs that come from different verbs but nevertheless derive from the same root.⁹

From a semantic point of view, this verbal category has mainly been labelled *iterative*. There seems to be no better passage than Penelope's web to illustrate this feature:

(4) B 104-5

ἔνθα καὶ ἡματίη μὲν ὑφαίνεσκεν μέγαν ἱστόν

νύκτας δ' ἀλλύεσκεν, ἐπὴν δαΐδας παραθείτο.

⁷ According to WATHELET 1973: 393-4; 389-90; cf. also Chantraine *apud* GIACALONE RAMAT 1967: 115-6.

⁸ Five occurrences (cf. RISCH 1974): ἰστάσκε/στάσκε, σπένδεσκον/σπείσασκε, φαίνεσκετο/φάνεσκε, φεύγεσκε/φύγεσκε, and ὤθεσκε/ῶσασκε.

⁹ Three occurrences (cf. ZERDIN 2002: 109): ναίεσκον/ναιετάσκειν, ὀλέεσκε/ἀπολέσκειτο, and οὔτασκε/οὔτήσασκε.

«Then by day she wove her great web,
but at night, when she had torches placed beside it, she unraveled it»

Some prefer to emphasise the distributive value of the IPs and therefore prefer the label *iterative-distributive* (PAGNIELLO 2007: 106), especially for cases such as the following where the action is repeatedly performed on different actants:

(5) Δ 231-3

αὐτὰρ ὁ πεζὸς ἐὼν ἐπεπωλείτο στίχας ἀνδρῶν
καί ῥ' οὓς μὲν σπεύδοντας ἴδοι Δαναῶν ταχυπώλων,
τοὺς μάλα θαρσύνεσκε παριστάμενος ἐπέεσσιν

«Then he, on foot as he was, ranged through the ranks of his fighters.

Those of the fast-mounted Danaans he found eager, he would
stand beside these and urge them harder on with words spoken»

However, there are also cases where iteration plays no role, and at best the action might thought to be “intensified”, hence the qualification *intensive*:

(6) Γ 385-8

χειρὶ δὲ νεκταρέου ἑανοῦ ἐτίναξε λαβοῦσα
γρηῖ δέ μιν εἰκυῖα παλαιγενεῖ προσέειπεν
εἰροκόμῳ, ἥ οἱ Λακεδαίμονι ναιεταώσῃ
ἥσκειν εἴρια καλά, μάλιστα δέ μιν φιλέεσκε

«She laid her hand upon the robe immortal, and shook it,
and spoke to her, likening herself to an aged woman,

a wool-dresser who when she was living in Lakedaimon
made beautiful things out of wool, and loved her beyond all others.»

Finally, in some cases there seems to be no difference between the marked and the unmarked preterite:

(7) Y 225-9

αἱ δ' ὑποκυσάμεναι ἔτεκον δυοκαίδεκα πώλους.

αἱ δ' ὅτε μὲν σκιρτῶεν ἐπὶ ζείδωρον ἄρουραν,

ἄκρον ἐπ' ἀνθερίκων καρπὸν θέον οὐδὲ κατέκλων·

ἀλλ' ὅτε δὴ σκιρτῶεν ἐπ' εὐρέα νῶτα θαλάσσης,

ἄκρον ἐπὶ ῥηγμῖνος ἀλὸς πολιοῖο θέεσκον.

«and the mares conceiving of him bore to him twelve young horses

Those, when they would play along the grain-giving tilled land

would pass along the tassels of corn and not break the divine yield,

but again, when they played across the sea's wide ridges

they would run the edge of the wave where it breaks on the grey salt water.»

This is, in synthesis, what the current literature offers.¹⁰ We are dealing with a group of verbal formations which:

- Display a suffix -σκ-
- Are formed on present- or aorist-derived stems (even of the same verb or of cognate forms)
- Have secondary endings

¹⁰ The data above have been taken from ZERDIN 2002, RISCH 1974, NEGRI 1976, WATHELET 1973, GIACALONE RAMAT 1967, and CHANTRAINE 1958.

- Are only found in the indicative
- Almost never display the augment
- Occur in any person or number, with a high incidence of third person forms
- Can rarely be formed on $\sigma\kappa\omega$ -verbs
- Are found in Homer, Hesiod, (epic imitators), and Herodotus, and are considered 'Ionic'
- Seem particular to epic (many are $\acute{\alpha}\pi\alpha\chi$)
- Tend to occur in strings (without restriction on the verbal stem)
- May resemble, but are not identical to the other Greek formations in $-\sigma\kappa$ -

On a semantic level, the IPs have been attributed several functions ranging from *iterativity* to *intensivity* and *durativity* and involving both lexical *Aktionsart* and grammatical Aspect. It should also be clear from the above discussion that, in this as in many other cases involving *Aktionsart* and Aspect, there has been much terminological confusion because the same label (*e.g.* "durative") can be used to describe something belonging to either category.

3.1.1 Origin of the Ionic Preterites

Broadly speaking, we can distinguish two approaches to the origins of this verbal category: internal solutions and language-contact hypotheses.¹¹

Pierre Chantraine (1958: 321) argued for the former, hypothesising that the IPs developed analogically from some very ancient preterites such as $\acute{\epsilon}\sigma\kappa$ - and $\phi\alpha\sigma\kappa$ -. Anna Giacalone

¹¹ A third position is that of those who believe that the IPs are directly derived from the parent language: «in meaning they accord well with the function of the reconstructed $*sk'$ [...] and some forms show the expected morphological pattern of root in the zero grade» (CLACKSON 1994: 78). Máté Ittzés postulates a different segmentation on the synchronic level regarding $-\sigma\kappa\omicron\nu$, $-\sigma\kappa\epsilon$ as complex verbal endings: «Ich schlage deshalb folgende Segmentierung der Iterativformen vor. Das für die Iterative für charakteristisch gehaltene thematische „ $-\sigma\kappa(\epsilon/\omicron)$ “- soll *zusammen* mit den nachfolgenden sekundären Personalendungen als eine Reihe von neuen komplexen Endungen betrachtet werden, die „iterative Personalendungen“ genannt werden können» (ITTZÉS 2008: 19).

Ramat (1967) believed that they were (semi)-independent stylistic formations, but ultimately derived from the $\sigma\omega$ -presents. Romano Lazzeroni (1977: 25) accepted the position of Giacalone Ramat, while Bottin (1969) adopted a similar position, taking the IPs as «verbi tipicamente narrativi». Paul Wathelet (1973: 404-5) argued that the suffix of the IPs is a relic of second millennium Greek and that it has kept its original function, expanding in the Ionic literary language from Homer to Herodotus. Risch (1974: 277) and Francione (1999: 26) also thought that the IPs developed from specific verbal forms such as $\phi\acute{\alpha}\sigma\kappa\omicron\nu$.

Jason Zerdin (2000, 2002) developed a theory on the function of the IPs (cf. 3.1.4.1 *infra*), but did not commit to a particular view on their origin. He did mention Puhvel's contact hypothesis (which we are going to discuss *infra*) in his doctoral thesis, but since he opted for the 'traditional' reconstruction of $-\sigma\kappa-$ as an iterative marker (cf. also his 2002 article), he seems to belong with the other scholars who view the IPs as an internally-developed phenomenon. Pagniello (2007) stressed the «distributive-iterative» function of the IPs, their interplay with narrative structure, and their relationship with the (lack of) augment, yet he did not take a position on their origin.

To sum up, those who claim an inner-Greek origin for the IPs connect them to the $\sigma\omega$ -presents, to other $\sigma\kappa$ -formations (such as $\epsilon\sigma\kappa-$ and $\phi\alpha\sigma\kappa-$), or to both. In contrast to this approach, other scholars have looked to different languages, namely Armenian and Hittite, for a solution.

In 1959, Vittore Pisani suggested that the IPs may have originated in Hittite (where the suffix $-\check{s}k-$ is notoriously productive), and that the isogloss needs to be extended to Armenian. On a similar track, Mario Negri (1976) also hypothesised a connection of some sort between Greek, Hittite, and Armenian formations in the two different stages that he

reconstructs for the development of the IPs. Anna Giacalone Ramat (1967) briefly took the hypothesis of a shared innovation involving Ionic, Armenian, and Hittite, into consideration but ultimately looked for an inner-Greek explanation. Lazzeroni (1977: 25) followed both Giacalone Ramat and Pisani in pointing out similarities between the IPs and the Armenian aorists. Years later, Jaan Puhvel re-opened the discussion in the second part of his much cited pamphlet *Homer and Hittite*. He argued that «the East Ionic literary proliferation of a secondary preterital -σχε- resembles nothing within Greek so much as it does the profusely formed and used Hittite iterative-durative in -*ski*-» (PUHVEL 1991: 17). Both formations express «ongoing or open-ended action» and also have a tendency to occur in series (cf. *supra* for Greek and *infra* for Hittite). He then sketched a possible scenario of transmission, assuming a “*Sprachbund* effect” and widespread bilingualism:

«If indeed the East Ionic epic -σχε- conjugation is of Anatolian inspiration, it may be less due to conscious copying than to a kind of “*Sprachbund*” effect cutting across contiguous or overlapping linguistic boundaries [...]. In any event it implies contact if not symbiosis between an Eastern form of the Late Mycenaean Greek and thirteenth-century Hittite in or around Western Anatolia, and especially some familiarity with Hittite language and literature on the part of an incipient aeolic tradition. [...] In this manner the question of Greek-Hittite contacts acquires a twofold dimension: not just “Greeks in Hittite texts” but Hittite-influenced linguistic conventions in Greek epic dialect».

(PUHVEL 1991: 20)

Watkins subscribed to the contact hypothesis, adding Luwian to the discussion,¹² and his position has been accepted by several scholars (YAKUBOVICH 2010: 148; HAWKINS 2010: 221-2). The most recent articles on this specific topic, by contrast, either argue for inner-Greek formation of the IPs (ITTZÉS 2008, cf. fn. 11 *supra*) or suggest independent formations in the two languages, leaving nonetheless the alternative possibility of linguistic contact open

¹² «One dialect alone of Greek shows an iterative imperfective tense, marked by a suffix -*ske*- and the absence of the augment *e*-: the Ionic of Homer and the Asiatic coast (Western Anatolia). Hittite shows a semantically marked imperfective in -*ske*-, the same (inherited) morpheme. Luvian shows a cognate morpheme -*za*- in the same marked function. Either could have been diffused into Eastern Ionic Greek, which responded by extending the use of its cognate and phonologically similar native morpheme -*ske*-» (WATKINS 2001: 58).

(DAUES 2009). We will re-evaluate the contact hypothesis after a brief digression on the suffix *-ske/a-* in Hittite and after having argued for a different interpretation of the function of its Greek counterpart.

But before turning to a closer analysis of Greek and Hittite verbs in **-sk-*, I shall sketch out the theoretical framework which is preliminary to our analysis, defining *Aktionsart* and Aspect and pointing to some of the relevant literature.

3.1.2 *Aktionsart* and Aspect: a theoretical framework

After the Vendlerian classification of verbal events into four categories, *states*, *activities*, *accomplishments*, and *achievements* (VENDLER 1967), several studies defined the parameters according to which the predicate categories are in opposition to one another: *telicity*, *durativity* and *dynamicity*. In particular, telicity – the property by which an action or event has an internal completion, a *τέλος* – seems to be crucial for the interface between semantics and morphosyntax in the Indo-European languages. If we combine the semantic parameters that we have outlined with the verbal classes, we get the following chart:¹³

	TELICITY	DURATIVITY	DYNAMICITY
STATES	–	+	–
ACTIVITIES	–	+	+
ACCOMPLISHMENTS	+	+	+
ACHIEVEMENTS	+	–	+

Sometimes what we call *Aktionsart* is also referred to as *manner of action* or *lexical aspect*, not to be confused with Aspect proper (also called *grammatical aspect*) which is a category that expresses the point of view of the speaker towards an event. While *perfective aspect* «denotes a situation viewed in its entirety, without regard to internal temporal

¹³ Cf. DOWTY 1979, BERTINETTO 1986 among others.

constituency» (COMRIE 1976: 12), *imperfective aspect* makes «explicit reference to the internal temporal structure of a situation, viewing a situation from within» (COMRIE 1976: 24). As well as *Aktionsarten*, aspectual distinctions are very often represented by morphosyntactic means.

Aktionsart and Aspect are still very debated categories on a theoretical level.¹⁴ It has to be stressed that, although they interact in several ways,¹⁵ they should be kept apart: *Aktionsart* is a lexical property of the verb while Aspect is grammatical.

3.1.3 Verbs in *-*sk-* in Hittite: form and function

The suffix *-ške/a-* is quite common in Hittite. It is found in combination with the majority of verbal stems and, although there are some constraints, it defines a very productive verbal class throughout all stages of the language.¹⁶ On a formal level, we should note that *sk-*verbs tend to take the zero-grade of the root (just as in the other IE languages), and that sometimes a verb can receive double marking with *-sk-*: e.g. *uškiške*, *appiškiškemi*, *šeškiške*, etc. This is a way to reinforce the expressive value of the form (GHL: 323).

Because of the semantic range it covers, the function of the suffix *-ške/a-* in Hittite has been hotly debated. We can distinguish two main “schools”. On the one hand, there are those who believed that *-ške/a-* was a marker of “durative aspect” (as it was called then). Others, instead, preferred an “iterative”/“distributive” value, ultimately stressing the concept of so-called “verbal plurality” (DRESSLER 1968; see also BERRETTONI 1983). The former, we might say, is an aspectual hypothesis, whereas the latter concerns *Aktionsart*.

¹⁴ BERTINETTO – DELFITTO 2000, VAN VALIN – LA POLLA 1997, TENNY 1994 are only a few of the many contributions in the field.

¹⁵ For a focus on ancient languages, and ancient Greek in particular, see among others BERRETTONI 1982 and NAPOLI 2006.

¹⁶ For the formation of verbs with this suffix, see OETTINGER 1979: 315-29.

Those who supported the *Aktionsart* theory¹⁷ attributed several different functions to the suffix: “iterative”, “distributive”, “durative”, and “intensive”. While most scholars were unable to find a single prototypical value for *-ške/a-*, in 1968 Wolfgang Dressler argued that the underlying value of the suffix, which could have different manifestations, was “verbal plurality”, *i.e.* a verbal *pendant* to nominal plurality which could have different surface manifestations (iterative, durative, *etc.*) and which in many cases would depend on the idiolect of the writer and on an optional choice (DRESSLER 1968: 207-8).

The aspectual theory was formulated in the mid-1930s and won initial consensus,¹⁸ but criticism from Dressler and others¹⁹ made it somewhat less popular than the competing *Aktionsart* hypothesis until the 1990s, when it was revived first by Puhvel and later by Melchert (PUHVEL 1991, MELCHERT 1998a; cf. also HOFFNER – MELCHERT 2002). According to this view, the Hittite suffix *-ške/a-* is a marker of the imperfective aspect, called ‘durative’ by the first scholars who subscribed to this hypothesis (N.B.: not to be confused with the ‘durative’ of the *Aktionsart* hypothesis).

Today, there seems to be a more widespread consensus around the aspectual hypothesis: «any basic verbal stem in Hittite may be read as perfective or imperfective, provided that its inherent meaning and the context are appropriate»; «Most but not all Hittite verbs may also optionally mark imperfective aspect explicitly by the addition of one of three suffixes *-ške/a-*, *-šš(a)-*, and *-anna/i-* [...]. Certain classes of verbs, however, do not take the suffix, because their inherent meaning either already implies imperfectivity or is incompatible with it»

¹⁷ The hypothesis was first put forward by SOMMER – EHELOLF 1924: 21-2, and generally accepted – with small variations – by PEDERSEN 1938: 132, 140-1, GUSMANI 1965: 79, KRONASSER 1966: §219, ROSENKRANZ 1966: 174, NEUMANN 1967: 24, KAMMENHUBER 1969b: 217ff., FRIEDRICH 1974: 74-5 (see *reft.* in CAMBI 2007: 52).

¹⁸ Bechtel first proposed it in his monograph on the Hittite verbs in *-sk-* (BECHTEL 1936), and it was subsequently accepted by SOMMER 1947: 63, STURTEVANT – HAHN 1951: 130-2 and KURYŁOWICZ 1956: 236.

¹⁹ See FRIEDRICH 1974: 141 and KRONASSER 1966: 577.

(*GHL*: 317-8). These imperfectivising suffixes may give the verb several semantic nuances, which also depend on the context. Hoffner and Melchert list the following: progressive, durative, inhibitive (with the negation *lē*) iterative, distributive, habitual (regular/customary/characteristic), and inceptive.²⁰

These are some examples (text and translations from *GHL* 2008: 318ff. and HOFFNER – MELCHERT 2002):

- Progressive: (*KUB* XII, 63 Vs. 28) *nu anniškemi kuin n=an=kan šUM=ŠU ḫalziḫḫi* «I call by his name the one whom I am treating»; (*KUB* XXXVIII, 8 iii 6-10) *kuitman=ma=z(š)an BEL SÍSKUR IŠTU SAG.DU=ŠU tētan laplē[pan] enērann=a ḫūttiyanai*
^{MUNUS}ŠU.GI=ma luwili kiššan ḫūkkiškezzi «While the ritual client is pulling the hair, lash(es), and brow(s) from his own (-za) head, the Old Woman is reciting in Luwian as follows»
- Durative: (*KUB* I, 13 ii 10-11) *nu GE₆-an ḫūmandan uzuḫrin ḪÁD.DU.A azzikkanzi* «(the horses) eat [hay] throughout the entire night»; (*KBo* VI, 2 i 17-18) *nu É-ri=šši anniškezzi kuitmān=aš lāzziatta* «He will (continue to) work in his (the victim's) house, until he (the victim) recovers»
- Inhibitive: (*KUB* XXII, 70 rev. 35-6) *TÚG.ḪLA=wa kue zik w[aššiyaši nu]=war=at ANA DUMU=KA lē peškeši apāš=ma=at=ši pišket* «“Stop giving the clothes you w[ear] to your son!” But she kept giving them to him»
- Iterative: (*KBo* XVII, 43 i 10-11) *EGIR=ŠU^{LÜ} meneyaš iētta kētt=a kētt=a GI-an ḫuittiannāi*
tarnāi=ma=an natta ī ī ḫalziššāi «The m.-man walks behind. He keeps drawing (back)

²⁰ Cambi is wrong when she claims that Hoffner and Melchert offer a ‘mixed hypothesis’ and reach «eterogenee conclusioni» (CAMBI 2007: 56); it is quite clearly stated that -sk- is used to mark imperfective aspect, and the values just listed are found under the headline ‘Nuances of Imperfective Aspect’ (*GHL*: 318ff.)

the arrow towards this side and that, but does not let it go. He keeps crying out “ee ee”»; (*KBo* III, 5 ii 13-15) *tūriyanzi-ma-aš mašiyanki nu* KASKAL-ši KASKAL-ši-pat *INA* 7. IKU.ḪI.A *anda penneškanzi* «But as many times as they hitch them up, each time they drive them seven IKUs»;

- Habitual (regular/customary/characteristic): (*KBo* VI, 2 i 9-10 = Laws §7) *takku* LÚ.U₁₉.LU-*an* ELLAM *kuiški dašuwahḫi našma* ZU₉ŠU *lāki karū* 1 MA.NA KÙ.BABBAR *pišker kinun-a* 20 GÍN KÙ.BABBAR *pāi* «If someone blinds a free person or knocks out his tooth, formerly they used to give one mina of silver, but now one gives twenty shekels of silver»; (*KUB* V, 10 i 8-13) *nu-wa ANA DINGIR-LIM IŠTU É.GAL-LIM* 1 GÍN KÙ.BABBAR SÍG SA₅ SÍG ZA.GÍN 1-NUTUM ^{KUŠ}NÍG. BÀR.ḪI.A-*ya* *pešker kinun-a-wa* EZEN₄ *ašraḫitaššin iēr* KÙ.BABBAR-*ma-wa* SÍG SA₅ SÍG ZA.GÍN ^{KUŠ}NÍG. BÀR.ḪI.A-*ya* *ūl piyēr* «From the palace they used to give to the deity one shekel of silver, red and blue wool, and a set of curtains, but now they celebrated the Festival of Womanhood, and they didn't give the silver, red, and blue wool and curtains»
- Gnostic: (*KBo* IV, 2 i 58-59) *ḫalkiš-wa maḫḫan* NAM.LÚ.U₁₉.LU GUD UDU *ḫuitarr-a ḫūman ḫuišnuškezzi* «just as grain keeps all humans, cattle, sheep and wild game alive»
- Distributive: (*KUB* XXV, 32 iii 23-25) ^{NINDA}ān^{ḪI.A} NINDA.KU₇.ḪI.A *kue paršiyannianzi nu-kan anaḫi daškanzi n-at-kan* EGIR-*pa zikkanzi* «They take a taste of the warm breads (one by one) (and) the sweet breads which they break (one by one) and put them back (one by one)»; (*KBo* XXXIX, 2 i 58-59) *nu-kan* MUNUS ŠU.GI ^{DUG}*ḫupuwaya ḫašši anda laḫuškezzi* ^{DUG}*ḫupuwaya-ma tuwarniškezzi* «The Old Woman pours out little by little (from) the ḫ.-vessel onto the hearth, and she breaks the ḫ.-vessel piece by piece»

- Inceptive: (*KBo* XXII, 2 Vs. 4-5) DINGIR.DIDLI-š-a DUMU.MEŠ-uš A.AB.BA-az šarā dāir š-uš
šallanušker «The gods took the boys up out of the sea and began to raise them»

Melchert (1998a: 414) has also shown that, on a synchronic level, the stems in -ške/a- have the same function as those in -šša- and -anna/i- and that the three morphemes «function effectively as suppletive allomorphs of a single morpheme». Valentina Cambi, who wrote the most recent major study on the suffix -ške/a- in Hittite (CAMBI 2007), supports the aspectual hypothesis on the basis of the following distributional arguments:

- a) The suffix -ške/a- is incompatible with STATES (which already have imperfective aspect in most contexts), with *media tantum* (whose prototypical *nucleus* is composed of STATES), with the *hark*-construction (which is inherently perfective) and with adverbial expressions of the type “X times” (*e.g.* III-šū). On the other hand, -ške/a- is always found with adverbial distributive expressions (*e.g.* GE₆-ti GE₆-ti ‘night after night’, UD-tili ‘daily’). If -ške/a- were an (*Aktionsart*) iterative marker, its incompatibility with inherently iterative adverbial expressions could only be accounted for by the tendency to avoid redundancy. But this – according to Cambi – is a weak argument, because we always find it with distributive adverbs, which are inherently iterative as well. Therefore, we must assume that it is not an *Aktionsart* distinction (“X Times”-expressions are only compatible with telic predicates), which opposes forms with and without -ške/a-.
- b) The objection according to which -sk- signified a sub-category expressing indeterminate iterativity (*i.e.* that it is not possible to ‘count’ the repetition of the event) cannot be sustained because -ške/a- is not *a priori* incompatible with

expressions of precise and quantifiable repetition (we find it *e.g.* with the adverbial expression “in X Time”). With the aspectual hypothesis, on the other hand, the presence or absence of *-ške/a-* with the aforementioned adverbial expressions is justified: in the “X Times”-expressions, the perfective aspect that results from them would be incompatible with an imperfective marker, while for the distributive expressions we can see a habitual nuance that is further marked with *-ške/a-*.

- c) All predicates found with the adverbial expression “in X Time” are telic. But if we compare the marked and unmarked variants, we find no difference in *Aktionsart* (they are distributive, iterative and durative). On the other hand, the forms marked with *-ške/a-* either have a habitual (which is the only imperfective nuance compatible with the adverbial expression “in X Time”) or indeterminate (which is a property of the imperfective aspect) meaning.
- d) Predicates found with adverbial expressions meaning “for X Time” have different *Aktionsarten*: STATES, ACTIVITIES, (contextually durative) ACHIEVEMENTS and ACCOMPLISHMENTS. Again, if we compare the marked and unmarked variants, we find no difference in *Aktionsart* (distributive, iterative and durative). Three *sk*-forms are found in perfective contexts but, according to Cambi, these can be explained away by considering them as either under-specified formations that could eventually express perfective aspect (even though they were normally employed in imperfective contexts), or “narrative imperfects”, which are essential components of «una metafora aspettuale con cui, a livello stilistico, si ottiene una sorta di espansione dell’evento» (CAMBI 2007: 142-3; see also fn. 33 *infra*).

Although not all the points of Cambi's analysis are uncontroversial,²¹ the main argument that *-ške/a-* in Hittite does not mark any kind of *Aktionsart* and is instead a marker of imperfective aspect seems to be sound.

3.1.4 Verbs in **-sk-* in Greek: form and function

It is more difficult to find a common denominator for Greek verbs in *-σκω*. From a synchronic perspective, it is possible to classify *σκω*-verbs (\neq IPs) into four groups:²²

1. Root formations, of which there are new creations after the Homeric period:
βάσσω 'go' (**g^win-ske/o-*), θνή(ι)σκω 'die' (**d^hnh₂-ske/o-*);
2. Reduplicated formations, only formed from monosyllabic stems: Homeric γινώ-σκω 'know' (apparently ultimately from **g^hnh₃-ske/o-*), τι-τρώ-σκω 'wound';
3. Forms in *-ίσκω*, generally found beside non-present stems in *-η-* or *-ω-*: ἀλ-ίσκομαι (perfect ἐάλ-ω-κα) 'be taken', εὕρ-ίσκω (perfect ἤρ-η-κα) 'find';
4. Polysyllabic stems which show the same stem before *-σκω* as in other tenses, and are almost entirely post-Homeric: γηρά-σκω (classical aorist ἐγήρασα) 'become old', μεθύ-σκω (aorist ἐμέθυσα) 'make drunk'.

From a semantic point of view, the verbs in *-σκω* have been attributed most of the values that are found in the other Indo-European languages (iterative-durative, inchoative-progressive, causative, and zero). The most recent studies of *σκω*-forms, however, have

²¹ Cambi states that that *-ške/a-* is incompatible with *media tantum*, but this is false. Such *-ške-* forms do exist, although they are rare: we find *ēškantati* (KBo 7.14+ Ro 2; OH/OS) 'they sat' and *ēškahḫa* 'I ride' (habitual) at KUB XXXI, 4 + KBo III, 41 Ro 11 (OH/NS), in the *Puhanu*-text (CTH 16), where the reference is to riding one's opponent (or 'slanderer') like an ass. Since *titha-* 'to thunder' is also *media tantum* in Old Hittite, one must also add *tithišketta* in the Myth of Telipinu at KUB XVII, 10 ii 33-34: *^dTelipinuš lēlaniyanza uet (u)wantiwantaz tithišketta* «Telipinu came angrily, thundering with lightning».

²² See ZERDIN 2000 and in particular ZERDIN 2002:105 (which are the most recent studies on the Greek verbs in *-σκω* and on the IPs) from which the following list has been taken.

shown that in Homer these verbs should not be regarded as a semantically unitary category: what they have in common is that «-σκω forms a present stem from roots which in other tenses do not have this additional suffix», so «it is not possible to provide a further definition which is not contradicted by a substantial part of the data. The crucial point is that the same stem can yield presents with or without -σκω but which do not seem to differ in meaning, as with κικλήσκω beside καλέω» (ZERDIN 2000: 463). It is also worth noting that the iterative-durative value is due exclusively to the inclusion of the IPs in the group.

3.1.4.1 *The semantics of the 'Ionic Preterites'*

We briefly saw above that there is still debate about whether IPs should be considered an epic development originating from the σκω-presents (as per GIACALONE RAMAT 1967: 118 and BOTTIN 1969: 116)²³ or if the two are morphosyntactic formations independent from one another (NEGRI 1976: 238ff.; ZERDIN 2000). Here, we follow the latter view and take the IPs as a separate category from the 'regular' σκω-verbs.²⁴ Now, this is the question: can the suffix -σκ- in the IPs be given a unitary grammatical value that would account for all its occurrences?

The semantic value traditionally attributed to the IPs is "iterative-intensive". These are *Aktionsart* characterisations, as we have seen for Hittite. See the following examples:

²³ It goes without saying that the scholars who supported this hypothesis did not maintain that the characterisation of the IPs was in contrast to the semantic values of -σκω in the present.

²⁴ According to the most recent account of the Greek verbs in -σκω, «the presents in -σκω and the preterites in -(ε)σκον differ markedly in form (-(i)σκ- beside -(ε)σκ-); in function (the latter are very clearly 'iterative-(intensive)'); and in level of productivity (so that presents in -σκω may acquire their own iteratives, as βοσκέσκονθ' 'they used to graze' (Od. 12.355)). The preterites are therefore a very different phenomenon, and it seems inadvisable to ascribe iterative meaning to -σκω on their account» (ZERDIN 2000: 14-5). It should also be noted that the morphology and semantics of reduplication – which is often cited in connection with the verbs in -σκ- – goes beyond the scope of this work.

(8) Ω 392-3

[...] καὶ εὖτ' ἐπὶ νηυσὶν ἐλάσσας

Ἄργείους κτείνεσκε δαΐζων ὀξείῃ χαλκῷ

«and especially when he [Hector], pushing back the Achaeans
to the ships, would slay them, tearing (them apart) with the sharp bronze»

(9) Α 490-2

οὔτε ποτ' εἰς ἀγορὴν πωλέσκετο κυδιάνειραν

οὔτε ποτ' ἐς πόλεμον, ἀλλὰ φθινύθεσκε φίλον κῆρ

αὔθι μένων, ποθέεσκε δ' αὐτὴν τε πτόλεμόν τε.

«Never now would he go to assemblies where men win glory,
never more into battle, but continued to waste his heart out
sitting there, though he longed always for the clamour and fighting»

While in Ω 393 we can clearly see the “iterative” meaning, the form ποθέεσκε in Α 490-2 shows what scholars have called “intensive” nuance. It is difficult to always attribute iterativity to a verb such as ‘desire’, and – more generally – to the so-called *verba sentiendi*.

However, there are also cases which can be classified as both “iteratives” and “intensives”. In the following example, ἀριστεύεσκε could be interpreted both as «used to be outstanding (in battle)» or «used to perform heroic deeds»:

(10) Ζ 459-61

καὶ ποτέ τις εἶπησιν ἰδὼν κατὰ δάκρυ χέουσαν

Ἕκτορος ἥδε γυνὴ δς ἀριστεύεσκε μάχεσθαι

Τρώων ἱπποδάμων ὅτε Ἴλιον ἀμφεμάχοντο

There are also cases that can neither be labelled as ‘iteratives’ nor as ‘intensives’:

(11) ο 383-5

ἀλλ’ ἄγε μοι τόδε εἰπὲ καὶ ἀτρεκέως κατάλεξον,

ἥ δ’ διεπράθετο πτόλις ἀνδρῶν εὐρυάγυια,

ἧ ἔνι ναιετάασκε πατὴρ καὶ πότνια μήτηρ

«But come, tell me this and recount it exactly,

whether the broad-streeted city of men was sacked,

in which your father and lady mother used to live»

This discrepancy has often prevented scholars from considering the IPs as a homogeneous group and led them to choose “iterativity” or “durativity” as their primary function.²⁵ In other words, the debate is similar to the one we have just seen for the Hittite -*ške/a-* suffix: *Aktionsart* or Aspect?

Anna Giacalone Ramat preferred the former, while Ruipérez opted for the aspectual hypothesis. In more recent times, Puhvel has also adhered to the aspectual theory, but the latest contribution that was supported by modern linguistic theory was ZERDIN 2002.²⁶

Zerdin has convincingly shown that it is possible to give a unitary account of both values that the IPs show, and that there is a specific distribution to these values. The “iterativity” or “intensivity” of the verb is largely determined by lexical semantics: [STATES] yield “intensives” and the other *Aktionsarten* ([ACTIVITIES], [ACCOMPLISHMENTS], and [ACHIEVEMENTS]) yield

²⁵ See respectively GIACALONE RAMAT 1967 and RUIPÉREZ 1954.

²⁶ One should *always* bear in mind that the terminology referring to *Aktionsart* and Aspect may vary greatly from scholar to scholar. Here, I will try to ‘translate’ everything using the framework given in 3.1.2.

“iteratives”. He then argues that there is an underlying property which, combined with the different type of event, gives ‘iteratives’ or ‘intensives’. He calls this property “iteration” or “repetition”, and concludes that the suffix -σκ- in the IPs «primarily seems to denote iteration of the action concerned, which is realized as repeated (serial) in dynamic situations and usually as continuous (non-serial) in stative ones» (ZERDIN 2002: 125). Zerdin seems to commit to the *Aktionsart* theory, but not everything is convincing, especially at the theoretical level. The main problems with Zerdin’s argument are a conflation of several theoretical models (and associated terminology) and the lack of a proper distinction between lexical *Aktionsart* and grammatical Aspect. I shall now try to put the issue in a new light, which will hopefully result in a less complicated picture.

3.1.4.2 *A possible alternative: -σκ- in the ‘Tonic Preterites’ as a marker of imperfective aspect?*

Let us start with the following hypothesis: would it be possible to think of the -σκ- found in the IPs as a *morphological marker of imperfective aspect in the past*? As I will try to show, this could account for the semantics of the IPs, for the similarity between some marked and unmarked forms, and for the differences between Homeric and Herodotean usage.

Some further methodological remarks are in order at this stage. It is now widely accepted that the opposition between present and aorist in Ancient Greek reflects an opposition between *imperfective* and *perfective* aspect. This distinction has replaced the former view, according to which the opposition was between concepts such as “durativity” and “punctuality”, because it allows us to answer some questions that were previously given

obscure answers.²⁷ It is also generally thought that [+ DURATIVE] verbs tend to be more frequent in the present system (= in the imperfective), and this means that the parameters determining *Aktionsart* can affect the selection of aspectual markers and also constitute constraints on it.²⁸ With this in mind (cf. also 3.1.2 *supra*), let us test our hypothesis on the Homeric and Herodotean material.

We have already seen that, in some instances, there seems to be no difference in marked and unmarked preterites (cf. *θέον/θέεσκον* in ex. 7 above). Scholars have tried to explain these doublets as an example of markedness opposition,²⁹ but if one thinks of -σκ- in the IPs as an imperfectivity marker, the lack of semantic distinction between an IP and an imperfect such as *θέον* is simply what we would expect. In this case -σκ- would simply be redundant, but this does not necessarily mean that it has to be redundant everywhere. Let us take a pair such as *ἔδησε / δησάσκετο*, in which the IP is built on an aorist stem:

(12) X 396-400

ἀμφοτέρων μετόπισθε ποδῶν τέτρηνε τένοντε
 ἐς σφυρὸν ἐκ πτέρνης, βοέους δ' ἐξήπτεν ἱμάντας,
 ἐκ δίφροιο δ' ἔδησε, κάρη δ' ἔλκεσθαι ἔασεν.
 ἐς δίφρον δ' ἀναβάς ἀνά τε κλυτὰ τεύχε' αἰείρας
 μάστιξέν ῥ' ἐλάαν, τῷ δ' οὐκ ἀέκοντε πετέσθην.

« In both of his feet at the back he made holes by the tendons

²⁷ For example, in the punctual/durative theory the co-occurrence of the aorist and durative expressions such as “for X time” (*e.g.* *ἐβασίλευσε πεντήκοντα ἔτη*) would not be clear. On the other hand, a perfective/imperfective distinction would provide an explanation, since cross-linguistic studies have confirmed that duration can be explicitly marked «in sentences where the event is viewed as global or bounded» (NAPOLI 2007: 128). Cf. also NAPOLI 2006.

²⁸ See NAPOLI 2007 for an overview of this relatively new approach and for further methodological issues.

²⁹ LAZZERONI 2017: 48, fn. 28: «il termine non marcato dal suffisso è suscettibile di usi estensivi». Cf. already GIACALONE RAMAT 1967.

in the space between ankle and heel, and drew thongs of ox-hide through them,
and fastened them to the chariot so as to let the head drag,
and mounted the chariot, and lifted the glorious armour inside it,
then whipped the horses to a run, and they winged their way unreluctant.»

(13) Ω 14-8

ἀλλ' ὃ γ' ἐπεὶ ζεύξειεν ὑφ' ἄρμασιν ὠκέας ἵππους,
Ἑκτορα δ' ἔλκεσθαι δησάσκετο δίφρου ὀπισθεν,
τρὶς δ' ἐρύσας περὶ σῆμα Μενoitιάδαο θανόντος
αὐτίς ἐνὶ κλισίῃ παυέσκετο, τὸν δέ τ' ἔασκεν
ἐν κόνι ἐκτανύσας προπρηγέα· [...]

«Then, when he had yoked running horses under the chariot
he would fasten Hektor behind the chariot, so as to drag him,
and draw him three times around the tomb of Menoitios' fallen
son, then rest again in his shelter, and throw down the dead man
and leave him to lie sprawled on his face in the dust»

The only difference between the actions in the two passages arguably has to do with imperfectivity and indeterminacy (the latter is a crucial property of the imperfective aspect, as BERTINETTO 1987: 72 points out). The verb in X 398 is quite determined; since it describes the first time Achilles torments Hector's corpse every action is seen as something on its own, as something which the actant needs to perform in order to perform the next action. A series of aorists is therefore what we would expect and is indeed what we find. The second event, by contrast, is much less determined; it is the narration of a series of events and it should be

viewed as an unbounded whole where the reference to the terminal point is somewhat blurred. This scene is about Achilles's punishment on Hector's corpse, which repeatedly takes place over a certain amount of time and consists of the same actions. It is not a coincidence that the section contains a series of IPs. Here, the imperfectivity/indeterminacy has to be signified by something, and since imperfectivity cannot be marked by the aorist, -σκ- is the best (and only) candidate. This function might be called "iterativity", and there is indeed iteration, but this is only a manifestation of the imperfective aspect with a non-[STATE]. Those cases in which the simple aorist needs an overt temporal marker in order to encode habituality or iterativity (*e.g.* Ψ 263-4 ὥς αἰεὶ Ἀχιλλῆα κιχήσατο κύμα ῥόοιο / καὶ λαμπρόν ἐόντα)³⁰ seem to confirm this theory; the aorist prototypically marks perfectivity, unless there is something modifying it. This marker can either be a temporal adverb (such as αἰεὶ, prototypically imperfective) or, as in our case, the suffix -σκ-.

Let us now turn to another example where iterativity must be excluded, *i.e.* where the IP is formed on a STATE (= a [+DURATIVE], [-DYNAMIC] verb):

(14) Γ 383-8

αὐτὴ δ' αὖ Ἑλένην καλέουσ' ἔε· τὴν δὲ κίχανε
 πύργῳ ἐφ' ὑψηλῷ, περὶ δὲ Τρωαὶ ἄλλης ἦσαν·
 χειρὶ δὲ νεκταρέου ἑανοῦ ἐτίναξε λαβοῦσα,
 γρηῖ δέ μιν εἵκυῖα παλαιγενεῖ προσέειπεν
 εἰροκόμῳ, ἧ οἱ Λακεδαίμονι ναιετοώσῃ
 ἦσκειν εἴρια καλά, μάλιστα δέ μιν φιλέεσκε

³⁰ «Anche l'indicativo aoristo può esprimere un'azione iterativa o di consuetudine che si svolge nel passato: però in questi casi la iteratività viene di solito sottolineata da un avverbio di tempo, che invece può mancare accanto agli aoristi in -σκ-» (GIACALONE RAMAT 1967: 116).

«She then went away to summon Helen, and found her
on the high tower, with a cluster of Trojan women about her.
She laid her hand upon the robe immortal, and shook it,
and spoke to her, likening herself to an aged woman,
a wool-dresser who when she was living in Lakedaimon
made beautiful things out of wool, and loved her beyond all others»

Again we are in a narrative context, and Helen is bringing back loving memories of an old acquaintance. The only temporal determination we find is the participle ναιετοώση and the overall context is quite undetermined. Following NAPOLI 2007, we have said that [+DURATIVE] verbs tend to be more frequently inflected in the present stem, and, because of this, one would expect there to be no (or fewer) IPs formed on aorist stems that are also STATES.³¹ In other words, the category labelled ‘intensives’ should be restricted to the IPs formed on present stems. And that is indeed what we find, since all IPs formed on aorist stems are [+DYNAMIC] verbs, *i.e.* ACTIVITIES, ACCOMPLISHMENTS or ACHIEVEMENTS.³²

In the following example, instead, we find an IP derived from the present stem and an IP derived from the aorist stem in opposition:

(15) λ 595-600

ἦ τοι ὁ μὲν σκηριπτόμενος χερσὶν τε ποσὶν τε

λάαν ἄνω ὥθεσκε ποτὶ λόφον· ἀλλ’ ὅτε μέλλοι

ἄκρον ὑπερβαλέειν, τότε’ ἀποστρέψασκε κραταίς·

³¹ Now, STATES are the only verbal class in which the parameters [+ DURATIVE] and [–DYNAMIC] co-occur: prototypically, STATES are the only non-dynamic class, which is also durative. We can then infer that [–DYNAMIC] verbs are prototypically inflected in the present. From this, it will follow that if a verb is a state, one will be much more likely to find it with a present-derived stem rather than with an aorist-derived stem.

³² The only somewhat ambiguous case (μνησάσκετο, Λ 566) is, curiously enough, also particular with respect to its formation since – as we have pointed out *supra* – it is the one of the very few IPs formed on a -σκω verb.

αὐτίς ἔπειτα πέδονδε κυλίνδετο λαας ἀναιδής.

αὐτὰρ ὃ γ' ἄψ ὥσασκε τιταινόμενος, κατὰ δ' ἰδρώς

ἔρρεεν ἐκ μελέων, κονίη δ' ἐκ κρατὸς ὀρώρει.

«Yes, thrusting with his hands and feet,

«he'd push the stone upward toward a hilltop, but when it was

about to go over the top, a mighty force at that time turned it back,

then the shameless stone rolled back down to the ground.

But he'd strain and push it once again, as sweat poured

from his limbs and dust rose from his head»

Chantraine (1958: 323) remarks that «au vers 596 ἄνω ὥθεσκε signifie: «il faisait effort pour la pousser», mais au vers 599 ἄψ ὥσασκε semble signifier «il se remettait à la pousser»». We can try to be more specific, by noting that the difference is very subtle, and that the similarities between these two forms seem more telling. What they have in common is their collocation in a relatively undetermined narrative context. Although one action needs to be carried out in order for the next one to take place, narration allows the usage of an imperfective marker even with prototypically perfective forms (the aorist). In other words, the two forms ὥθεσκε and ὥσασκε are somehow put on the same level, and this similarity is signalled by the presence of the suffix -σκ-. Their difference in nuance can be explained through the choice of the verbal stem: an imperfect for the less telic event ('he would push') and an aorist for the more telic one (he began to push [again]).

As a final example, we are fortunate enough to have a complete series for the verb «to flee»: φεύγεσκεν / φύγεσκε / φεύγε / φύγεν.

(16) P 460-2

ἵπποις αἵσσων ὥς τ' αἰγυπτίος μετὰ χήνας
ῥέα μὲν γὰρ φεύγεσκεν ὑπ' ἐκ Τρώων ὀρυμαγδοῦ,
ῥεῖα δ' ἐπαΐξασκε πολὺν καθ' ὄμιλον ὀπάζων.

«He would dash in, like a vulture among geese, with his horses,
and lightly get away out of the Trojans' confusion
and lightly charge in again in pursuit of a great multitude»

(17) ρ 316

οὐ μὲν γάρ τι φύγεσκε βαθείης βένθεσιν ὕλης
κνώδαλον, ὅττι δίοιτο· καὶ ἔχνεσι γὰρ περιήδη

«For no wild creature, whatever one he chased, escaped him
in the depths of deep forest, since he knew their spoor so well»

(18) γ 165-7

αὐτὰρ ἐγὼ σὺν νηυσὶν ἀολλέσιν, αἳ μοι ἔποντο,
φεύγον, ἐπεὶ γίγνωσκον, ὃ δὴ κακὰ μήδετο daίμων.
φεύγε δὲ Τυδέος υἱὸς ἀρήιος, ὥρσε δ' ἐταίρους.

«Then I fled with the ships that followed me, crowded together,
since I knew that a divinity intended evil,
and Tydeus' warlike son fled and urged on his comrades.

(19) Δ 350

Ἀτρεΐδῃ ποῖόν σε ἔπος φύγεν ἕρκος ὀδόντων

«“What is this word that broke through the fence of your teeth, Atreides”»

In these instances, the IPs are found in narrative parts and the correspondent preterites are in dialogues. This is not the only difference: the forms $\phi\epsilon\acute{\upsilon}\gamma\epsilon\sigma\kappa\epsilon\nu$ and $\phi\acute{\upsilon}\gamma\epsilon\sigma\kappa\epsilon$ are not exactly the same (the former is an ‘iterative’ proper whereas the latter denotes habituality), but the action described is unbounded and quite undeterminate in both cases. This is what distinguishes them from $\phi\acute{\upsilon}\gamma\epsilon\nu$, where the point of view of the action (= Aspect) is essentially external and the situation is viewed as a whole (= perfective), and from $\phi\epsilon\tilde{\upsilon}\gamma\epsilon$, found where we would expect a perfective (this is arguably a case of narrative imperfect³³).

We have seen above that some verbs (such as $\acute{\alpha}\rho\iota\sigma\tau\epsilon\acute{\upsilon}\epsilon\sigma\kappa\epsilon$; cf. also $\phi\iota\lambda\acute{\epsilon}\epsilon\sigma\kappa\epsilon$, interpreted both as ‘used to love’ [α 435] or ‘have sexual intercourse’ [I 450]) can be interpreted both as “iteratives” and “intensives”. This ambiguity is clearly due to the lexical properties of the verb, *i.e.* to *Aktionsart*, and it indirectly suggests that -σκ- is not “responsible” for *Aktionsart* distinctions. The aspectual hypothesis, on the other hand, could provide a reasonable explanation for these instances and also for cases such as $\nu\alpha\iota\epsilon\tau\acute{\alpha}\alpha\sigma\kappa\epsilon$ (ο 385), which are otherwise quite difficult to explain.

Is it possible to say, *grosso modo*, that in the -σκ- formations IMPERFECTIVE + NON-STATES = ‘iteratives’ and IMPERFECTIVE + STATES = ‘intensives’ (provided that, ultimately, there is no difference between these and the non-marked forms)? Here, ‘iterativity’ and ‘intensity’

³³ The narrative imperfect is a peculiar usage of the imperfect tense, found in Italian and in the other Romance languages: «the specific characteristics of this usage lie, as is well known, in its aspectual features: in contrast to the imperfective value of the IPF in its normal usages, the NIPF is used in contexts where we should expect to find a perfective tense» (BERTINETTO 1987: 71). In other words, whenever there are temporal specifications (either determinate iteration or a specific point in time) that would prevent us from viewing the event without reference to its internal constituency (*i.e.* as having imperfective aspect), and we find nonetheless a verbal form prototypically imperfective (such as the Italian *imperfetto*, or the French *imparfait*). This is the reason why it has been defined an «aspectual metaphor» by Pierangiolo Berrettoni (BERRETTONI 1972). It is interesting to note that the ‘narrative imperfect’ typically belongs to the written language and is almost exclusive to it and, more generally, to narration, as the name suggests (BERTINETTO 1987). On the narrative imperfect in Hittite, cf. CAMBI 2007.

seem to be epiphenomena of the imperfective aspect. In this respect, my theory is similar to Zerdin's in that I acknowledge that there is something modifying the event and yielding different results that we may call "iterativity" or "intensivity". However, while Zerdin maintains that this "something" is a non-better-defined "iterativity", I argue that we are dealing with an example of interface between *Aspect* and *Aktionsart* where the combination of the two yields the "nuances" described above.

Nor is this theory very different from Ruipérez's suggestion.³⁴ Although he used somewhat different terminology³⁵ and did not list the IPs as a separate category from the other $\sigma\chi$ -verbs, he wrote that «los pretéritos jónicos en $-\sigma\chi\omicron\nu$ tienen valor de "langue" durativo. Este valor durativo se realiza frecuentemente, pero no siempre, con sentido iterativo en la "parole". Así, pues, en nada se diferencian de imperfectos corrientes» (RUIPÉREZ 1954: 134). If one translates Ruipérez's "durativo" into modern-day imperfective aspect, the similarity is much more evident.

At the same time, if one agrees that indeterminacy is closely connected to imperfectivity,³⁶ then the above assumptions would find partial confirmation on theoretical grounds. But there is a possible objection to this claim: why did Greek need to attach an imperfectivity marker to a prototypically perfective verbal form such as that of the aorist? If there were need for an imperfective, why not use the imperfect instead?

³⁴ I am indebted to José Luís García Ramón for bringing this to my attention during a colloquium at the University of Oxford.

³⁵ Ruipérez's «durativo» probably corresponds, though not perfectly, with what today we call 'imperfective'.

³⁶ As Bertinetto puts it, «the element crucial to the understanding of the imperfective aspect carried by both the progressive and the habitual IPF, is the notion of indeterminacy» (BERTINETTO 1987: 72)

My suggested solution is that Greek did not *need* it. It was a stylistic choice, something optional. Something that essentially has to do with a particular kind of language, narration. Something whose origin might well come from outside Greek (cf. 3.1.5 *infra*).

This hypothesis would also explain why Greek uses a redundant marker for those forms which are already prototypically imperfectives. To say this is not to contradict the fact that most IPs are ‘iteratives’; -σκ- does not mark iterativity *per se*, but iterativity is an epiphenomenon (the main one, in this case) of a re-marked, underlined, imperfectivisation and indeterminacy in past narration. While in Homer this category was productive, in Herodotus we see it restricted to what was probably its main function (that is, underlining indeterminacy in narrative past, especially with non-[STATES]); in later writers it will finally disappear, except in cases of imitation of epic.

This hypothesis provides an answer to the objection that -σκ- cannot be an aspectual marker because it also occurs with aorist (= perfective) stems.³⁷ Moreover, if one accepts Willi’s views on the augment,³⁸ this might even be an additional argument for the aspectual hypothesis.

Now that we have identified a possible unitary function for the IPs, is it possible to fit it into the temporal-aspectual system of the Greek verb? The first problem that arises is: why should Homer use such a redundant form when the Greek language already had a complex and developed aspectual system? It is clear that most IPs show little or no difference from

³⁷ The small number of aorist stems would also confirm our claim: the suffix, originally imperfective, was then extended to perfective forms, creating an aspectual metaphor similar to that of the narrative imperfect; cf. *infra*.

³⁸ Willi (2007; 2018: 357-416) interprets the augment as marker of perfective aspect. Different views in *e.g.* LAZZERONI 2017.

the non-marked form, especially in the imperfect. This ties in with the problem of the origin of the IPs: how was the category created, and why?

Here one may choose two routes. If one follows the majority view, it would be impossible to invoke the other $-\sigma\kappa\omega$ verbs, because these are generally thought to have completely different functions and previous attempts at a *reductio ad unum* are generally thought to be unsatisfactory.³⁹ If we reconsider Puhvel's idea taking into account what we have seen so far, (*i.e.* Melchert's analysis of Hittite $-\check{s}ke/a-$ forms and my suggestion on the IPs), we can approach the question in a new light and may be able to find a satisfying answer. On the other hand, if one follows Willi's recent account (2018: 366, fn. 22), which denies any substantial difference between the $-\sigma\kappa-$ of the IPs and that of the $\sigma\kappa\omega$ -verbs (presupposing a unitary imperfective function for this suffix), then the IPs could be regarded as 'imperfectivised perfectives' similar to the type of Bulgarian *napišeše* '(s)he would write down' ('perfective' (~ prototypically telic) stem *napiš(a)-* + imperfective marking $-(e)\check{s}e$) inspired by the $\sigma\kappa\omega$ -presents. In what follows, I will mainly focus on the former hypothesis, because it seems difficult to refer to the $\sigma\kappa\omega$ -verbs because of the multiplicity of their functions, and their most prominent function does not seem to be similar to the main function of the IPs.

³⁹ Also, we should not be dogmatic in pursuing a unitary reconstruction: it is true that some forms such as $\check{\epsilon}\sigma\kappa\epsilon$ may be ancient, but this does not logically imply that they must have been the prototypes. It is at least as likely (if not more so) that the form for 'to be' was something inherited, and – though it could have influenced the development of the category – there is virtually no proof that it was the original unitary model of the IPs altogether.

3.1.5 The ‘Ionic Preterites’ and Hittite revisited

As anticipated above, the main question is: if Greek did not need a category such as the IPs, why did it create it? In what follows, I am going to tentatively suggest that this category was not simply *created*. It was *adopted*, and the reasons why this might have happened will become clear after having reconsidered the contact hypothesis.

We have seen that, since Puhvel’s 1991 contribution, the contact hypothesis has gained popularity and has become, to some degree, accepted (YAKUBOVICH 2010: 148, WATKINS 2001: 58, HAWKINS 2010: 221-2). Nevertheless, only few scholars have addressed this topic again. Whilst one of them (DAUES 2009) did not reach definite conclusions (cf. 3.1.1 *supra*), another has spoken clearly against the idea of language contact:

«The assumption of an Anatolian interference is not necessary, because there is a plausible explanation for the East Ionic epic sk-iteratives within the Greek language itself: a typical feature of the preterits of the type ἔσχε, πίνεσκεν or σπένδεσχε [...] is their lack of the augment. Recent hypotheses suggest that the Greek augment */(h)e-/ originally was an actualizing particle with *hic-et-nunc-deixis*. In this case the missing augment in the iterative preterits is well motivated: A timeless past as expressed by iterative preterits cannot be combined with a particle that is limited to personal accounts with a topical aspect. Thus, the East Ionic epic sk-iterative preterits represent an archaism, which is neither unusual for archaizing poetic language nor for a region at the fringe of the Greek linguistic community»

(HAJNAL, 2018: 2047)

The other criticism of Puhvel’s thesis is the formal difference of the suffix in the other Anatolian languages: «gibt es etwa im Luwischen oder im Lykischen [...] kein *-ske/a-* Suffix, wie im Hethitischen, sondern nur *-za-* und *-šša-* (im Luw.) bzw. *-s-* (im Lyk). Mit dem Einfluss so abweichender Suffixe kann man sicherlich nicht rechnen» (ITTÉS 2008: 18, fn. 22). This argument would only be valid if Hittite was excluded, and if we only restrict the analysis to a formal level. Neither of these is true, however, because we can believe in the possibility of Hittite literary influence (cf. 3.1.5.2 *infra*) and, even if that were not the case, we

might still think that the phenomenon is to be considered at a *functional* level. It is undoubtedly the case that the sequence **-sĥ-* yields different results in the Anatolian languages (it has been convincingly shown that the Hittite *-ške/a-* corresponds to Luwian *-za*⁴⁰ and Lycian *-s-*; cf. MELCHERT 1989), but the *function* of the suffix in Luwian and Lycian is comparable to that in Hittite.⁴¹ In this perspective, one could imagine that Luwian (or whatever dialects were spoken in Western Anatolia) was the source of the Greek IPs, but there is no way to prove this.

Hajnal's objection does not seem compelling either: firstly, to completely reject a theory solely on the basis of one of the many interpretations of a hotly debated topic such as the augment is rather risky. Secondly, the lack of the augment does not necessarily mean that the IPs are an "archaism". In any case Hajnal does not seem to provide any *positive* argument in favour of (or against, for that matter) the origin of this verbal category.

Nonetheless, Puhvel's suggestion could be better defended from this kind of criticism if we were to integrate it with the present hypothesis. Doing so could also answer some fundamental questions that he left open. Once we have reasonably established that Ionic Greek and Hittite show a similar feature, is it possible to prove that they are somehow related? And, if this is the case, is it possible to justify this contact? Are we able to reconstruct a plausible scenario in which this supposed transmission could have taken place? If we do not at least try to answer these points, it will be difficult to show that it is more economical to assume language contact instead of independent developments, and the contact hypothesis will not be much more than a feeble suggestion.

⁴⁰ And not *-šša-*, as previously thought, cf. HAWKINS – MORPURGO DAVIES – NEUMANN 1974).

⁴¹ Cf. already WATKINS 2001. Further study of the function of the Luwian and Lycian verbal forms would be very welcome and could corroborate the current hypothesis.

First of all, are Hittite and Ionic comparable at all? There are certainly differences: the *-ške/a-* suffix in Hittite is not restricted to the past tense or to the indicative (as it is in the IPs). But we have also seen that there are substantial similarities, such as the use of the suffix to mark imperfective aspect and its occurrence in series, especially in narrative parts. Also, both languages sometimes admit forms that are doubly-marked with this suffix. The absence of the augment and the fact that *-σκ-* can mark ‘preterites’, regardless of their basic aspectual value is a coincidence uniquely due to the different structure of the two languages. In any case, one should keep in mind that, on a structural level, Hittite – which does not distinguish between perfective and imperfective preterites – developed strategies (*i.e.* the three suffixes, *-ske/a-*, *-šša-* and *-anna/i-*) to form (present and) past imperfectives. On the other hand, Greek, which inherited a system with aspectual distinctions in the past, has such a productive category of past imperfectives.

3.1.5.1 *Inheritance, contact, or independent developments?*

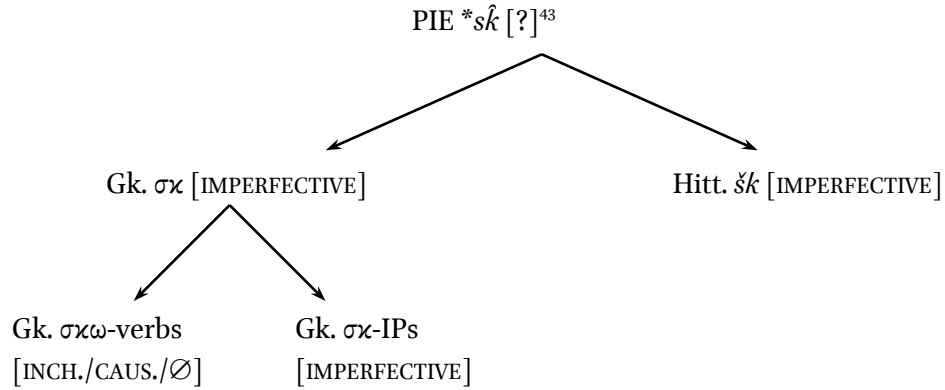
If the Greek and Hittite formations are somewhat comparable (at least up to a point), how can we prove that the Greek one had its ultimate origin in Hittite and that it is not an archaism or an independent internal development? After all, **-sk̑-* is a sound PIE suffix,⁴² and could have had the same function in more than one branch either by direct inheritance or by parallel shifts starting from the same material. It is perhaps impossible to *prove* any of

⁴² A suffix **-sk̑-* is universally reconstructed for Proto-Indo-European (MEIER-BRÜGGER 2010: 303-4, FORTSON 2010: 310-1, BEEKES 2011: 257, RINGE – ESKA 2013: 168), and is found in most daughter languages; according to the *Lexikon der Indogermanischen Verben* there are 74 roots showing **-sk̑é/ó-*, of which 52 are «sicher» (LIV²: 19). While the phonetics are quite unproblematic, there has been quite a lot of debate on the semantics, and several ‘values’ and categories have been called into question (cf. WATKINS 1969: 56ff and KELLER 1992: 169-190). The outcomes of this suffix are attested in most branches: we can clearly isolate it in Tocharian, Indo-Iranian, Armenian, Anatolian, Greek and Latin, while we only find traces in Italic, Celtic, Germanic, Balto-Slavic, and Albanian.

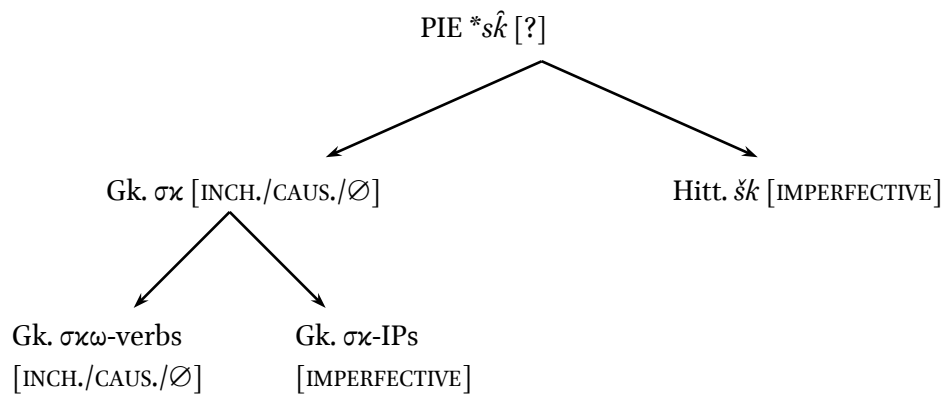
these hypotheses *stricto sensu*, so it will be enough to give some reasons why the contact hypothesis seems more likely than others.

Schematically, we have the following theoretical possibilities:

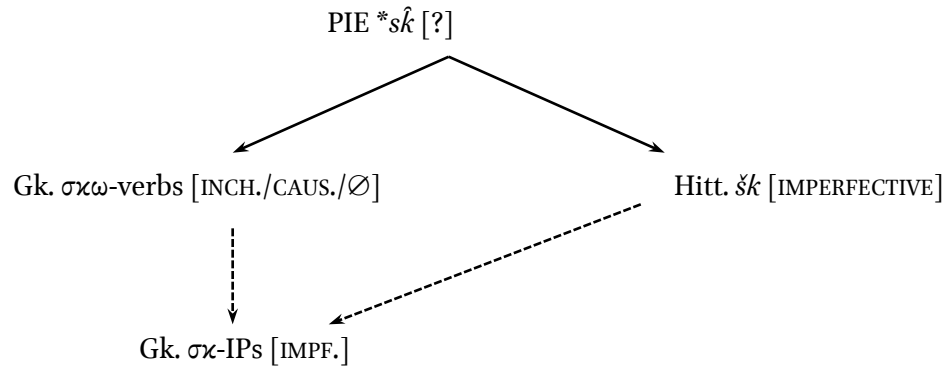
(1.)



(2.)



(3.)



⁴³ Some scholars reconstruct a plurality of values for PIE suffixes, and the original imperfectivity of *sḱ as a unitary value is far from being certain (DI GIOVINE 1999: 38ff. and KURYŁOWICZ 1979: 146).

The first hypothesis, *i.e.* that of Indo-European archaism,⁴⁴ is not ostensibly supported by the data, because, at least synchronically, Greek $\sigma\kappa$ -verbs show some variety in their semantics. As some scholars argued (cf. *supra*; cf. also the following table, adapted from ZERDIN 2002: 106), there is not one specific function underlying all $\sigma\kappa\omega$ -verbs. Greek $-\sigma\kappa-$ is of course a suffix belonging to the present/imperfective system, but its synchronic *function* is not uniquely to *mark* imperfective aspect, as the table illustrates.

	With $-\sigma\kappa-$	Without $-\sigma\kappa-$	Other IE language
Causative	μεθύσκω 'make drunk, intoxicate'	μεθύω 'be drunken with wine'	Tocharian (Armenian)
Inchoative	γενειάσκω 'begin to get a beard'	γενειάω 'get a beard; have a beard'	Latin

Also, the only way to accept the idea of a preserved Indo-European archaism in both Hittite and Ionic would be to assume that 1) $*s\hat{k}$ was an imperfective marker already in PIE times; 2) the rest of Greek innovated. The first point, assumed by WILLI 2018, is possible, though very difficult to prove,⁴⁵ whereas the second one is more problematic. On the one hand we would have Homer and Herodotus, with their imperfective $-\sigma\kappa-$, and on the other hand the rest of Greek, with all the other values shown in the table. And yet this does not seem very convenient: why should the rest of Greek have innovated?

The hypothesis of parallel innovations (2.), by which the outcomes of (a non-better-defined) PIE $*s\hat{k}$ secondarily and independently shift to marking imperfectivity in both

⁴⁴ An imperfective PIE $*s\hat{k}$ with perhaps other non-specified values would keep its function both in Greek and in Hittite.

⁴⁵ As we have pointed out in fn. 43 *supra*, it is difficult to find a unitary value. Those who reconstruct an iterative function for the suffix in PIE normally use Greek (and in particular the IPs!) as the principal argument, and the risk of circularity in this perspective is very high.

languages, does not seem very compelling either, because – as we have seen above – it is difficult to derive the IPs from the ‘regular’ Greek $\sigma\kappa$ -verbs.⁴⁶

On the other hand, the contact scenario (3.) explains the impossibility of deriving the IPs from the $\sigma\kappa\omega$ -verbs, their synchronic distribution, and their function in Homer and in Herodotus.⁴⁷ I should make clear that the process I envisage is *not* that of borrowing a foreign morpheme; I believe that we are dealing with a case of *replication* (cf. 1.4.2.2), by which a lect re-functionalises its own material on the model of another lect. After all, $-\sigma\kappa-$ was already a fully-functional morpheme in Greek, and it is conceivable that the phonetic similarity of the Greek and Hittite forms could have facilitated the transmission process. The formal divergence of the ‘minor’ Anatolian languages (in particular Luwian) is not an insurmountable obstacle to our thesis since the reflexes of $*s\hat{k}$ probably mark imperfective aspect in Luwian and Lycian as well (cf. already WATKINS 2001: 58).

Accepting this contact scenario, however, means modifying Puhvel’s hypothesis because it is quite unlikely that such similarity, even if it is due to some sort of interference, is a trace of widespread bilingualism and deep language contact. If we assume that this change arose only in epic language, there may be a possibility that contact restricted to the language of literature was taking place. If one takes the IPs as a stylistic feature used in literary narration,

⁴⁶ Cf. NEGRI 1976: 247: «i presenti in $-\sigma\kappa\omega$ e i preteriti in $-\sigma\kappa\omicron\nu$ rappresentano due categorie morfologiche diverse e, almeno all’interno del greco, non riconducibili l’una all’altra».

⁴⁷ Although our conclusions are radically different, I agree with Anna Giacalone Ramat when she writes that the IPs «sono forme probabilmente nate come varianti «stilistiche»» (GIACALONE RAMAT: 121); besides, her interpretation of the verbs in $-\sigma\kappa\omega$ is actually very similar to our interpretation of the IPs: «il suffisso [...] esprime una variante della duratività, qual è l’azione iterativa e intensiva » (p. 123). She correctly concludes that «il problema dell’uso delle forme in $-\sigma\kappa-$ è soprattutto stilistico, in quanto si tratta di valutare caso per caso il senso della scelta stilistica del poeta» (*loc. cit.*).

it would be easy to see how this feature could have spread “from Hittite to Homer” in any scenario in which bilingualism of poets played a role.⁴⁸

3.1.5.2 *Textual parallels*

If, as is hypothesised here, these forms were due to contact at a literary level, an incentive for borrowing them for an epic poet would have been that they were also metrically convenient. One should also note that *sk*-formations are very frequent in post-OH texts, especially in translated literature and in rituals. For instance, let us consider the very beginning of the first tablet of the *Song of Ullikummi*, a composition which has long been established as a model for the *Theogony*.⁴⁹

(20)

- | | |
|----|---|
| 1 | [.....] |
| | [... -kan kwedani] <i>ištanzani anda</i> n[aš-kan ištanzani] |
| | [ḫattatar anda] <i>daškizzi dapiy</i> [aš šiunaš addan] |
| | <i>Kumarbin išḫamiḫḫi</i> |
| 5 | <i>Kumarbiš-za ḫattatar ištanzani piran daškizzi</i> |
| | <i>nu idalun ši wattan ḫuwappan šallanuškizzi</i> |
| | <i>nu(-za) StG-ni menaḫḫanda idalawatar šanḫiškišzi</i> |
| | <i>nu StG-ni tarpanallin šallanuškizzi</i> |
| | <i>Kumarbiš-za ištanzani piran ḫattatar [daškizzi]</i> |
| 10 | <i>nat kunnan mān iškariškišzi</i> |
| | <i>mān-za Kumarbiš ḫattatar ištanzani piran dāš</i> |

⁴⁸ Cf. recently BACHVAROVA 2016, according to whom literary and cultural models were diffused through religious festivals and ‘long-distance interactions’ between courts in the Late Bronze Age. For alternative models cf. 1.2.4 *supra*, and for criticism of Bachvarova’s theses cf. METCALF 2017 and BIANCONI 2016.

⁴⁹ Text and translation are from GÜTERBOCK 1951.

naš-kan kišḥiyaz šara ḥudak araiš

keššaraz X-an dāš X-šaš-ma-za X-uš

liliwanduš ḥuwanduš šarkwuit

15 *naš-kan Urkišaz ḥappiraz arḥa iyanniš*

naš ikunta luli-kan anda ar(a)š

1 [Who.....]

(and) in [*whose*] mind there is [.....]

[*into his mind wisdom*] he takes.

Of Kumarbi, father of all the gods I shall sing.

5 Kumarbi wisdom unto his mind takes,

and a bad 'day' as evil (being) he raises.

And against the Storm-God evil he plans,

and against the Storm-God a *rebel* he raises

Kumarbi wisdom unto his mind [*takes*],

10 and like a bead he sticks it on.

When Kumarbi wisdom unto his mind takes,

from (his) chair he promptly rose.

Into (his) hand a staff he took,

upon his feet as shoes the swift winds he put.

15 And from (his) town Urkiš he set out,

And to *ikunta luli* he came.

Hittite *šk*-forms are found in the present indicative and imperative in typical imperfective use (with the “epiphenomena” listed in 3.1.3 *supra*), but it is the historical presents in *narrative* passages that are crucial. The imperfective verbs, which occur in strings, set the scene while the unmarked preterites drive forward the narration. In other words, the *sk*-forms are *background* for the narrative that is marked with simple preterites (this pattern is repeated several times in the text).⁵⁰ All the *šk*-forms are in the so-called ‘historical present’; it might not be a coincidence that «la langue épique ignore complètement le présent historique» (CHANTRAINE 1958: 191), but on the other hand it has these narrative *sk*-forms which carry out a similar backgrounding function. The parallel that comes to mind is with the Romance languages, where the imperfect sets the scene, and the simple past drives the narrative.

Unfortunately, there are only a couple of preterite *šk*-forms in the preserved Ullikummi text. However, sequences of *sk*-verbs in past narration are found in post-OH texts:

(21) *KBo III, 4 Vs ii 15-19 (CTH 61.IA)*

maḥḥan=ma iyaḥḥat nu GIM-an INA ^{HUR.SAG} Lawaša ārḥun

nu=za ^DU NIR.GAL EN-YA parā ḥandandātar tekkuššanut

nu ^{GIS}kalmišanan šiyāit nu ^{GIS}kalmišanan ammel KARAS^{HLA}-YA

uškit KUR^{URU} Arzawa=ya=an uškit nu ^{GIS}kalmišanaš pait

KUR^{URU} Arzawa GUL-aḥta

«As I marched, when I arrived to mount Lawasa, the Storm-God, My Lord, revealed his divine benevolence: he threw a *kalmišana* (possibly a thunderbolt or a meteorite?). My army

⁵⁰ A similar backgrounding function has been recognised by DAUES 2009, who however focussed on different texts.

saw the *kalmišana*, and the land of Arzawa saw it as well. The *kalmišana* went and struck the land of Arzawa»

(22) *KBo III, 4 Vs i 16-18 (CTH 61.I.A)*

ABU-YA=ma=kan INA KUR^{URU} Mittanni anda ašanduleskit

n=aš=kan ašanduli anda ištandāit šA^DUTU^{URU} Arinna=ma=kan GAŠAN-YA

EZEN^{HIA} šakuwandarešker

«And my father was garrisoning in the land of Mitanni and was delayed in the garrison, they would perform (lit. observe) the celebrations of the Sun goddess of Arinna, My Lady.»

Finally, a possible cultural parallel may be seen in a mortuary scene in a Hittite ritual and in the *Iliad*:

(23) *KUB XXX, 15 Vs. 3-6*

nu haštai IŠTU lappa KÙ.BABBAR daškanzi

n=at=kan ANA YÀ.DÜG.GA hūpar KÙ.BABBAR anda zikkanzi

IŠTU YÀ=ma=at=kan šarā daškanzi

n=at=kan GAM-ta ANA^{GAD} gazzarnuli zikkanzi

«the bones with silver tongs they take,
and into good fat in a silver bowl they put them;
but out of the fat they take them up,
and down on a fine cloth they put them»

(24) Ψ 252-4

κλαίοντες δ' ἐτάροιο ἐνέρος ὅστέα λευκά
ἄλλεγον ἐς χρυσέην φιάλην καὶ δίπλακα δημόν,
ἐν κλισίῃσι δὲ θέντες ἐανῶ λιτὶ κάλυψαν

«Then they gathered up the white bones of their gentle companion,
weeping, and put them into a golden jar with a double
fold of fat, and laid it away in his shelter, and covered it»

It is true that there is no IP in the Greek passage, but this happens because IPs are rarely used when there is a sequence of actions that is not repeated and in those cases where the completion of one event is preliminary to another event (again, if the IPs have a *backgrounding* function, we would not expect to find them here). The prescriptive nature of the Hittite text, on the other hand, is pragmatically compatible with the imperfective marker. In any case, these examples show that forms in *-sk-* were certainly present in those Hittite texts whose motifs somehow ‘reached’ early Greek literature.

3.1.6 The ‘Ionic Preterites’: conclusion

I have argued that the *-σκ-* of the IPs marks imperfective aspect, not *Aktionsart*, and that “iterativity”, “intensivity” and the like are simple epiphenomena thereof, or developments from, the original value of the suffix.⁵¹ This innovation was probably due to language contact, and not to inheritance or internal developments. However, this is more likely a case of *replication* than one of borrowing, and there is a good chance that this change was restricted to a particular kind of language, that of (epic) literature.

⁵¹ It is of course impossible, in this perspective, to agree with Ringe and ESKA, who – on the basis of Zerdin’s account – take the IPs as an example of morpheme reinterpretation (RINGE – ESKA 2013: 168ff.)

The main difference between Puhvel's theory and the one offered here lies in the data used and in the reconstructed scenario. While Puhvel believes that this piece of evidence points to a *Sprachbund* effect, I argue that it would be safer to postulate *some* sort of language contact, but one which does not necessarily presuppose deep and widespread bilingualism, *i.e.* contact at the literary level. This is as far as we can get, but this theory does not discard *a priori* the possibility that there might have been a deeper level of bilingualism. For the moment, however, this must remain very hypothetical and is hard to prove.

It is possible to speculate that this verbal category could have spread from Hittite to Homeric literature in a scenario of 'long-distance interactions' between courts in the Late Bronze Age (BACHVAROVA 2016), or with the presence of Greeks in Cilicia in the Early Iron Age (YAKUBOVICH 2015a). However, these issues are still quite controversial, and a thorough investigation of them goes beyond the scope of this work.⁵²

All in all, it should be clear that *if* it is correct to consider the IPs as a different category from the $\sigma\kappa\omega$ -verbs and *if* the suffix $-\sigma\kappa-$ should be interpreted as a marker of imperfectivity, then the contact hypothesis seems a good way of explaining the origin and function of the IPs. Not all arguments can be watertight because of the evidence that we have, other explanations might be possible as well, and at times speculation is unavoidable. But if at least part of the current theory is correct, then the IPs could be de-acronymised not only as 'Tonic Preterites', but also as 'Imperfectiv(is)e(d) Preterites'.

⁵² The issue of the IPs is anything but closed: there seems to be a good amount of details that need to be defined. In order to better understand the interplay between *Aktionsart* and Aspect in the IPs, one should probably apply the same kind of syntactic tests Cambi did on Hittite and Napoli did on Greek (with a different focus) and study adverbial expressions in combination with all the forms.

3.2 The Relational Adjective in Aeolic: a contact hypothesis

In his much-cited article on ancient Anatolia as a linguistic area, Calvert Watkins suggested that the Aeolic dialects share a specific morphosyntactic feature with the Luwian languages. Both Greek and Luwian have a so-called relational adjective (henceforth RA), which is derived by means of the morphemes **-iyo-* and **-assa/i-* / **-iya-* (cognate to the Greek morpheme) respectively. It is common knowledge that in Luwian this RA often takes the place of the corresponding adnominal genitive: to give an example in English, the NP [the house of the father] should be rewritten as [the fatherly house]. It is also known that the Aeolic onomastic formula differs from that of other Greek dialects, in that the genitive of the name of the father is usually replaced by the relational adjective derived from the same name (in English terms: [John (son) of Louis] > [Louisian John]). In Watkins' words: «The Luwian languages mostly share the property that a derived inflected relational adjective fills the function of the genitive case in nouns. The derivational morphemes are Luwian *-assi/a-* or *-i/ya-*. Aeolic like the other dialects of Greek has a (cognate) relational adjective in *i(y)o-*; but only in Aeolic is the patronymic genitive of the father's name replaced by a relational adjective derived from the father's name» (WATKINS 2001: 58). This similarity is due to language contact, specifically it is a case of “diffused grammaticalisation”, in which the target language, Aeolic Greek, used a native morpheme in a syntactic function similar to that of a phonetically similar morpheme in the source language (WATKINS 2001: 58-9).

Some years later, José Luís García Ramón reviewed the issue and ultimately rejected the idea of an Anatolian origin for this usage of the relational adjective in Aeolic. He noted two main difficulties: 1) Mycenaean also features patronymic adjectives in **-iyo-* (and also *Zugehörigkeitsadjektive* in *-e-jo/ -e-ja*) which are found in Linear B tablets from every

location, including those on the mainland where contact with Luwian is less likely to have occurred; 2) the relational adjective is found in other IE languages, namely Venetic, Messapic, and Phrygian. García Ramón then concludes that the existence of this type of adjective is a common innovation in the IE languages of Anatolia, Greece, and Italy, and that it is impossible to decide where this innovation first took place (GARCÍA RAMÓN, 2011a: 38-9; 2012: 429). In a similar critique, Ivo Hajnal added that 1) in Lesbian, there are no *io*-adjectives that mark the possession of objects, as there are in other Greek dialects (*e.g.* Thess. Ἀμφιόνειά ἀ στάλα τοῦ γρόνετος, cf. *infra*) and in the Anatolian languages, where they are widely attested; 2) there is no trace of Luwic “*i-mutation*” in Greek *io*-adjectives; 3) the interference between adjectives of possession ending in *-io-* and adjectives of material in *-eyo-*, as attested in both Lesbian and Mycenaean, speaks in favour of an archaism in both dialects rather than a contact-induced phenomenon (HAJNAL 2018: 2046-7).

I find *some* (though not all) of these arguments compelling, and ultimately I agree that the usage of the RA in Aeolic should *not* be attributed to language contact, but I think that we can be more specific, since these critiques might have left some questions unanswered. Specifically: in what respect is the precise usage of the relational adjective in Luwian comparable (or not) to that in Aeolic? Does the onomastic formula in the Luwic languages actually feature the relational adjective? Is this Aeolic feature completely isolated in the Greek dialectal panorama? From a dialect-internal point of view, is this substitution pattern consistently found in all varieties of Aeolic? We need an answer to these questions in order to thoroughly review Watkins’s theory, so I shall start by presenting a synthetic account of the evidence for the relational adjective in Anatolian (with a special focus on Hieroglyphic Luwian), and by discussing its relationship with the inherited genitive. The focus will then

shift to Greek (especially Aeolic), and subsequently to a more detailed comparison of Greek and Anatolian RAs.

3.2.1 Possession in Anatolian

As most IE branches, Anatolian has two strategies to mark the possessor in the NP: the genitive case and the relational (or ‘possessive’/‘genitival’/‘affiliative’) adjective. However, not all Anatolian languages deploy both strategies.⁵³

In the “eastern” branch of Anatolian (*i.e.* in Hittite and Palaic), the relational adjective is either unproductive or its usage is very restricted. In Hittite, the suffix *-šša/i-* is attested in a couple of lexicalized nouns (*genušša/i-* ‘knee(-joint)’ and *šakuwašša-* ‘deity of the eye’) that are difficult to read as proper relational adjectives (as per EICHNER 1979: 46 and MELCHERT 2012a: 274). Likewise, Palaic only has a few possessive adjectives in *-aša/i-*, (*e.g.* *šaparwa_a(ta)ša/i-* ‘of (the god) Zaparfa’). The inherited genitive (Hitt./Pal. gen. sg. *-aš < *-os*; Hitt. gen. pl. *-an < *-ōm*) is the main strategy used to mark the possessor.

Conversely, Cuneiform Luwian – having completely lost the inherited genitive (at least according to the *communis opinio*, but cf. Yakubovich 2008) – expresses possession only by transforming the noun of the possessor (and its modifiers) into a relational adjective in *-ašša/i-*.

The situation in Hieroglyphic Luwian is more complex, and the morphosyntax, origin, and usage of its relational adjective(s) have been much discussed recently.⁵⁴ This language

⁵³ The present account is largely based on the data collected in MELCHERT 2012a, MELCHERT 2003b: 186–7, 202, BAUER 2014: 147–86, and YAKUBOVICH 2008. In the first part, we will be focussing mainly on the synchronic usage, leaving diachronic issues for the concluding part of the section.

⁵⁴ BAUER 2014: 147–86, MELCHERT 2012 and YAKUBOVICH 2008 are the most recent accounts.

features both the inherited genitive⁵⁵ and the RA. The denominative adjectival suffix which is usually attributed the label ‘relational’ (*vel sim.*) is *-assa/i-*, but it is important to note that the other suffixes *-iya/i-* (cited by Watkins, cf. *supra*), *-alla/i-*, *-izza-* and *-wann(i)-*⁵⁶ have a comparable function.⁵⁷

The genitive singular endings of Lycian (A) are *-Vhe* or *-Vh* (cf. Lycian B/Milyan *-Vse*), but this language also has a relational adjective in *-a/ehe/i-* (corresponding to Lycian B/Milyan *-a/ese/i-*; cf. Luw. *-assa/i-*) and a genitive plural in *-ē* (< **-on* cf. Hitt. *-an*). In Lydian, the ending *-av* (< **-ōm*, cf. Hitt. *-an*) is regularly employed for the dative-locative plural, but it also appears, in a few cases, as genitive plural. The genitive singular ending is never attested (though YAKUBOVICH 2017: 279-80 argues that some forms in *-l* are real genitives), and possession is regularly indicated by a genitival adjective in *-Vl(i)-* (< PA **-olo-*, cf. Hitt. *-ala-*); cf. *infra*. Carian has a genitival ending *-ś* preceding the head noun and a genitival adjective in *-s-* which follows its head noun. Pisidian and Sidetic mark possession by the use of sibilant endings, respectively *-s* and *-z*. Since it is hard to trace them back to the ‘regular’ PIE (and PA) genitive (final sibilants should be lost as in the nominative), scholars have suggested that these sibilant endings – which are synchronically ‘real’ genitives – originally come from a relational adjectives (BRIXHE 2016: 121-2).

⁵⁵ It is generally thought that the spellings *°-a-sa* and *°-a-si(-i)*, reflect */-as/* and */-asi/*; Yakubovich, instead, argued that one could read */-assa/* and */-assi/* (YAKUBOVICH 2008: 202-12; cf. also 3.2.1.1 *infra*). Genitives of *i*-stems are spelled *-Ci(-i)-sa*, and should be analysed as */-is/* < **-/iyas/* (MELCHERT 2012: 275).

⁵⁶ Anatolian hieroglyphs do not allow the spelling of double consonants, and the *-ss-*, *-ll-* and *-zz-* of these suffixes are reconstructed on the basis of Cuneiform Luwian. A more accurate representation would be *-a(š)ša/i-*, *a(l)la/i-* and *-i(z)za-*, but the parentheses are omitted in the main text in order to facilitate reading.

⁵⁷ The suffixes *-izza-* and *-wann(i)-* are used to create ethnics, *i.e.* adjectives derived from toponyms which in some way express a possession, and may therefore be considered part of this group (BAUER 2014: 149).

The table below summarises what has been said so far:

	Genitive ending	Relational adjective suffix(es)
Hittite	sg. <i>-aš</i> ; pl. <i>-an</i>	Ø
Palaic	sg. <i>-aš</i>	<i>-aša/i-</i> ,
Cuneiform Luwian	Ø ⁵⁸	<i>-ašša/i-</i> , <i>-iya/i-</i>
Hieroglyphic Luwian	sg./pl. <i>-as/-asi</i>	<i>-assa/i-</i> , <i>-iya/i-</i> , <i>-alla/i-</i> (<i>-izza-</i> , <i>-wann(i)-</i>)
Lycian	sg. <i>-Vhe/-Vh</i> (A), <i>-Vse</i> (B); pl. <i>-ē</i> (A)	<i>-a/ehe/i-</i> (A), <i>-a/ese/i-</i> (B)
Lydian	Sg. <i>-l</i> (?;)pl. <i>-av</i>	<i>-Vl(i)-</i>
Carian	sg. <i>-ś</i>	<i>-s-</i>
Pisidian	Ø	sg. <i>-s</i> (?)
Sidetic	Ø	sg. <i>-z</i> (?)

In Hieroglyphic Luwian, RAs are widely attested,⁵⁹ and their function is comparable to that of the genitive. The genitive is however gradually replaced by these adjectives, which have the advantage of giving morphosyntactically simpler NPs (BAUER 2014: 176). Here are some examples:

- (1) ÇİFTLIK §5, mid-8th c. (*CHLI*: 449)

wa/i-na tu-wa/i-ti-i-sa (AEDIFICARE)*ta-ma-tà-*' (DEUS)TONITRUS-*hu-ti-i-sa* SERVUS-*la/i-i-*

sa

/wa-an Tuwatis tamata Tarhuntis⁶⁰ hударlis/

«this (acc.), Tuwatis servant of Tarhunza (lit. 'the Tarhuntian servant') built»

- (2) KARKAMIŠ A 14a §3, 10th c. (*CHLI*: 86)

**a-wa/i-mu á-ma-za | tá-ti-ia-za* (LIGNUM)*sà||-la-ha-za | pi-ia-ta-*'

/a-wa-mu amanza tadiyanza salhanza piya(n)ta/

⁵⁸ But cf. YAKUBOVICH 2008 for a hypothesis of Cuneiform Luwian genitive endings in */-assa/* and */-assi/*.

⁵⁹ In this section, I am using Hieroglyphic Luwian to provide examples of RAs. Hieroglyphic Luwian – unlike Cuneiform Luwian – has both RAs and 'real' genitives, and – compared to Lycian – it has a relevant amount of evidence. I give examples of RAs in *-iya/i-* and in *-assa/i-*: on a synchronic level, the differences are extremely subtle and their function is essentially the same; their formation and origin are very different, however (cf. 3.2.1.1 *infra*).

⁶⁰ *Tarhuntis* < **Tarhuntiyis* (with *i*-mutation).

«and he/they gave me my paternal succession»

- (3) SULTANHAN §3, c. 74^o-73^o (CHLI: 465)

| *a-wa/i* | *za-a-na* | (DEUS)TONITRUS-*hu-zá-na* | *tu-wa/i+ra/i-sà-si-i-na* | *ta-nu-wa/i-ha*
/ a-wa zan Tarhunzan tuwarsas(s)in tanuwaha/

«And I set up this Tarhunza of the vineyard(s) (lit. ‘this vineyardean Tarhunza’)»

As the examples above show, RAs can be formed on PNs, DNs, and on common nouns, and can have animate and inanimate referents (*Tarhuntis* and *tadiyanza* vs. *tuwarsas(s)in*). In addition, the head noun can be animate (*hudarlis*, *Tarhunzan*) or inanimate (*salhanza*). RAs may depend on nouns in almost every case: nominative (1), accusative (2, 3), dative/locative (4), and ablative/instrumental (5):

- (4) MALPINAR §5, 1st half 8th c. (CHLI: 341)

[**a-*]*wa/i-t[a]* | *z[a-ti]* *á-mi¹á-lá/i-ia-za-sa-na HÁ+LI-sa-na*
SERVUS-*la/i-ia* STATUA-*ru-ti-i* OVIS(ANIMAL)-*ti* PRAE-*i* (“*69”) *sa-sa-tu-u*
/ a-wa-ta zati ami Alayazas(s)an Hattusilis(s)an hudarliya taruti hawiti pari sasatu/

«let them go forth here, to my statue here (that) of Alayaza, servant of Hattusili (lit. ‘to this Alayazeen Hattusilean servile statue of mine’), with a sheep»

- (5) MARAŞ 1 §5, end 9th c. (CHLI: 263)

| “SOLIUM”(-)*x-ma-ma-pa-wa/i* BONUS(-)*u-su-tara/i-ha*
(DEUS)TONITRUS-*hu-ta-sá-ti-i* (DEUS)*i-ia-sa-ti-ha* LEPUS+*ra/i-ia-ti*
/SOLIUM-mama-pa-wa usutaraha Tarhuntas(s)ati Iyas(s)ati-ha tapariyati/

«And I benefited (?) the settlements (?) through Tarhunza's and Ea's authority (lit. through the Tarhuntan and Eean authority)»

In case of the adnominal genitive, it has been noted that «there are extremely few cases in which a genitive depends on a genitival adjective or vice-versa. It is quite possible that the genitival adjective was grammaticalised for recursive possession only in the late HLuwian period» (BAUER 2014: 167). We sometimes find constructions in which genitives and RAs in agreement with the modified noun (*i.e.* with the possessor) are freely combined:

(6) KARKAMIŠ A 5a §1, 8th c. (CHLI: 182)

za-wa/i STELE-ni-zī¹ za-ha-na-ni-sa VIR-ti-sá |

INFANS-mu-wa/i-ia²-ia-za (DEUS)SOL-wa/i+ra/i-ma-sa CAPUT

*/za-wa waninza Zahananis Zitis **nimuwiyayanza** tiwadamas CAPUT/*

«this stele (is) of Zahananis, son of Zitis, person belonging to the Sun-god»

Here, the genitive *Zahananis* marks the possessor of the stele, the *waninza* (nom.sg.neut.), which is in agreement with its other modifier, *nimuwiyayanza*, a genitival adjective in *-iya-*. This adjectival formation replaces a 'regular' genitive **nimuwiyas* 'of the son', which would be in apposition to *Zahananis* and on which *Zitis* would depend (MELCHERT 1990: 203).

RAs can sometimes be indistinguishable from inherited genitives, as in:

(7) KULULU 1 §1, mid.8th c. (CHLI: 443)

| EGO-wa/i-mi¹ ru-wa/i-sá¹ tu-wa/i-ti-i-sá SERVUS-la/i-sa

*/amu-wa-mi Ruwas **tuwatis** hударlis/*

«I (am) Ruwas, Tuwatis' servant»

Here, *tu-wa/i-ti-i-sá* could be read as either a genitive of an *i*-stem (*Tuwati-s*) or the nom.sg. of a RA in *-iya/i-*, with *i*-mutation and contraction *-iyi- > -i-* (*tuwatis < *tuwatiyis*).

As the following example shows, there are other cases in which it may be difficult to diagnose a RA:

(8) MARAŞ 1 §2, end 9th c. (*CHLI*: 263)

| *wa/i-mu* | *a-mi-zi* | *ta-ti-zi* DEUS-*ni-zi-i* | (LITUUS)*á-za-ta*

/wa=mu aminzi tadinzi masaninzi azanta/

«My paternal gods loved me»/«My fathers, the gods, loved me»

The nom.pl. *tadinzi* could either be a noun in apposition with *masaninzi* ('my fathers, the gods') or a RA (*tadinzi < *tadiyinzi*, with *i*-mutation and contraction *-īi- > -i-*) depending on *masaninzi* ('the paternal/fatherly gods').

In other cases (collected in BAUER 2014: 168-9), logographic spelling or scribal conventions (*e.g.* the omission of the consonantal syllabic coda in the spelling) produce ambiguous forms that are impossible to attribute to either category.

Ethnics (a possible sub-class of RAs, cf. fn. 57 *supra*) can be derived from toponyms through the suffixes *-izza-* and *-wann(i)-*:

(9) KARKAMIŞ A3 §1, end 9th - beg. 8th c. (*CHLI*: 109)

| *za-ti-pa-wa/i* | *kar-ka-mi-si-za*(URBS) (DEUS)TONITRUS-*ti-i^lka-tu-wa/i-sa* | REGIO-*ni-ia-si*

DOMINUS-*ia-sa* REL-*i-zi* | ("273")-*wa/i+ra/i-pa-si* | DOMINUS-*ia-zi-i pi-ia-tá*

/zati=pa=wa **karkamisizza** Tarhunti Katuwas watniyasi naniyas kwinzi warpasi naniyanzi

piyata/

«The lords of virtues whom Katuwas, the ruler of the land, gave to this Karkamisean

Tarhunza»

(10) KARATEPE 1 Hu §1-2, end 8th c. (CHLI: 48-9)

| EGO-mi¹(LITUUS)-á-zi-ti-i-wa/i-tà-sá (DEUS)SOL-mi-sá CAPUT-ti-i-sa (DEUS)TONITRUS-

hu-ta-sá SERVUS-la/i-sá a-wa/i+ra/i-ku-sa-wa/i || REL-i-na MAGNUS+ra/i-nu-wa/i-ta á-

TANA-wa/i-ní-i-sá URBS (REX)-ti-sá

/amu=mi Azatiwatas tiwadamis CAPUT-tis Tarhuntas hударlis

Awarkus=wa kwin urannuwata **adanawannis** hantawatis/

«I am Azatiwadas, the Sun-blessed one, nobleman, servant of Tarhunza,

whom Awarkus, the Adanean king, made great»

The obvious question that arises when dealing with a system that has several adjectival formations with similar functions is whether or not there is a distribution and, more specifically, whether the various suffixes are associated with nominal bases according to their semantic properties. As we have just seen in the examples above, *-izza-* and *-wann(i)-* are added to toponyms; these ethnic adjectives constitute a sub-class within the RAs.⁶¹ The evidence for *-alla/i-* is much more limited,⁶² and does not allow for further specification. This leaves us with *-assa/i-* and *-iya/i-*, which also happen to be the most widespread RA suffixes.

⁶¹ The only exception being *usallizza-* ‘annual(ly) offered’ (attested in KARKAMIŠ A 4d §1, A 11b+c §18a, and A 13d §10), where we see that the *-izza-* is added to *usalli-*. The latter is composed of *usa/i-* ‘year’ + *-alla/i-*, but there is a possibility that the base is a lexicalised *usalla/i-* ‘annuity’ (BAUER 2014: 163).

⁶² This suffix is also found in substantivised adjectives (cf. *usalla/i-* in the previous note), and probably it was not perceived as strictly adjectival anymore. The forms *tá-tà-li-sa* /tadallis/ ‘paternal’ and AVUS-*ha-tà-li-sa*

From a consideration of the figures, it soon becomes clear that *-assa/i-* is the most productive suffix in the first millennium (this is also confirmed by the relatively high number of *hapax legomena*).⁶³ The suffix *-iya/i-*, by contrast, is found with frequently-occurring nouns, especially titles and kinship terms (such as *tada/i-* ‘father’), but is less frequently used for new derivatives. The only nominal base which gives RAs in both *-assa/i-* and *-iya/i-* is the DN *Tarhunt-* (see respectively exx. (5) and (1) above). According to Hajnal, in HLuw. (and in Lycian) *-iya/i-* is employed when reference is made to different possessors or when the possessor is further specified/modified (as with *nimuwiyanza* in (6) above), while *-assa/i-* is used for simpler modification (HAJNAL 2000: 178-80). This seems to be confirmed by the fact that only RAs in *-iya/i-* can co-occur with possessive pronouns in a recursive structure⁶⁴ within the same NP. It has recently been hypothesised that this co-occurrence may hint that at an earlier stage «the syntax selected for specific morphology in so far as more complex possessive constructions at least used to prefer *-iya/i-* to anything else that was available» (BAUER 2014: 156). Consequently, those nouns that are often accompanied by a possessive pronoun would form RAs in *-iya/i-*. This suggests that, at some stage, there might have been a relatively clear-cut distribution in which PNs and DNs formed adjectives in *-assa/i-*, while nouns expressing titles and kinship terms would form adjectives in *-iya/i-*. In the Iron Age, however, this distinction became much more blurred as the latter suffix was gradually losing ground to the former (BAUER 2014: 164). Despite all of this, there seems to be no further functional distinction between the two suffixes.

/huhadallis/ ‘ancestral’ (KARKAMIŠ A 11b+c §2) seem to confirm this hypothesis, since they are later replaced by analogous formations in *-iya/i-* (BAUER 2014: 164). In Cuneiform Luwian, instead, one finds plenty of formations in *-alla/i-*, both as denominative and as substantivised adjectives.

⁶³ BAUER 2014: 162 counts 59 types and 98 tokens for *-assa/i-* and 20 types and 61 tokens for *-iya/i-*. Out of this number, there are respectively 37 and 13 *hapax legomena*.

⁶⁴ That is, where, from a *semantic* point of view, the pronoun modifies the RA rather than the head noun. For example, in the NP [my father’s name], which would be rendered as [my fatherly name], the pronoun can only refer to [father] even if this is not explicit from a syntactic point of view.

Some diachronic remarks are in order at this stage. Recently, Luraghi (2008: 148-9) and Yakubovich (2008: 198-9) have developed an old hypothesis proposed by Stefanini. Stefanini (1969) suggested that the formation of *-assa/i-* is due to language contact with Hurrian, and that this is an instance of case stacking, also known as *Suffixaufnahme* (since FINCK 1910: 141). This is a phenomenon, which consists of a genitive noun agreeing with its head noun, that is mostly found in agglutinative languages. The ending of the head noun is added to the genitive ending of the modifier, as in the following examples from Old Georgian:⁶⁵

- (11) *gwam-isa krist-es-isa*
 body-GEN Christ-GEN-GEN
 «of the body of Christ»

- (12) *çqoba-sa mter-ta-sa*
 attack-DAT ENEMY-OBL.PL-DAT
 «at the attack of the enemies»

The same phenomenon is present in Hurrian (13) and Urartian (14), which also happen to be agglutinative languages (examples from LURAGHI 2008: 144):

- (13) *en(i)n(a)až(v)e-ne-da šarri-ne-da*
 god-ART.PL-GEN-ART.SG-DIR king-ART.SG-DIR
 «to the king of the gods»

- (14) *haldi-i-ne-ni aluiši-ni*
 Haldi-GEN-ART.SG-INSTR greatness-INSTR
 «through the greatness of Haldi»

⁶⁵ Georgian is the first language in which *Suffixaufnahme* was ‘discovered’ (BOPP 1848). The examples are taken from PLANK 1995: 4, which also contains a good introduction to the topic from a typological perspective.

Stefanini argued that the Luwian adjective in *-assa/i-* and the Lycian adjective in *-a/ehe/i-* (A), *-a/ese/i-* (Milyan), which have a genitival basis, are derived through an Indo-European reinterpretation of a non-IE, specifically Hurrian, phenomenon. The TL would have acquired the pattern from the SL – but not its phono-morphological material – and would have reproduced it with its own inherited means (*i.e.* this is an instance of replication, not of borrowing). Luraghi (2008) developed Stefanini’s idea, arguing that the Hurrian *Suffixaufnahme* was not only responsible for the Luwian adjectives in *-assa/i-*, but also for Hittite ‘case attraction’. This is a phenomenon, attested from the MH period onwards, by which a dependent noun takes the same case as its head noun instead of being inflected in the genitive.⁶⁶ Yakubovich instead attributed ‘case attraction’ to influence from Luwian, which was in much closer contact with Hittite from the OH period onwards.⁶⁷

Before moving on to analyse the Greek data – and specifically the Aeolic data, where the RA is mostly confined to the domain of onomastics – it is appropriate that we conclude this section with a brief overview of the types of onomastic formulae that we find in Hieroglyphic Luwian and Lycian (the speakers of which might have been in closer contact with Greek speakers).

⁶⁶ A ‘classic’ example from Hittite, which also shows that this strategy started to be adopted in post-OH times, comes from the *Laws*, for which we have both OH (*KBo* 6.2) and NH (*KBo* 6.3) manuscripts. The OH version of Law §13 (*KBo* 6.2 i 24) has *takku* LÚ.U₁₉.LU-as *ELLAM-as* KIR₁₄-set *kuiski waki* « If anyone bites off the nose of free man », with the dependent in the genitive and a possessive clitic (*-set* ‘his’) attached to the head noun (KIR₁₄ ‘nose’); the NH version (*KBo* 6.3 i 33) has *takku* LÚ.U₁₉.LU-an *ELLAM* KIR₁₄-set *kuiski waki* « If anyone bites off a free man, (his) nose », with the modifier and the modified in the accusative.

⁶⁷ For the sake of completeness, one should also cite BACHVAROVA 2007, who brings in Etruscan and the Tyrrhenic languages.

3.2.1.2 *Onomastic formulae in Hieroglyphic Luwian and Lycian*

Hieroglyphic Luwian shows a mixture of genitives and RAs in onomastic formulae. This is evident in the following inscription, where the same PN is found both as a genitive (*Niyas*) and as a derived RA (*niyassan*):

(15) KARABURUN, §9-10, late 8th c. (CHLI: 481)

si-pi-sa-pa-wa/i ni-ia-sa REL-ti si-pi-ia REX-ti MALUS-za

CUM-ni || *za<+ra/i>-ti-ti ni-mu-wa/i-zi ni-pa-wa/i ha-ma-si*

si-pi-ia-pa-wa/i-ta ni-ia-sá-na hara/i-na-wa/i-ni-sa(URBS)

(DEUS)*ku-AVIS-ia ku-ma-pi ta-wa/i INFRA-ta á-za-tu*

/Sipis=pa=wa Niyas kwati Sipiya hantawati atuwiza

CUM-ni *zarti nimuwizzi nipa=wa hamsi*

Sipiya=pa=wa=ta niyassan Haranawannis

Kubabaya kumapi tawa INFRA-ta azatu/

«But if Sipis (son) of Nis, wishes evil for Sipis the king, for (his) son or grandson, for Sipis (son) of Nis, may the Haranean one together with (?) Kubaba swallow down (his) eyes »

Yakubovich has observed that RAs tend to be found in oblique cases when they are part of the patronymic formula (YAKUBOVICH 2008: 199). This is evident in the first KULULU lead strip, where some of the PNs of those who are receiving the commodity HH *179, all in the dative, are accompanied by the name of the father or of the brother.⁶⁸ This name is *always* expressed by a RA ending in *-an* and not by a genitive.

⁶⁸ The patronymic adjectives in KULULU 1 are 16, and not 15 as Yakubovich reported: I counted [^lx]-ru-^lsá^l-na (2.), *ku-ku-wa/i-sa-na* (11.), ^lmu-sa-FRATER-la-sá-na (14.), ^lhu-li-ia-sá-na (16.), ^lha-ni-sa-na-’ (21.), ^li-ia+ra/i-sá-sa-

Adnominal genitives, by contrast, are found next to nominatives in patronymic formulae at the beginning of inscriptions such as KARATEPE 3, KÖRKÜN and POSRUK. This is by no means the absolute rule. In MARAS 1, which contains a rather long genealogy, we find both RAs (*Laramassis*, *Halparuntiyassis*) and genitives (*Muwizis*) with a head noun in the nominative:

(16) MARAS 1, §1 a-g, end 9th c. (CHLI: 262)

- § 1 a EGO-wa/i-mi-i¹TONITRUS.HALPA-pa-ru-ti-i-ia-sa | (“IUDEX”)tara/i-wa/i-ni-sà |
ku+ra/i-ku-ma-wa/i-ni-i-sà(URBS) REX-ti-i-sa
- b ¹la+ra/i+a-ma-si-i-sa | LEPUS+ra/i-ia-li-i-sa | INFANS-mu-wa/i-za-sà
- c ¹TONITRUS.HALPA-pa-ru-ti-i-ia-si-sà || HEROS-li-sa | (INFANS.NEPOS)ha-ma-si-sá -'
- d mu-wa/i-ta-li-si-sà | (“SCALPRUM+RA/LLA/I/U”)wa/i+ra/i-pa-li-sa |
(INFANS.NEPOS)ha-ma-su-ka-la-sá
- e ¹TONITRUS.HALPA-pa-CERVUS2-ti-ia-si-sà | (“IUDEX”)tara/i-wa/i-ni-sá || |
(INFANS)na-wa/i-sa
- f ¹mu-wa/i-zi-si HEROS-li-sà | (INFANS)na-wa/i-na-wa/i-sá
- g ¹la+ra/i+a-ma-si-sá LEPUS+ra/i-ia-li-sa | (INFANS)ha+ra/i-tu-sá

/amu=wa=mi Halparuntiyas tarwanis Kurkumawannis hantawatis

Laramassis tapariyallis nimuwizas

Halparuntiyassis HEROS-lis hamsis

Muwattallissis warpalis hamsukalas

Halparuntiyassis tarwanis nawas

Muwizis HEROS-lis nawanawas

na (30.) ¹la-la/i/u-wa/i-sá-na (31.), ¹mu-wa/i sá-na (32.), ¹á-pa-ni-sa-na (40.), ¹hu-li-ia-sá-na-' (41.), ¹na-ni-mu-ta-sá-na (42.), ¹su-ia-ti-ia-mi-sa-na (46.), ku-ku-wa/i-sá-na (57.), ¹PUGNUS-ri+i-mi-sá-na (58.), ¹ha-ni-sa-na (59.), ¹ta-ta-sa-na (62.). It is worth noting that in two cases, [¹]ki-ia-ki-sá-na (38.) and ¹TONITRUS-hu-na-za-sá-na (44.), the RA is found with the name of the brother.

Laramassis tapariyallis hartus/

«I am Halparuntiyas the ruler, Kurkumean king
the governor Laramas's son
the hero Halparuntiyas's grandson
the brave Muwattallis's great-grandson
the ruler Halparuntiyas's great-great-grandson
The hero Muwizis's great-great-great-grandson
The governor Laramas's descendant»

Lycian, on the other hand, seems to be more conservative with respect to onomastics, in that for personal names it only uses the adnominal genitive in *-Vh(e)*, which notably precedes the head noun⁶⁹ (with extremely rare exceptions):

(17) *TL* 56, 1-2⁷⁰

ebēññē prññāwu: m=e=ti prññawatē

ixtta: hlah: tideimi:

«This tomb, it was Ixttas son of Hlas who built it»

(18) *TL* 12

ebē[ñ]ñē : xupā : meneprñnewātē

slmñmewe : pñnuteh : tideimi : sehuwetēne

« This tomb, Slmñmewe, son of Pñnute, and Huwetēne built it»

⁶⁹ ADIEGO 2010 has shown that when the patronymic precedes and ends in *-Vhe* it is a true genitive, while when it follows in *-Vhi* it is a RA.

⁷⁰ This is a bilingual Lycian-Greek funerary inscription. The Greek text corresponding to this passage is Ἰκτάς Λα Ἀντιφελλίτης τουτὶ τὸ μνήμα ἡργάσατο αὐτῶ[ι].

There are only two possible examples of RA in *-ahi* formed on PNs, but the context is unclear, and it is therefore impossible to pass a sound judgement on their authenticity. Common nouns and adjectives, on the other hand, are usually accompanied by a genitival adjective, not by a genitive.

3.2.2 Relational Adjectives in Greek

Let us now turn to the Greek dialects and analyse the data at our disposal in greater detail. Watkins only discussed relational adjectives in Aeolic, but unfortunately this formulation is rather vague and may cause further complications (cf. *infra*). Before we begin, we need to clarify what we mean by ‘relational adjective’ in Greek and which Aeolic dialect(s) will be considered in our discussion.

In the exposition of the Anatolian data above, we have been talking about RAs rather vaguely, as we have used this term to indicate a function that is covered by more than one kind of adjectival formations (*-assa/i-*, *-iya/i-*, *-alla/i-*, *-izza-*, *-wann(i)-*). In Greek, the situation is somewhat different, for two main reasons. Firstly, the range of forms is much more reduced: in all Greek dialects that we are concerned with the main suffix used to form RAs is *-to-* < PIE **-iyo-* (but cf. different patronymic suffixes in fn. 74 *infra*; for *-lδās* / *-lδης* cf. DARDANO 2011). Secondly, the inherited genitive is fully functional, and it is seldom replaced by adjectival formations. This only happens in specific instances, as we will see shortly.

It is worth noting that *-(i)yo-* < PIE **-iyo-* is one of the most productive adjectival suffixes in Greek,⁷¹ if not *the* most productive one. Its main function is that of deriving adjectives from nouns, such as ἀδελφίος < ἀδελφός, δαιμόνιος < δαίμων, ξένιος < ξένος (but not only; cf.

⁷¹ This is especially true of the semivocalic variant, in which the *yod* is combined with the preceding sound, giving several different outcomes (e.g. ἄλλος < *al-yo-s*, cf. Lat. *alius*; Hom. μέσσος < **med^h-yo-s*, cf. Lat. *medius*; etc.).

ἄγιος < ἄζομαι, ἄρκιος < ἀρκέω),⁷² and these adjectives can be in turn substantivised or even become PNs.

The suffix -ιο- (together with its variants -αιο-, -ειο-, -οιο- and -ηιο-) was productive throughout the history of ancient Greek, from the Mycenaean era until late antiquity, and its productivity – at least in onomastics – kept increasing over time. In the Hellenistic period, -ιο- was the main suffix used to create derived theophoric PNs (such as Ἀπολλώνιος, Ἀρτεμίσιος, Διονύσιος, *etc.*). By the 2nd c. CE, it started to form PNs also from common nouns (*e.g.* Δρακόντιος, Γελάσιος), and by the 4th c. CE it became the most popular onomastic formant. To give an example, McLean (2002: 79, 84) observed that 43% of the Greek names recorded on inscriptions in Aphrodisia (Asia Minor; 250-650 CE) have this suffix, either in the masculine -ιος or in the feminine -ια.

The suffix -ιο- is also used to create ethnics, and we have evidence for this in both alphabetic (*e.g.* Ἀθηναῖος, Λακεδαιμόνιος, *etc.*) and Mycenaean Greek (*ko-no-si-jo* /knōssioi/, *etc.*).⁷³ These can also become PNs, and the most famous example of which is probably Skamandrios in the *Iliad* (Z 402-3): τὸν ῥ' Ἐκτωρ καλέεσκε Σκαμάνδριον, αὐτὰρ οἱ ἄλλοι / Ἀστυάνακτ'· οἶος γὰρ ἐρύετο Ἴλιον Ἐκτωρ «him, Hector would call Skamandrios, while the others Astyanax; for Hector alone protected Ilion».

The last specific function of -ιο- that ought to be mentioned is the patronymics formant, which will be our focus here. Strictly speaking a patronymic is an adjective that indicates a relationship with the name of the father, and it can also be substantivised. Its

⁷² See CHANTRAINE 1933: 33-53 for a survey.

⁷³ This is clearly not the only adjectival suffix used for ethnics (see *e.g.* -ῖνος, -ηνός and -ἰανός) but it is probably the most important one. For a typology of Greek ethnics, see RISCH 1957, GSCHNITZER 1986 and GSCHNITZER 1983, the last with a focus on the Mycenaean evidence.

denomination (πατρώνυμον/πατρωνυμικόν) goes back to the ancient grammatical tradition, which already recognised these adjectives as a separate category.⁷⁴

In Mycenaean *-(i)yo-* was the only suffix used to form patronymics (e.g. *a-re-ku-tu-ru-wo e-te-wo-ke-re-we-i-jo* /Alektroōn Etewokleweyyos/ in PY An 654.8). There are also PNs in *<°i-jo>*, but we cannot be certain that these were actual patronymics unless the name from which they are derived is also attested, as in the case of *e-ko-to-ri-jo* /^hektoriyo/ *< e-ko-to* /^hektōr/ (SACCONI 1961: 283).

In the Homeric epics, we still find *-(i)yo-* employed for the same function, but on a far more limited scale. We have only 6 patronymics in *-io-* (Τελαμώνιος, Νηλήϊος, Καπανήϊος, Ποιάντιος, Γαιήϊος, and Όιλήϊος),⁷⁵ which are often combined with υἱός 'son' in the filiation formula.⁷⁶ The origin of the syntactic usage of patronymics in Homer is debated,⁷⁷ but it is generally agreed that post-Homeric Greek uses *io-*formations as patronymics only when imitating epic language.

The suffix *-io-* is not only employed to form patronymic adjectives (henceforth PAs), and where it is not its usage is less limited: we find it used to derive names of towns, regions and islands (Άρκαδία, Λυκία, Σχερρία), mountains (Πήλιον, Νήϊον), rivers (Άχελώϊος, Μινυήϊος), ethnics and PNs (as mentioned above). In most cases the adjective in *-io-* is substantivised.

⁷⁴ E.g. Dion. Thrax in the chapter περί ὀνόματος (ed. Uhlig: 25-6): Πατρωνυμικόν μὲν οὖν ἐστὶ τὸ κυρίως ἀπὸ πατρὸς ἐσχηματισμένον, καταχρηστικῶς δὲ καὶ τὸ ἀπὸ προγόνων, οἷον Πηλείδης, Αἰακίδης ὁ Ἀχιλλεύς. Τύποι δὲ τῶν πατρωνυμικῶν ἀρσενικῶν μὲν τρεῖς, ὁ εἰς δης, ὁ εἰς ων, ὁ εἰς αδιος, οἷον Ἀτρείδης, Ἀτρείων, καὶ ὁ τῶν Αἰολέων ἴδιος τύπος Ὑρράδιος. Ὑρρα γὰρ παῖς ὁ Πιττακός. θηλυκῶν δὲ οἱ ἴσοι τρεῖς, ὁ εἰς ις, οἷον Πριαμῖς, καὶ ὁ εἰς ας, οἷον Πελιάς, καὶ ὁ εἰς νη, οἷον Ἀδρηστίνη. Ἀπὸ δὲ μητέρων οὐ σχηματίζει πατρωνυμικὸν εἶδος ὁ Ὀμηρος, ἀλλ' οἱ νεώτεροι. (cf. MERKELBACH 1991).

⁷⁵ Among these, Γαιήϊος, and Όιλήϊος should only be included if these are the correct readings; on Τελαμώνιος, cf. *infra*.

⁷⁶ N 67: αἶψα δ' ἄρ' Αἴαντα προσέφη Τελαμώνιον υἱόν «and he quickly spoke to Ajax, Telamonian son». Τελαμώνιος, Νηλήϊος and Όιλήϊος can also occur without υἱός, as in O 560: Ἀργείους δ' ὄτρυνε μέγας Τελαμώνιος Αἴας «and the Argives great Telamonian Ajax urged».

⁷⁷ E.g. Chantraine (GH II: 14); others (e.g. GARCÍA RAMÓN 1975: 49) consider it an archaism.

When it functions as a proper adjective, both the head noun and the referent of the adjectival basis can be animate or inanimate.⁷⁸ Schematically:

	Animate	Inanimate
Head noun	Νέστωρ Νηληϊῖος (Ψ 349)	δόμον Πηληϊόν (Σ 60)
Referent of the adjectival basis	Νέστωρ Νηληϊῖος (Ψ 349)	τένοντας αὐχενίου (γ 449-50)

Unlike Mycenaean, the Homeric diction does not only use PAs in -ιο- as a strategy to express this kind of familial relation. It can also employ the genitive of the father's name, with or without a word for 'son' (N 663 Εὐχρήνωρ Πολυίδου υἱός vs. N 66 Ὀϊλῆος ταχὺς Αἴας), or two additional patronymic suffixes: -ιδᾶς / -ιδης (with its 'enlarged' variant -ιάδης)⁷⁹ and -ίων, both of which are far more diffused than -ιο-. The former strategy (PN + GEN [+ υἱός]) is also adopted by most non-Aeolic dialects, including Attic.

The great majority – if not the totality – of the ιο-formations mentioned above can broadly be labelled 'relational' from a *semantic* point of view, because the adjective (whether or not substantivised) expresses a relationship with the noun from which it is derived (*e.g.* Ἀθηναῖος = 'the one of/from/connected to Athens'). However, what we should pay attention to is their *syntactic* usage, *i.e.* their relationship with the noun to which they refer. In other

⁷⁸ If one follows Aitchinson, Τελαμώνιος (in *e.g.* N 67 Τελαμώνιον υἱόν) should be considered a case of inanimate referent, at least at an earlier stage (AITCHINSON 1964). The noun-epithet formula μέγας Τελαμώνιος Αἴας (22x) is unique in that it is the only one of its kind (and in the same metrical position) with has a genealogical epithet, and not a descriptive one (as *e.g.* ποδάρκης δῖος Ἀχιλλεύς, πολύτλας δῖος Ὀδυσσεύς, βοὴν ἀγαθὸς Διομήδης, μέγας κορυθαῖολος Ἴκτωρ). Besides, Telamon is a very shadowy figure, and he seems to have been a later addition to the tradition. On these grounds, Aitchinson suggested that originally Τελαμώνιος might have been a descriptive epithet referring to the τελαμών (the leather belt that Ajax used to carry his shield), and that only later this adjective was reinterpreted as a patronymic.

⁷⁹ Although the origin of -ιδᾶς / -ιδης is still debated and need not concern us here (see a recent critical review of most hypotheses in DARDANO 2011, who also argues that the suffix -ιδᾶς / -ιδης is derived from contact with Lydian), it is worth noting that the main difference when compared to -ιο- concerns the animacy of the head noun. While, as we have seen, RAs in -ιο- can have both animate and inanimate head nouns, -ιδᾶς / -ιδης can only have animate and human head nouns (DARDANO 2011: 48): so, Νέστωρ Νηληϊῖος and δόμον Πηληϊόν, but only Πηληϊάδεω Ἀχιλῆος (the type *δόμον Πηληϊάδη is never found).

words, we should focus our attention on those instances where there is an adjective when we would expect a genitive. In a language which has both adjectives and a fully functional genitive case, it is normal that [X of Y] can be expressed in more than one way: *e.g.* Lat. *nummus argenti* ('genitive of material') ~ *argenteus nummus*; *domus regis* ('possessive genitive') ~ *domus regia*; *amor matris* ('subjective genitive') ~ *amor maternus*, *etc.* The same also applies to languages which have nearly lost inherited cases and express the 'genitive' with a preposition: Fr. [l'amour de la mère] ~ [l'amour maternel], It. [la coppa di bronzo] ~ [la coppa bronzea], *etc.* This is why it is important to pay attention to the conditions under which RAs become productive and also to possible restrictions on their productivity.

One of the main shortcomings of Watkins's argument is the fact that he considers 'Aeolic' as a whole, without further specification. Not only is this in itself problematic,⁸⁰ but it also creates a further difficulty for his hypothesis (as we will see in 3.2.3). Before discussing that, though, it will be useful to briefly lay out the morphology and usage of relational adjectives in the Aeolic dialects.

3.2.2.1 *Relational Adjectives in Aeolic Greek*

Within the Aeolic group, the dialect with the most clear-cut evidence for the morphology of *io*-patronymic adjectives is Thessalian. Here, the PA immediately follows the PN without being preceded by the article, and the suffix is always added either to the stem or directly to the root:⁸¹ *a*-stems + $-\iota\omicron\varsigma > -\alpha\iota\omicron\varsigma$; *s*-stems + $-\iota\omicron\varsigma > *-\varepsilon\sigma-\iota\omicron\varsigma > -\varepsilon\iota\omicron\varsigma$; in all other stems, root + $-\varepsilon\iota\omicron\varsigma$. In addition to patronymic adjectives, Thessalian shows the usages of the suffix

⁸⁰ For the debate on the status of Aeolic as a dialectal group, see GARCÍA RAMÓN 1975. The most recent (but by no means the first) rebuttal of the notion of an Aeolic dialectal group is by PARKER 2008. His arguments have been rejected in turn by GARCÍA RAMÓN 2010 and 2017.

⁸¹ And not to the thematic vowel, as per BECHTEL 1921-4 I: 108-9, who was trying to explain the $-\varepsilon\iota\omicron\varsigma$ of the *o*-stems in this way; cf. MORPURGO DAVIES 1968: 94-5.

mentioned above: -ιο- derives ethnics (Φαρσάλιοι, Κραννούσιοι, *etc.*), month names (Θεμιστιος, Ἀγαγύλιος, *etc.*), and PNs (Ευφρόνιος, Στράτιος, *etc.*); cf. MORPURGO DAVIES 1968: 94. The PA is found in lieu of the genitive in the filiation formula (*e.g.* Σύχουν Ἀντιγόνειος, Νικόλαος Ἀγισίαιος; cf. BUCK 1955: 134), and we also have examples of RAs modifying inanimate head nouns. The ‘classic’ example is *DGE* 605 (Meliboeae, 5th c. BCE) Ἀνφιῶνεία ἅ στάλα τοῦγρόν̄ετος; cf. also *IG* IX, 2, 662-3 a (Larissa, 5th c. BCE) Πολυξεναία ἐμμι (scil. στάλλα).

As for Boeotian, although there has not been a specific study of the RAs, they are usually believed to function similarly to Thessalian, in that PAs were the main strategy used in onomastic formulae and were eventually given up under the influence of the κοινή. Like Thessalian, Boeotian also has RAs modifying inanimate nouns: *e.g.* Καλιαία ἐμὶ τῷ Κέντρῶνος (*DGE* 440, 3), where the RA refers to the object itself, a κύλιξ; (*SEG* 3, 377, 6th c. BCE) Γοργινίος ἐμὶ ὁ κότυλος καλὸς κ[αλ]ῶ.

From a morphological point of view, Lesbian⁸² PAs also depend on the stem class of the PN: *a*-stems form adjectives in -αος/-αιος; other stems form PAs in -ειος (or in its variants -εος and -ηος); finally, we find a small group of PAs in -ιος formed on PNs in -ιος;⁸³ cf. HODOT 1990: 217. Lesbian RAs are almost always PAs, *i.e.* they are derived from PNs and used in the filiation formula, postposed to their head nouns. There are only two types of exception, although these both show a relatively similar usage (HODOT 1990: 227-9). In a few instances, the PA is found in attributive position, together with a common noun referring to one or more human beings.⁸⁴ In three cases⁸⁵ the RA is directly preceded by the article, the head

⁸² I am following the text and notation of HODOT 1990.

⁸³ There are only three, perhaps four certain examples, all from the 3rd c. BCE: Βάχχιος (MYT 106, 9; ERE 017), Διονύσιος (MYT 041, b 1), Μαλοίσιος (MYT 106, 7) and possibly Ἀπολλωνίω (dat.? MYT 012).

⁸⁴ *E.g.* ERE 01, d 19-21 (end of the 5th c.) τῶν Ἀπολλ[οδ]ωρε[ίω]ν παῖ<δων> «of the Apollodorean children», MYT 042, 3 (3rd c.) Εὐγυντεῖω παιδί «to the Eugnotean son».

noun and the adjective are in an oblique case, and an extra-syntagmatic element is inserted between them. The main difference that sets Lesbian apart from Thessalian and Boeotian is the absence of inanimate nouns that are modified by RAs. This may be due to chance, but cf. 3.2.3.1 *infra* for a different possibility.

It is clear that all Aeolic dialects employ the suffix -ιο- to form relational adjectives, specifically patronymics, and that this happens on a much larger scale than in the other Greek dialects. In the case of Thessalian and Boeotian, one also finds adjectives modifying inanimate nouns. Another peculiarity of Aeolic is that -ιο- replaces the ‘regular’ *-eyo- that is elsewhere used to form adjectives of material: e.g. λίθιος and ἀργύριος vs. λίθεος and ἀργύρεος.⁸⁶ Finally, it should be noted that both in Homeric language and in the Aeolic inscriptional evidence one may find a genitive next to the RA: this is in apposition to the referent of the adjective, even though there is no syntactic agreement. In TRO 302 (5th c. BCE),⁸⁷ the papponymic Γαυκῖο (formally also a patronymic adjective) is in the genitive and its referent can only be Nikkias.

3.2.3 Comparing RAs

It should be clear from what we have just discussed *what* the objects of our comparison are. I hope to have shown in some detail how the Luwic languages and the Greek dialects employ RAs, in all of their forms. Now a closer comparison between the phenomena in the two branches and a fuller evaluation of Watkins’s theory is in order. I shall start by

⁸⁵ All of them occur in inscriptions of the 5th century BCE from Troy, and the reading is often uncertain: TRO 402 (Ἀπολλωνιδᾶι{αι} : ἔμμι : [τῶ] Ἱπποκλέῳ «I am for Apollonidas [the] Hippoklean (i.e. the son of Hippokles)»), TRO 301 (Διοκλεῖδα : θέκα{ν} (?) : τῶ Φιλεῖῳ{ν} (?) : τ<ῶ> Βολίδᾳ «Tomb of Diokleidas, the Philean (i.e. the son of Philos or Phileus), of Bolidas»), and TRO 302 (σ[ᾱμ]α ’πι Σθενείῳ ἔμμι τῶ Νικαῖῳ τῶ Γαυκῖῳ «I am the tomb (placed) on Stheneias, the Nikiaeos (i.e. the son of Nikias), [son] of Gaukios»).

⁸⁶ This is the opinion of MORPURGO DAVIES 1968: 94; CHANTRAINE 1933: 53, by contrast, thinks that ε has become ι because of the confusion between -εος and -ιος.

⁸⁷ Cf. fn. 85 *supra* and ex. (23) *infra*. I am following the reading of HODOT 1990: 94; BUCK 1955: 213 reads instead σ[τάλλ]α.

discussing Hajnal's and García Ramón's counterarguments as outlined above. While I will endorse some, others do not seem to satisfactorily address the problem.

Hajnal might be right, in principle, to stress that the Lesbian usage of the RA is more restricted than the usage in Anatolian and also in the other Aeolic dialects,⁸⁸ but his objection could be refuted just by reading Watkins literally. Watkins writes that we should consider "Aeolic", and does not mention "Lesbian" or "Eastern Aeolic" at all. Although this does not mean that the theory is correct, Hajnal did not address the main weakness in Watkins's argument. Had Watkins referred to Eastern Aeolic his objection would be more compelling; we would perhaps expect a reverse distribution in this dialect, *i.e.* that RAs with inanimate head nouns would appear in Lesbian and not *only* in Thessalian and Boeotian. However, Watkins's mention of Aeolic as a whole allows a possible corollary that could explain the divergence of Lesbian: this dialect might have simply lost the feature that we still see in Thessalian and Boeotian and that we reconstruct for the common Aeolic phase. Another plausible option – which should at least be kept in mind – is that there is simply not enough evidence, and the absence of forms similar to Thess. Ἀνφιῶνεία ἃ στάλα in Lesbian is simply due to chance. In any case, the divergence of Lesbian, as correct as it may be, is not a persuasive counterargument to Watkins's point.

That said, the contact theory becomes even more difficult to prove if we take Common Aeolic rather than Lesbian into consideration. If we were to postulate contact between the Anatolian languages and Common Aeolic as a whole, we would need to establish a relatively high *terminus ante quem* regardless of the position one takes on the unity of the Proto-Aeolic group. Contact between them would also mean that Common Aeolic should be located in

⁸⁸ Although this cannot be conclusively proved for the time being.

the Eastern part of the Greek world in the prehistoric era, a claim which is impossible to verify or falsify.

Hajnal also observes that there is no trace of *i*-mutation in Greek. This is, however, beside the point, because Watkins implies that Greek adopted a foreign syntactic pattern using inherited material, and there is really no need for the adoption of Anatolian phonetics (at least in this specific case, where Greek already possesses a morpheme cognate to Anatolian *-iya-*).

García Ramón's counterarguments, though also based on sound observations, slightly miss the point. It is true that Mycenaean has adjectives in *-i-jo* (and *-e-jo*, for that matter), but this does not, *in principle*, disprove that the Aeolic phenomenon is due to contact. The element ascribed to language contact is not the simple presence of a formation in **-iyo-* nor the fact that **-iyo-* produced a RA. It is instead the systematic usage of the RA in lieu of the genitive, at least in specific contexts. The same objection applies to García Ramón's other argument: the presence of RAs in other IE languages/branches (*e.g.* Italic) does not *per se* prevent us from considering this phenomenon as the result of contact.

Nevertheless, there *are* other reasons to believe that this feature of Aeolic is an independent development and that it is only comparable to the Western Anatolian languages on a typological level. These reasons can be summarised as follows: firstly, the asymmetries in the usage of RAs in the two branches make contact quite unlikely; secondly, as we have just suggested, it is impossible to identify the actual spatiotemporal co-ordinates in which this contact took place.

We have seen above how multi-functionally, yet how differently, Greek and Anatolian employ RAs. It should be clear by now that RAs are less multi-functional in the Aeolic dialect

than they are in the Luwian languages. On the other hand, the PIE suffix **-iyo-* is much more multivalent and productive in Greek than it is in Anatolian. If one simply compares the relation between form and function in the two branches, it becomes evident that Greek *-io-* covers the functions not only of Luwian *-iya/i-*, but also of *-assa/i-*, *-izza-*, and *-wann(i)-* formations, which incidentally do not have formal cognates in Greek.

Comparing the structure of the onomastic formula in Aeolic and Luwian with respect to the usage of RAs shows that the two languages were mutually independent: Hieroglyphic Luwian shows a mixture of PN + gen. and PN + PA, while Aeolic Greek consistently has the type PN + PA. Had Anatolian influenced Greek, and had an external innovation changed a previous state of affairs, one would rather expect absolute consistency in the SL, which would also display a broader usage of the pattern (cf. 1.4.2.3 *supra*) and a mixture of archaism (on its way out) and innovation (in expansion) in the TL. Another fundamental difference between the two branches is that in Lesbian, Thessalian, and Boeotian the RA is predominantly formed on PNs (giving rise to patronymics), while in Luwian this is not necessarily the case, as examples such as *tuwaras(s)in* (SULTANHAN §3) demonstrate. The pattern is broader in Luwian in that RAs tend to replace genitives *tout court*, unlike in the Aeolic dialects. When it comes to onomastics, however, Aeolic dialects show more consistency in their systematic usage of PAs instead of genitives.

If we consider the specificities of the two main HLuw. suffixes, and also take the diachronic dimension into account, further counterarguments can be mustered against Watkins's idea. We have seen that, in the first half of the first millennium, *-assa/i-* was more productive than *-iya/i-* in forming RAs. If there had been any contact, one would expect the category under expansion in the SL to be the model for the change in the TL. However, the

fact that Luwian had both suffixes and increasingly adopted the newer one at the expense of the suffix that was cognate to the only one used by Greek is certainly not a point in favour of a contact scenario. Also, *-assa/i-* (not *-iya/i-*) was the suffix associated with PNs, and, had Luwian influenced Aeolic, one would at least have expected *-iya/i-* to be used with PNs in both languages.

One could try to save Watkins' hypothesis by saying that it was the restriction in the usage of the genitive in the SL that caused Aeolic to avoid the usage of the genitive in some environments (namely in the patronymic formula). However, it is not clear why this change should have started from HLuw., Lycian, or Carian which all *did* have inherited genitives; if CLuw. were the SL this would be more plausible. But this latter option is impossible on historical and geographical grounds. In addition, the usage of *-iō-* in Greek is so widespread and variegated that it is difficult to postulate a specific instance in which its deployment was triggered by external factors.

The multivalence of Gk. *-iō-* vs. Luw. *-iya/i* is not an obstacle to a contact hypothesis in principle because there are cases in which the TL adopts a feature of the SL only in specific instances. If, however, this were the case one would expect at least some overlap, *i.e.* that the feature present in (or reconstructable for the earlier stages of) the TL is also present in (or reconstructable for the earlier stages of) the SL, and this does not seem to happen in the case of the relational adjective.

The diachronic observations above about the genesis of the Luwian suffix *-assa/i-* have shown that the usage of a RA in lieu of a genitive in an IE language could well be a contact-induced feature. One should therefore consider the ways in which a TL behaves when it is in contact with a SL that extensively employs RAs. Yakubovich is probably right to argue that

Hittite ‘case attraction’ is due to Luwian, rather than to Hurrian, influence,⁸⁹ and that it spread through diffused bilingualism (as Luraghi concedes). This observation is relevant for our purposes because if we compare Luwian and Hittite we observe something completely different from what we have seen in Luwian and Greek. In the first case (Luwian → Hitt.) the TL, which *did* possess similar morphological means,⁹⁰ did *not* adopt the RAs but adopted a different syntactic strategy, namely ‘case attraction’. In the latter case (Luwic → Greek) the (supposed) TL adopted the same strategy, with all of the discrepancies in form (differences in the suffix used) and function (onomastic formula) outlined above.

Although the theory that the *exclusive* usage of the PA in Aeolic is due to contact cannot, in principle, be ruled out, the considerations above lead me to suggest that the Greek phenomenon should be considered a development independent from Luwian or other Anatolian languages.

Despite the impossibility of proving Watkins’s hypothesis, Greek and Luwic are somewhat comparable. If we want to establish a typological, rather than direct, comparison of the usage of the RA in Thessalian, Lesbian, and the two Luwian dialects, and take into consideration the functional expansion of the RAs, we could say that Hieroglyphic Luwian went further than the Aeolic dialects, and that Cuneiform Luwian went even further down the line.

We have said above that the RAs make simpler NPs; as the adjective replaces a genitive (and agrees with its head noun) syntactic relations are more clearly expressed. However, as

⁸⁹ Although the presence of Hurrian documents, names and cultural elements in Hattuša shows that some Hittites must have been familiar with that language, there are many more indications that Hittite and Luwian speakers had been in close contact throughout the history of the Hittite Kingdom (see YAKUBOVICH 2010, *passim*).

⁹⁰ Hittite had adjectives in *-šša/i-*, even if the suffix was not productive, cf. *supra*.

Anna Morpurgo Davies noted, this creates a disadvantage from a semantic point of view as RAs do not allow the number of the referent to be specified (MORPURGO DAVIES 1968: 98). This is true of any language that employs such a formation: in English, the NP [paternal house] could be interpreted both as [house of the father] and [house of the fathers]. This ambiguity is present in Luwian, in examples such as (8) above. The problem does not arise, however, whenever the referent is clearly singular, and this is the case whenever personal names are the base of these adjectives. This could be the one of the factors that restricted the expansion of such a category in Greek.

3.2.3.1 *A possible Lydian-Aeolic connection?*

I have repeatedly stressed that (hypothetical) contact between the Luwic languages and Common Aeolic is problematic. I have also explained that any attempt to save Watkins's hypothesis by restricting the focus to Lesbian and Eastern Aeolic⁹¹ is doomed to fail, the first and foremost obstacle being the difference in usage of the RAs highlighted by Hajnal (cf. *supra*). The obvious conclusion is that the two branches adopted a similar strategy in a completely independent fashion.

Nevertheless, I am going to tentatively suggest that there might have been one point of contact, provided that one shifts the focus to the eastern part of the Aeolic and to the very western part of the Anatolian domain. More specifically, one should take into account Eastern Aeolic instead of Common Aeolic and Lydian instead of Luwian.

⁹¹ Whose speakers are more likely to have been in contact with speakers of Western Anatolian languages.

Lydian has a Relational Adjective in *-Vli-*,⁹² which unsurprisingly agrees in gender, number and case with its the head noun, and is used to express appurtenance. This is consistently used in genealogies and filiation formulae, as in the following examples:

(19) *LW* 20⁹³

nannas pakivalis artimuλ

«Nannas, (son) of Pakivas, to Artemis»

(20) *LW* 1, 4

ak>ad manelid kumlilid silukalid

«This (scil. tomb) (is) of Manes (son) of Kumlis (son) of Silukas»

Note how, in (20), the RA is used both for the patronymic (*kumlilid*) and for the papponymic, the name of the grandfather (*silukalid*).

Whilst there is a nice collection of onomastic formulae for Eastern Aeolic in HODOT 1990: 211-32, Lydian has no equivalent repertoire. I have therefore searched the corpus of Lydian texts,⁹⁴ and found that in 109 (mostly very short) inscriptions there are 50 tokens of complete (or easily reconstructable) RAs in onomastic formulae.⁹⁵

⁹² The suffix *-li-*, completely unrelated to the other RAs seen above, also forms the third-person singular possessive pronoun: *pilis* (n.sg.c.) and *pilλ* (d.-l. sg.).

⁹³ This is a short bilingual Lydian-Greek dedication to Artemis. The Greek text reads Νάννας Διονυσίχλεος Ἀρτέμιδι.

⁹⁴ This search was made on Craig Melchert's Lydian Corpus (<https://linguistics.ucla.edu/people/Melchert/lydiancorpus.pdf>) and checked against Gusmani's canonical *Wörterbuch* (GUSMANI 1964, 1980-6).

⁹⁵ They are: *manelid kumlilid silukalid* (1); *karolid sabλalid* (2); *atraštalid timlelid* (3); *manelis alulis* (4a); *manelis alulis* (4b); *atalis tiwdalis tarwtallis mēλalid* (5); *siwāmlis* (6); *artabānalid atrašalid* (8); *kumlilis atelis* (9); *katowalis sellis ciwvalis* (10); *katowalis* (11); *tiwdalis* (16); *bakivalis mane[lis?]* (20); *bakillis* (?) (22); *mitratalis* (23); *mitra[talis]* (24); *kato]valis k]arolis k]arolis ar]timulis* (25); *alikrelid karol[id(?)] anlali=k atrašt[alid(?)] lamētrulis* [ti]wdalis atalid (26); *abrnalis* (41); *bētowlis* (43); *bakivalid* (51); *rkalim* (?) (69); *mitratalis* (74); *atelis* (75); *[m]anelis* (101); *srkastulis* (103); *bakiw[alis]* (108).

Now, we have seen that Eastern Aeolic stands out among the other Aeolic dialects because the patronymic adjective is the only form of RAs. This might be due to chance, but the fact that both Eastern Aeolic and Lydian restrict the usage of the RA to the filiation formula might not be a coincidence. There is a further hint in this direction in an inscription from Eresos:

(21) ERE 01, a 37, end 4th c.

Ἡρωίδα τε τῷ Τερτικωνεῖω Ἡραεῖω

«of Heroidas son of Tertikon, son of Heraios»

Here, next to the “regular” expression of a patronymic, we find the so-called papponymic, *i.e.* the name of the grandfather. This very feature is shared with Lydian and also with Hieroglyphic Luwian (cf. *e.g.* (16) above). However, while Luwian prefers using the adnominal genitive for PNs (as does Lycian), Lydian consistently adopts the relational adjective. However, one should recall that the RA was not the only way to express the papponymic, as the following inscriptions from Troy testify:

(22) TRO 301, 5th c.

Διοκλεῖδα : θέκα{ν} (?) : τῷ Φιλεῖῳ{ν} (?) : τ<ῶ> Βολίδα

«Tomb of Diokleidas, the Philean (*i.e.* the son of Philos or Phileus), of Bolidas»

(23) TRO 302, 5th c.

σ[ᾶμ]α ’πὶ Σθενείῳ ἔμμι τῷ Νικιαίῳ τῷ Γαυκίῳ

«I am the tomb (placed) on Stheneias, the Nikiaeos (*i.e.* the son of Nikias), (grandson) of

Gaukios»⁹⁶

⁹⁶ The PN Γαυκίῳ is generally interpreted as a hypocoristic form of Γλαυκ-; specifically, this would be a form of the PN Γλαυκίων; cf. HODOT 1990: 66 fn. 92.

The presence of papponymics in multiple documents, one of which is expressed with a RA, exactly as in Lydian, might be a trace of linguistic contact (though a very feeble one that does not allow us to decide whether Lydian influenced Greek or vice-versa). This hypothesis is much narrower and less far-reaching than Watkins's. It seems however to be more easily located in space and time, even though it should be considered very speculative for the time being.

3.2.4 The Relational Adjective in Aeolic: conclusion

In this section we have looked at the forms and functions of the so-called Relational Adjectives in Greek and in the Anatolian languages in some detail. In particular, we have assessed, and ultimately rejected, Watkins' hypothesis that the Aeolic usage of patronymic adjectives, a specific subset of RAs, is due to language contact. This syntactic strategy is, as we said, comparable only on a typological level because the differences in usage of the RAs and the difficulty of postulating a transmission during the Common Aeolic phase make direct contact relatively unlikely. There is no decisive argument that can completely disprove Watkins's thesis, but ultimately independent developments seem to be more likely. However, we have also seen that if we narrow the focus to Lesbian a different contact hypothesis is perhaps possible. As we have suggested, the specific usage of patronymic adjectives in this dialect resembles that found in Lydian, which – unlike Hieroglyphic Luwian – (almost) always features its own (etymologically different but functionally similar) RA in the onomastic formula and often expresses the papponymic in conjunction with the patronymic.

4 **Lexicon**

The discovery of the Anatolian branch has led to a radical re-thinking of our reconstruction of the proto-language, which was heavily based on the Graeco-Aryan model until then (cf. 1.4.1.4 *supra*). This addition also had an impact on the reconstructed lexicon, and the necessity to integrate the Anatolian data into the already-defined Indo-European vocabulary *à la* Pokorny (*IEW*) and *à la* Buck (BUCK 1949) justifies the appearance of studies such as GUSMANI 1968a and WEEKS 1985, which somehow represent the culmination of a series of smaller contributions on individual isoglosses between an Anatolian language (usually Hittite) and one or the other Indo-European language. On a separate (though often connected) level, the Anatolian languages added another piece to the puzzle of the linguistic landscape in the Eastern Mediterranean between the second and the first millennium BCE, and scholars started wondering to what extent these languages might have had an impact on Greek, the best-known language of the area.

Very soon after the decipherment of Hittite, scholars started using Greek as a *comparandum* for the newly-discovered Indo-European branch, and attempted to explain both obscure and better known Greek lexical items through Anatolian. This was carried out either by finding Anatolian cognates of isolated Greek words (and therefore reconstructing Indo-European roots and/or lexemes), or by looking for possible sources of Greek words of foreign ascendancy (which can be loanwords or calques). In order to understand the relationships between Greek and Anatolian it is important to clarify what part of the shared lexicon can be reasonably attributed to inheritance, and to what extent one can postulate actual language contact.

4.1 Selection of the corpus and methodological remarks

This chapter contains a case-by-case analysis of the (real or presumptive) “Graeco-Anatolian lexicon”, carried out through traditional etymological analysis. Since the aim is to present a representative and up-to-date overview of what has been proposed, it is unavoidable to include some items which are more controversial than others. The *condicio sine qua non* for the inclusion in this list is that someone has postulated either a Graeco-Anatolian exclusive lexeme or the Anatolian origin of a Greek word. For such an analysis, I have included most items I have been able to find after a thorough search of the main etymological dictionaries of Greek (*EDG*, *DELG* [+ suppl.], *GEW*) and of the Anatolian languages (*HED*, *EDHIL*, *HEG*, *VELH*), and of the secondary literature dealing with Graeco-Anatolian lexicon, without any aprioristic exclusion. However, given the necessity to produce a contained and coherent group of items, the search has been confined to the pre-Hellenistic era, and those loanwords and phenomena of language contact at the lexical level that might have taken place in post-classical Greek have been excluded. The same can be said about all onomastic material of alleged Anatolian provenance (*e.g.* Πήγασος, Παρνασσ(σ)ός, Βάχχος), which has been left out of the following list because it would deserve a separate and detailed study.

This chronological delimitation has two further bearings: the Anatolian languages attested in the second half of the first millennium will be only marginally touched upon, the main focus being – on the Anatolian side – Hittite and Luwian (Cuneiform and Hieroglyphic). Also, if one excludes later material, there is not much evidence for Greek loanwords or calques *into* the Anatolian languages. In his 1968 book, Roberto Gusmani wondered whether the Hittite compounds *šallakarta- (n.) ‘arrogance’ (formed by šalli-

/šallai- ‘big’ + *ker/kard(i)*- ‘heart’ and presupposed by its derivatives *šallakartatar* / *šallakartann*- (n.) ‘presumptuousness’, *šallakartahh*- ‘to offend someone through arrogance’ and *šallakartae*- ‘id.’) and *walkiššara*- ‘skilled’ (supposedly composed of **wal*- ‘strong’, cf. Lat. *ualēre* + *keššar* / *kiššer*- / *kišr*- (c.) ‘hand’) are modelled respectively on Gk. *μεγάθυμος* ‘magnanimous’ and *εὐχερ* ‘dextrous’ (GUSMANI 1968: 88-9). These comparisons are most uncertain: a semantic development [BIG] + [HEART] > [ARROGANT] is also found in other languages (e.g. Mod. Dutch *hooghartigheid* (lit. ‘high-hearted-ness’) ‘arrogance’, cf. *EDHIL*: 709); as for *walkiššara*-, the root **welH* is not otherwise attested in the Anatolian languages (*LIV*²: 676-7), it is not semantically identical to Gk. *εὖ* < **h₂su*, and the alternative spelling with *ul-k*^o is problematic if we want to relate it to this etymology. These are the main hypotheses for Greek influence on Anatolian lexicon (one could add the case of Hitt. ^{MUNUS}*dammara*- and Myc. *da-ma-te*, discussed *infra*), but the existing scholarship has mainly been focussing on Anatolian (and Near-Eastern) influence on early Greek.

Including most *hypothetical* exclusive isoglosses of Greek and Anatolian or Greek loanwords allegedly derived from an Anatolian language means managing a substantial amount of material. The obvious consequence of a fairly extensive dataset is that many (if not most) of these connections between Greek and Anatolian words are at risk of being falsified, either because the framework in which they were proposed has radically changed (and this is especially evident in the case of new readings or interpretations of Anatolian words), or because they are simply untenable. It will not always be possible to give an uncontroversial solution, and in such cases I shall gather as much material as possible for others to build upon.

There are several ways to arrange this type of study: for instance, Emilia Masson – in her analysis of Semitic loanwords in Greek – ordered the analysed lexical items according to the degree of probability and provability of the loanword (MASSON 1967); José Miguel Jiménez Delgado, instead, organised his items according to chronological and geographical criteria, *i.e.* when a presumptive Anatolian loanword entered Greek and whence (JIMÉNEZ DELGADO 2008). As pointed out in the *Introduction*, a concrete risk in this kind of study is mixing up inherited lexical items with contact-derived ones. This is unfortunate, because it may lead to confusion and misinterpretations, as sometimes happened in older literature. For this reason, and for the sake of clarity, I have chosen to divide what I have thus far called the “Graeco-Anatolian lexicon” into four groups: exclusive isoglosses, loanwords proper, calques, and *Wanderwörter*.

To the first group belong all those words found *only* in Greek and in an Anatolian language. These may be lexemes directly inherited from PIE (*i.e.* preserved archaisms) but lost in all other branches, or they may be common innovations built on inherited material. It goes without saying that retained archaisms, whenever exclusive, may provide hints at the prehistoric relationship between two branches and at their genetic distance within the family, provided that their number is substantial; their importance is however null compared to that of shared innovations (especially when morphology is concerned). Only when we have established a sub-grouping on the basis of common innovations, may shared retentions be adduced as supporting evidence – if they are frequent enough. Finally, archaisms say almost nothing about language contact in historic times. It is generally agreed that, on a purely genealogical level, Greek and the Anatolian languages are not particularly

close to each other (cf. 1.3.1.3 and 1.3.1.4 *supra*): as we shall see, the lexical analysis confirms this long-established view.

I have gathered under ‘loanwords’ those lexical items for which it is difficult or impossible to find a direct filiation from PIE to Greek through regular sound changes. These words have a presumptive model in an Anatolian language, and they may ultimately have an Indo-European or a non-Indo-European origin. The following criteria should be taken into account in order to establish whether or not a given word is a loan from Anatolian into Greek:

- The Greek word must not have been directly inherited from the proto-language.
- The word cannot be easily derived from Greek: words deriving from other Greek lexemes should be excluded (whatever the origin of the latter). This often means that true loanwords are isolated and/or less transparent, especially if the moment of the loan substantially pre-dates the actual attestation of the word.
- There are reasons to exclude that the word comes from other languages. This is very often difficult to establish with certainty, especially with cultural words.

In order to determine the origin of the lexeme and to consequently distinguish between the two groups (exclusive isoglosses and loanwords), one should look at the phonetics and the morphology. While an item inherited by Greek and Anatolian should show the respective regular sound changes, loanwords should show some sound changes of the source language, and eventually some later sound changes of the target language, and should be integrated in a compatible morphological class (*e.g.* Latin second-declension nouns are adapted in Greek as *o*-stems).

Identifying which Anatolian language is the actual source of the loan is a much more complicated matter. Most scholars have focussed on *Hittite* loanwords in Greek, but this is surely due to the disproportion of our material and the predominance of the Hittite data. Postulating a *direct* loan from Hittite to Greek means having in mind a precise chronological frame, *i.e.* imagining a *terminus ante quem* towards the end of the second millennium. The spatial dimension also raises problems, since – as we have seen in 1.3 – it is hard to determine where and when speakers of Hittite may have come into contact with the Greeks. This is why the Luwic languages, Luwian *in primis*, should be included in the discussion as much as possible, while the Hittite data should also be used as a proxy whenever Luwian is not available. In other words, because of geographical proximity, one would *a priori* expect a higher degree of contact between Greek and the Luwic languages rather than between Greek and Hittite, but because of the relative paucity of the Luwic evidence, one should also rely on Hittite in order to establish whether a given lexeme is present in Anatolian and what form it might have had in Luwian or in a(nother) “minor” Anatolian language. Language-specific sound changes and morphological features provide additional hints for the provenance of a loanword.

The third group contains two Greek words that some scholars have thought to be calques from Hittite. The fourth and final group consists of *Wanderwörter*, ‘wandering words’ which are found in several languages, whose referent is often a concrete object, and whose origin is difficult to pinpoint on a map. This is technically a sub-category of loanwords, the main difference being that the path(s) of transmission are much more uncertain, and may be radically different. In any case, because of their nature, they point to a different, more superficial, degree of language contact (cf. 1.4.2.2).

Before the analysis of the presumptive Graeco-Anatolian isoglosses and loanwords, I shall give a brief overview of the expected Greek adaptations of Anatolian sounds, which will recur in the rest of the chapter. These will be based on the phonological inventories of Hittite, Luwian and Greek, and on the sound changes commonly accepted for these languages.

In the central part of the chapter, each entry will consist of a headline with the Greek and the Anatolian lexical item, followed by the relevant literature and by an etymological discussion. A good part of the references consists of the main etymological dictionaries of Greek and of the Anatolian languages, but I have included as many other contributions as possible which have not found their way into the mainstream repertoires. The items will be listed according to the Greek alphabetical order.

Drawing on the previous discussion, the final section will be devoted to more general considerations on the semantic domains of the actual Graeco-Anatolian lexicon, on the phonetic changes involved in the transmission, and on the spatio-temporal coordinates of the language contact processes.

4.1.1 Expected phonetic adaptations

Given the phonemic inventories and the sound changes of Greek, Hittite and Luwian (cf. *Appendix 3*), we would *a priori* expect the following adaptations in Anatolian loanwords which enter Greek.

1. Anatolian voiceless and voiced stops (also known as *fortis* and *lenis*) should be adapted with the corresponding Greek sounds:

Hitt./Luw.	/p/	>	Gk.	[p]	<π>
Hitt./Luw.	/b/	>	Gk.	[b]	<β>
Hitt./Luw.	/t/	>	Gk.	[t]	<τ>
Hitt./Luw.	/d/	>	Gk.	[d]	<δ>
Hitt./Luw.	/k/	>	Gk.	[k]	<κ>
Hitt./Luw.	/g/	>	Gk.	[g]	<γ>

There is a chance that the Anatolian languages separately de-voiced voiced stops in initial position (see the discussion in MELCHERT 1994: 18-21), *i.e.* that the voiceless/voiced opposition is neutralised in this position. One would then expect to find initial voiceless stops in loanwords.

It is *in principle* conceivable (but by no means certain!) that Anatolian voiceless stops may have been adapted with Greek aspirated stops:

Hitt./Luw.	/p/	>	Gk.	[p ^h]	<φ>
Hitt./Luw.	/t/	>	Gk.	[t ^h]	<θ>
Hitt./Luw.	/k/	>	Gk.	[k ^h]	<χ>

2. Anatolian resonants and the voiceless alveolar fricative should be adapted with the corresponding Greek sounds:

Hitt./Luw.	/m/	>	Gk.	[m]	<μ>
Hitt./Luw.	/n/	>	Gk.	[n]	<ν>
Hitt./Luw.	/l/	>	Gk.	[l]	<λ>

Hitt./Luw. /r/ > Gk. [r] <ρ>

Hitt./Luw. /s/ > Gk. [s] <σ>

Both the Anatolian languages and the dialects of Greek had two distinct phonemes for the liquids /r/ and /l/. However, the Luwian situation is not as clear-cut as it might seem: not only do we find a form of rhotacism (on which see MORPURGO DAVIES 1982-3 and 5.3.3.2 *infra*) which may point to a phonetic realisation [r] for /r/, but there are several examples of alternation between /l/ and /r/ (*e.g.* /wal(a)-/ ~ /war(a)-/) ‘to die’; cf. MELCHERT 2003b: 179-80). A similar oscillation is found in Hittite as well, though less frequently (JOSEPH 1982: 232 and MELCHERT 1998b: 48). In view of this variation, it would not be too surprising to find similar oscillations in loanwords as well.

3. Labiovelars may have been adapted differently according to the dialect and to the time of the loanword:

Hitt./Luw. /k^w/ > Gk. [p]/[t]/[k] (Myc. [k^w]) <π/τ/κ> (Myc. <q>)

Hitt. /g^w/ > Gk. [b]/[d]/[g] (Myc. [g^w]) <β/δ/γ> (Myc. <q>)

4. As for laryngeals and the voiceless alveolar affricate, our hypotheses are by nature more tentative, since there is no identical Greek sound:

Hitt./Luw. /H/, /h/ > Gk. [k], [h], [k^h], [g] (?)

Hitt./Luw. /H^w/, /h^w/ > Gk. [ku], [k^hu] (?)

Hitt./Luw. /t^s/ > Gk. [ss] = <σσ>, [zd] <ζ> (?)

Recent research (WEISS 2016 AND KLOEKHORST 2018 are only the latest contributions on the topic; cf. also 2.4.1 and 2.4.4.2 *supra*) has confirmed that the sound written with the <ḫ>-signs in Hittite and Luwian cuneiform is a uvular fricative [χ]. For loanwords in a language

which did not have an equivalent sound, this could in theory be transmitted either as a velar or as a pharyngeal sound. Greek did not have velar fricatives at this stage, so the alternative is between [h] and the sounds of the velar series [k]/[k^h]/[g]. This obviously applies only if we are dealing with *direct* loans from Hittite and Luwian.

5. Some vowels are similar in both branches, so we would expect them to be adapted as follows¹:

Hitt./Luw.	/a/, /a:/	>	Gk.	[a], [a:]
Hitt./Luw.	/u/, /u:/	>	Gk.	[u], [u:]
Hitt./Luw.	/i/, /i:/	>	Gk.	[i], [i:]
Hitt.	/e/, /e:/	>	Gk.	[e], [e:]

Hittite vocalism is quite complex and several details are still under discussion. It is common knowledge that several signs can be read both with *e* and with *i* vocalism (see a complete list in *EDHIL* 33: fn. 55), and this has led to some discussion as to whether or not /e/ and /i/ were phonemically distinct throughout the history of Hittite. In light of this variation, which has not yet found a unanimous explanation, one should perhaps not expect absolute consistency in loanwords with regards to *e* and *i*.

In Luwian, the situation is somewhat simpler, as this language has a three-vowel system: in Greek loanwords from Luwian, we would expect Luw. /a/ > Gk. [a], Luw. /i/ > Gk. [i] and Luw. /u/ > Gk. [u]. This does not mean, however, that whenever a Greek word has an [e] or an [o] the hypothesis of a loan from Luwian should be excluded; it may be the case that the Greeks could have heard a very low /i/ as [e], a very low /u/ as [o], a very front /a/ as [e] or a

¹ One must bear in mind that vowel quantity might easily be lost in loanwords.

very back /a/ as [o]. This is, of course, very speculative, and may be in principle applicable to Hittite as well, particularly with regard to /u/ and /o/.

One should keep in mind that *all* of the above are aprioristic assumptions made only on the basis of the comparison between the phonological inventories of Greek on the one hand and Hittite and Luwian on the other. These correspondences will be tested against the case studies presented in the following section. The evidence of Greek names in Hittite texts (*e.g.* *Alakšanduš* ~ Ἀλέξανδρος, *Tawagalawa* ~ Ἐτεοκλῆς, *etc.*; cf. 1.2.1 *supra*) is unfortunately of no help, because at most it can tell us how Anatolians perceived Greek sounds, and not vice-versa.

4.2 Exclusive isoglosses

Gk. αἰσχ- ‘shame’ ~ Hitt. *iškuna(hh)*-/ *ishuna(hh)*- ‘to stain’

Lit.: *HED II*: 427; *EDG*: 44-5; *HEG I*: 403-4; *DELG*: 40; *GEW I*: 46-7; PUHVEL 1978.

The lexical family of Gk. αἰσχος, αἰσχύνη ‘shame’, ‘ugliness’, αἰσχύνω ‘to dishonour’, *etc.* has always been difficult from an etymological point of view, since there is only a shaky parallel with Goth. *aiwiski* ‘shame’ (translating αἰσχύνη), *unaiwisks* ‘not ashamed’, *aiwiskōn* ‘disgrace oneself’ (translating ἀσχημονεῖν), *ga-aiwiskōn* ‘shame’, ‘revile’ (translating καταισχύνειν) and OE *æwisce* ‘shame’, *æwisc* ‘shameful’, and perhaps *æwan* ‘scorn’, ‘despise’. These matches are not entirely satisfactory from a formal point of view,² but they are nevertheless cited in the standard etymological dictionaries of Greek (*DELG*: 40; *GEW I*: 46-7). What seems quite clear is that αἰσχος, *etc.* should presuppose a *u*-stem base *αἰσχυ- (cf. the PN Αἰσχύλος, behaving like the PN Κρατύλος < κρατύς).

In 1978, Jaan Puhvel showed that the Germanic parallels are untenable because of their semantics³ and offered an alternative solution, bringing into the discussion the Hittite verb *iškuna(hh)*-/ *ishuna(hh)*-. This verb is attested five times,⁴ with both spellings *išk*- and *ish*-,

² The only way to match Gk. αἰσχος with Goth. *aiwiski* (< **h₂eig^{wh}*-isk-o-) is to reconstruct the former as **h₂eig^{wh}*-sk-: this raises obvious formal problems, and a pre-form **aisg^h*-os is more likely.

³ The Old English words refer to the ‘shame’ due to sexual misconduct, and are the negative counterpart of *æw* ‘marriage’ and its cognates. A parallel would be the word *hēmed*, which can mean either ‘marriage’ or ‘fornication, adultery’. According to Puhvel (1978:141), OE *æw* and OHG *ēwa* are to be connected either to Skt. *āyu* ‘life[-force]’ or to Skt. *éva*- ‘course, habit’. If all of this is correct, one could hypothesise that the choice of Goth. *aiwiski* to translate Gk. αἰσχύνη might have been influenced also by the phonetic similarity of the two words. Cf. also DE VAAN 2008: 29.

⁴ *KBo IV 2 i 44-5 kaš-wa GIM-an hāš GAD.ḪLA iškunanta parkunuzzi* «as this soap cleanses stained cloths»; *KUB I 16 iii 41-2 huḫḫaš-miš [Laba]rnan DUMU-šan URUŠanahuitti iškunahḫiš* «my grandfather demoted his son Labarnas to Sanahuittas»; *Bo 6109 Vs 2 tarḫuan iškunatteni* «you demean the vanquished»; *KBo VI 26 ii 19 ū DUMU.MEŠ iškunānzi* «and they demote the children»; *KUB XXIII 13 Vs 3-4 anzāš-ma-wa-za ištū GIS¹⁸TUKUL [ūL tarahṭa ...] ... nu-wa-šši : wašdazza iškunahḫuen* «he has not vanquished us with arms... and we have stigmatized his depredations» (text and translations are from PUHVEL 1978: 142-3).

and both with and without the verbal suffix *-aḫḫ-*, and it means ‘stain’, ‘demote’, ‘degrade’, ‘disgrace’.

From a formal point of view, *iškuna-* would be a denominative causative (*-na-*) formation from an unattested base **išku-*, a *u*-stem very similar to Greek **αἰσχυ-*. Since both the Hittite and the Greek form lack any credible etymology and are semantically similar, Puhvel connected them and argued that they are the reflexes of a PIE **aisǵʰú-*. The *i-* of the Hittite form would then be justified via a development PIE **ai* > Hitt. *e/i*, or via a zero-grade formation from **isǵʰú-*. Puhvel himself is quite hesitant about the latter, and prefers an explanation through the development **ai* > *e/i*. The diphthong **ai* (also when < **oi*) does undergo monophthongisation in some environments (namely in word-final position and medially before laryngeals and stops), but Sara Kimball strongly argued against the common idea of unconditioned monophthongisation of PIE diphthongs: in particular, she claimed that the consistent spelling of *iškuna(i)-* and *išḫunahḫ-* with IŠ is an argument in favour of the zero-grade derivation, and that all other Hittite examples which would point to initial *i* < **ai* are based on either doubtful or incorrect etymologies (KIMBALL 1999: 207, 217-9).⁵

On a semantic level, the initial meaning [MAKE UGLY] is found in both branches, with a range of semantic extensions in Greek and a more specific sense in Hittite: in particular, the pejorative connotation is found most clearly when applied to (textile) objects (as in GAD.ḪLA *iškunanta* ‘stained clothes’).

Although Puhvel’s idea is not completely unproblematic, it still seems more convincing than other accounts: accordingly, Greek and Hittite would share not only the *u*-stem base (<

⁵ A minor issue concerns the *k/h* alternation: most lexica (*HED*, *HW²*) list *iškuna(i)-* and *išḫunahḫ-* under one lemma, since there is independent evidence for the interchange of /k/ and /h/ after /s/: *ḫameškant-* / *ḫamešḫant-* ‘spring’, ^{GIS}U.A-*ki* /*kiski*/ / *kisḫi* ‘chair’, etc. However, the possibility that here we are in front of two different verbs should be kept open (cf. MELCHERT 1994: 170).

**ais-g^hu-*), but also the verbal (factive) derivation (*αἰσχύνω* ~ *iškuna-*). If the above account is correct, this is a valid Graeco-Anatolian isogloss.

Gk. ἀλαζών ‘charlatan’ ~ Hitt. *halzai-ⁱ/halzi-*, CLuw. *halta/i-* ‘to cry out’

Lit.: *EDG*: 60; *DELG*: 53; *HED III*: 53-64; *EDHIL*: 276-7; *HEG I*: 139-40 *VELH*: 20; BONFANTE 1936; VAN WINDEKENS 1987.

The adjective ἀλαζών ‘charlatan’, ‘braggart’ is generally derived from the ethnonym Ἀλαζώνες, the name of a Thracian (or Scythian) tribe that we first find mentioned by Hecataeus in Strabo (F 217 Jacoby) and directly cited by Herodotus (IV, 17). This reconstruction, first proposed by Giuliano Bonfante in 1936 (and then accepted by *DELG* and, more hesitantly, by *EDG*), entails the development of the ethnonym into an appellative, in the same fashion as English *vandal* or French *bohémien* (though with a different meaning).

Van Windekens, instead, called for a re-examination of the etymology in light of the Hittite verbal form *halzai-ⁱ/halzi-*, which means ‘to cry out’, ‘to shout’, and of the corresponding Cuneiform Luwian form *halta/i-*: on the basis of Oettinger’s hypothesis that the pre-form of *halta/i-* would be Pre-PAnat. **h₂lt-yé-* (OETTINGER 1979: 464), Van Windekens claimed that we can reconstruct a PIE **h₂ld-y-*, coming from a root **h₂eld-*, and that ἀλαζών would also belong to this root (with *ᾱ-* < **h₂* and *-λα-* < **l*). In other words, this would be, in his opinion, an IE root only present in Greek and Hittite (VAN WINDEKENS 1987: 308).

The semantics would not be much of a problem, since a shift from [CRY OUT] to [BOAST] is conceivable; and, in principle, it is not impossible that Ἀλαζώνες could be a Greek

denomination, as Van Windekens argued.⁶ However, the reconstructed form poses some difficulties: he postulated a proto-form **h₂ld-y-* (from **h₂eld-*), which has no IE parallel, and gave no motivation for the de-voicing of the dental stop in Proto-Anatolian; also, the connection of Hitt. *halzai-*ⁱ and CLuw. *halta/i-* with the Germanic lexical series represented by Goth. *lapōn*, ON *laða*, OE *laðian* and OHG *ladōn* ‘call’, ‘invite’ (first proposed by Juret and then accepted by Puhvel and Kloekhorst) excludes the reconstruction of a form with the voiced dental (**t > þ* by the first Germanic *Lautverschiebung*). The assibilation of the Hittite form, analogically spread from the weak stem *halzi-* (**h₂lt-*) to the entire paradigm, also calls for an original voiceless dental, which in Greek yields -σσ-/-ττ-, not -ζ-, when combined with -y-. Another problem concerns the presumptive development **h₂ld-* > **ἀλαδ-* (and then *ἀλαζ^ο*): this has no parallel, since in the group **#HRC-* the syllabic resonant *R* usually yields *VR*, and not *RV*: just as **h₂rg-* > *ἀργ-* (and not *†ἀργαγ-*; cf. BEEKES 1969: 34), **h₂ld-* should give *ἀλδ-*, not *†ἀλαδ-*.

The ethnonym is also quite problematic from a purely textual point of view. A brief review of the evidence shows that *Ἀλαζῶνες* appears twice in Herodotus’s modern editions and four times in (some of) Strabo’s. In the latter, this ethnonym is found in a quote from Hecateus of Miletus in which the Ionic historian mentions the city *Ἀλαζία*: Hecateus is indirectly reported to have mentioned the still-inhabited villages of the Alazones,⁷ and it is reported that Palaiphatos said that Odius and Epistrophus made their expedition from the *Alazones* who then lived in Alope.⁸ The two remaining attestations are in a difficult passage in which Strabo talks about the *Halizones* mentioned in the Homeric *Catalogue of Ships* (B

⁶ He thinks that the Thracian *Ἀλαζῶνες* could be either the ‘*Charlatans*’, ‘*Vantards*’ (a nickname reflecting mockery or contempt), or the ‘*Crieurs*’ (a nickname related to their battle cry); cf. VAN WINDEKENS 1987: 308.

⁷ Strab. XII, 3, 22: ἔρημον δὲ εἶναι νῦν τὴν Ἀλαζίαν λέγει [scil. Hecateus], κώμας δὲ πολλάς τῶν Ἀλαζώνων

⁸ Strab. XII, 3, 22: ὁ δὲ Παλαίφατος φησιν, ἐξ Ἀλαζώνων τῶν ἐν τῇ Ἀλόπῃ οἰκούντων, νῦν δ’ ἐν Ζελεΐᾳ, τὸν Ὀδίον καὶ τὸν Ἐπίστροφον στρατεῦσαι

856-7)⁹. It is worth noting that Ἀλαζώνων is either a *varia lectio* or an emendation in all quoted passages from Strabo (see CORCELLA 1994 for manuscript readings and choices in modern editions), as well as in those from Herodotus (the most recent OCT edition has the reading Ἀλιζ-, while older editions have Ἀλαζ-; the issue is not settled, and one may consult CORCELLA 1994 and WILSON 2015: 74 for opposite views). Solving this textual problem goes well beyond the aims of the present work, but this outline should be enough to show not only that it is not guaranteed that ἀλαζών actually comes from the *Alazones*, but also that it is extremely dangerous to reconstruct a solid Indo-European root on the basis of material of this sort.

One could still argue, *contra* Van Windekens but in favour of some sort of Graeco-Anatolian connection, that the adjective ἀλαζών is actually derived from the name of the aforementioned tribe – as most scholars agree – and that Ἀλαζώνες is a non-Greek ethnonym somehow related to the Anatolian forms seen above. However, even admitting that absolute consistency in the adoption of foreign words, especially ethnonyms, is the exception rather than the rule, the second alpha would remain unexplained, and we would need to admit a loss of the initial *h*-. However, this is just one among many possibilities: Ἀλαζώνες could well be a non-Anatolian ethnonym that entered Greek from an unknown language. In any case, whether or not this is ultimately a loanword of some sort (which seems probable, but ultimately not provable), it seems assured that we are *not* dealing with an exclusive isogloss shared by Greek and Hittite, as Van Windekens advocated.

⁹ Strab. XII, 3, 21: Οἱ μὲν μεταγράφουσιν Ἀλαζώνων, οἱ δ' Ἀμαζώνων ποιοῦντες, τὸ δ' ἐξ Ἀλύβης ἐξ Ἀλόπης ἢ ἐξ Ἀλόβης, τοὺς μὲν Σκύθας Ἀλαζώνας φάσκοντες ὑπὲρ τὸν Βορυσθένη καὶ Καλλιπίδας καὶ ἄλλα ὀνόματα, ἅπερ Ἑλλανικός τε καὶ Ἡρόδοτος καὶ Εὐδοξος κατεφλυάρησαν ἡμῶν «Some change the text, and make it read “Alazones”, others “Amazones”, an for the words “from Alybê” they read “from Alopê, calling the Scythians beyond the Borysthenes River “Alazones”, and also “Callipidae” and other names – names which Hellenicus and Herodotus and Eudoxus have foisted on us» (transl. Jones).

Gk. ἀλύω ‘to be distraught’ ~ Hitt. *halluwai-* ‘to quarrel’ (or **alwanza-* ‘affected by sorcery’)

Lit.: *HED* I: 47, III: 49-51; *HEG* I: 20, 137-8; *EDG*: 76; POLOMÉ 1954; BENVENISTE 1962, 1969a; RIEKEN – SASSEVILLE 2014.

The origin of Hitt. *halluwai-* (both a noun (c.) ‘violence’, ‘quarrel’, ‘brawl’ and a verb ‘to resort to violence’, ‘to quarrel’, ‘to fight’) is debated. Benveniste connected it to Gk. ἀλύω, attested in Homer (E 352, Ω 12, ι 198, σ 333), Empedocles (f. 145 DK), Aeschylus (*Sept.* 391), and Sophocles (*El.* 135, *Phil.* 141, 1194) with the meaning ‘to be distraught’, ‘to be out of one’s mind’, which does not have an incontrovertible etymology either. In his opinion, the traditional explanation by which ἀλύω is a *u*-derivative of the root ἀλ- found in ἀλέομαι ‘to avoid’, ‘to flee’ (cf. *GEW* I: 81, *DELG*: 66) is not satisfactory, especially from a semantic point of view; the hypothesis of a *u*-derivative of the root ἀλ- found in ἀλάομαι ‘to wander’, ‘to be banished’ seems to encounter the same problems (but cf. *infra*). He then argued that *halluwai-* and ἀλύω are of IE heritage and that they are another example of the correspondence between Hitt. *ha-* and Gk. ἀ- (BENVENISTE 1962: 10ff. and 1969a).

Puhvel, in his *Dictionary*, admits that Benveniste’s idea is possible, but he does not find it too convincing on semantic grounds.¹⁰ Elaborating a suggestion first made by Polomé (1954: 55), he suggests that Gk. ἀλύω could have an alternative Hittite cognate: **alwanza-* ‘subject to witchcraft’, ‘affected by sorcery’, only attested in derivatives such as *alwanzatar* (n.) ‘witchcraft, magic’, *alwanzessar* (n.) ‘witchcraft’, *alwanzena-* ‘practising witchcraft’, ‘sorcerer’, *alwanzahh-* ‘to bewitch’, *alwanzahha-* ‘witchcraft’. He claims in fact that ἀλύω could go back

¹⁰ He observes that since *halluwai-* tends to occur with *zahhai-* ‘battle’ and has to do with physical violence rather than emotional strain, it should be interpreted as ‘brawl’ rather than ‘quarrel’; conversely ἀλύω points to a state of mental delirium, to an instability unrelated to anything physical (*HED* III: 50-51).

to *ἄλυσγω (cf. ἄλυσμός ‘anguish’), and that a verbal adjective **alus-no-* ‘possessed, distraught’ > **alwṇso-* (metathesis of *-sn-* cluster), comparable to Hitt. *alwanza-*, might have existed (*HED* I: 47).¹¹

Kloekhorst, instead, seems to think that *halluwai-* is not of Indo-European origin, as he does not list it in his dictionary; he does not mention the connection between Hitt. *alwanza-* and Gk. ἄλῶ and he is even sceptical about the IE nature of *alwanza-*: since one finds all derivatives with the *-z-*, it means that the affricate is inherent to the stem, and that *alwanza-* is not a participial formation (*EDHIL*: 171).

Connecting ἄλῶ to *alwanza* requires *ad hoc* formal adjustments, and the meaning of the reconstructed form would nevertheless not be particularly fitting. Also, the reconstruction of *ἄλυσγω is unlikely because, on the basis of the other derivatives (ἄλυ-σις, ἄλυ-ς ‘fear’, ‘agitation’, ἄλυ-σκω ‘to be distraught’), the root seems to be **alu* and not **alus*.¹² Besides, the correspondence between *-s-* and *-z-* in Gk. **alwṇso-* and Hitt. *alwanza-* does not hold water. Finally, according to a recent re-evaluation of the lexical series of Hitt. *alwanza-* as ‘to alienate’ (**al-went-yo-*), bewitching someone would mean to alienate them from gods and humans (RIEKEN – SASSEVILLE 2014: 306).

All in all, it seems that Puhvel’s explanation is not necessarily more cogent than Benveniste’s: the latter does not require *ad hoc* phonetic adjustments, and it is therefore more economic. From another perspective, the option of a Greek loanword (*halluwai-* >

¹¹ Besides, according to Puhvel, Benveniste’s observation that the geminate *-l-* in Hittite spelling has no phonetic value (BENVENISTE 1969a: 31) can be neglected, since *-ll-* could come from **-ln-*, making *halluwai-* cognate with *hallanniya-* ‘to ruin’, ‘to lay waste’ (a different meaning is postulated by *EDHIL*: 272, ‘to trample down, ‘to flatten’), and therefore with Gk. ὀλλυμι ‘to destroy’ and Lat *abolēo* ‘id.’, going back to PIE **h₃elh₁-* (or **h₃eln-*); cf. *HED* III: 51 for details.

¹² In this case we would expect a form like *ἄλῶ, which is actually attested as the Aeolic variant of ἄλῶ in *EM* 254.16 Gaisford: Τὸ γὰρ φύω Αἰολικῶς φύϊω φασί· καὶ τὸ ἄλῶ, ἄλῶϊω ‘They say *phyō* the Aeolic way, *phyiō*; and *alyō*, (they say) *alyiō*’.

ἄλῳ) would require a psilotic Greek dialect to adapt an Anatolian *-h-* (and then */h/ > Ø*); *alwanza-* > ἄλῳ, on the other hand, would require that we consider the former a participial formation, which is difficult (cf. *supra*). Despite the fact that these two contact hypotheses are not impossible, there are not many counterarguments to Benveniste's IE derivation, which is quite plausible – in the absence of better alternatives.

Another plausible explanation for the semantics of ἄλῳ is to connect it with ἀλάομαι imagining a semantic shift [TO WANDER] > [TO GO ASTRAY] > [TO GO OUT OF ONE'S MIND], as per WILLI 2018: 485, fn. 189: «one may perhaps posit (with *LIV* 264 s.v.) a root **h₂elh₂-* (pres. ἀλάομαι 'wander, roam' < **h₂lh₂-éye/o-?* [...]) [...] and derive ἄλῳ, ἄλῳσκω, etc. from a verbal adjective **ἄλῳς* 'wandering, roaming'».

So, the exclusive retention of a PIE root in Greek and Anatolian is a possibility in this case, but it is not the only one.

Gk. ἄντλος 'bilge-water' ~ Hitt. *han-* 'to draw (liquids)'

Lit.: *EDG*: 109; *DELG*: 93; *HED III*: 77; *EDHIL*: 281-2; *HEG I*: 144; *VELH*: 19; SOLMSEN 1909: 89; STURTEVANT 1942: 30; AUSTIN 1942; BENVENISTE 1954: 39; GUSMANI 1968a: 86; GUSMANI 1968b: 22-8.

Greek ἄντλος 'bilge-water' has no convincing etymology: it used to be compared to Lat. *sentina* 'bilge', Lith. *semti* 'draw' and Gk. ἀμάομαι 'to draw (milk)', and therefore taken as a psilotic form of an **ἄντλος* deriving from **ἄμ-θλο-* (assimilation of *μ > ν* and dissimilation of *θ > τ*); cf. SOLMSEN 1909, *GEWI*: 114, *DELG*: 93. However, as Beekes rightly remarked, **ἄμ-θλο-* is problematic for two reasons: 1) PIE *sm-* > Gk. ἄ-, not ἄν-; 2) the Mycenaean vase named *a-ta-ra* (if it is correct to interpret it as */antla/*) has no initial aspiration (*ṽ* = **25* = */ha/*, cf. 2.4.4.1

supra). Besides, Gusmani (1968b) argued that the semantic difference between ἄντλος and the lexical family of ἀμάομαι, ἄμη ‘shovel’, etc. makes an etymological connection difficult.

On the other hand, Benveniste’s idea to connect ἄντλος to the Hittite verb *han-* ‘to draw (liquids)’ has been more or less accepted by the majority of scholars (Beekes, Kloekhorst, Puhvel). Gusmani elaborated it further. The suffix -τλο- is often found in nouns derived from verbs (ἐχέτλη ‘handle of the plough’ (< ἔχω), φύτλη ‘generation’ (< φύω), etc., cf. CHANTRAINE 1933: 375), and it forms *nomina instrumenti* or denotes the object on which the action expressed by the verb becomes concrete. Therefore, it is perfectly conceivable to analyse ἄντλος as a verbal base ἄν- + the suffix -τλο-.

In this perspective, **h₂n-* would be preserved only in Hittite and Greek, where we respectively find the verb *han*¹³ and a deverbal noun. The hypothesis of an exclusive isogloss would be weakened by the Armenian verb *hanem* ‘take out’, ‘draw out’ which according to some would go back to the same IE root (AUSTIN 1942 and STURTEVANT 1942); however, since the etymology of the latter is very uncertain and the outcomes of initial laryngeals in Armenian are disputed,¹⁴ one cannot take this as a hard proof of as IE lexeme preserved also in a third branch. This Graeco-Hittite isogloss should then be considered possible until further data are added to the picture.

Gk. εἴρων ‘dissimulator’ ~ Hitt. *ešri-* ‘image’

Lit.: GEWI: 471; DELG: 326; EDG: 393-4; SOLMSEN 1901: 263; VAN WINDEKENS 1985.

¹³ This verb appears in the ablauting forms *hān-* / *han-* with analogical preservation of the laryngeal from the weak stem, which needs to be posited if – following Kloekhorst – one assumes that **h₂* drops in front of -o- in Hittite (EDHIL: 282).

¹⁴ See a recent account in MARTIROSYAN 2010: 389, 712ff. If one rejects the hypothesis that Armenian initial *h-* is the outcome of a laryngeal, it would be possible to argue that *hanem* is a loanword from Anatolian (I am indebted to Wolfgang De Melo for pointing out this option).

The term εἴρων is first attested in Aristophanes (*Nub.* 449), in whose corpus we also find the derivatives εἰρωνικῶς (*Ves.* 174) and εἰρωνεύεται (*Av.* 1211). The noun εἰρωνεία is then found in the Platonic corpus as part of the Socratic doctrine.¹⁵

This word means ‘dissimulator’, and it has given rise to a wealth of derivatives. However, according to Chantraine, its etymology is uncertain, because a connection either to εἶρομαι or εἶρω would be problematic: εἶρομαι has Ionic phonetics, whereas Attic only has ἤρετο and ἐρέσθαι; on the other hand, a connection to εἶρω ‘to say’, ‘to declare’ (first suggested by Solmsen in 1901) would not fit semantically according to Chantraine, and the verb itself is extremely rare (*DELG*: 326). This is why Van Windekens looked for a different explanation: he argued that the lexeme εἶρ- should be compared to Hitt. *ešri*- ‘image’, ‘figure’: there would have been a pre-form **esr-*, with Greek treating the cluster *-sr-* as in the Homeric word τρήρων < *τῖρσ-ρο-. The meaning of εἶρων would then be more transparent in light of the Hittite evidence, since it would imply the notion of [SOMEONE CREATING AN IMAGE (of himself)].

There is one major problem with this interpretation. The Hittite term *ešri*- is a derivative of the verb *eš-/aš-* ‘to be’ (*-ri-* is a suffix forming nouns to verbal bases, e.g. *ētri*- (n.) ‘food’ < *et-* ‘to eat, ’; *auri*- ‘observation post’ < *au(š)-* ‘to see, look’; cf. *GHL*: 59), and on purely theoretical grounds, εἶρων *could* be a derivative of the verb ‘to be’ in Greek as well (**ēs-*ρο- > εἶρο-, though one must acknowledge that this treatment of *-sr-* is quite rare: we only find it in

¹⁵ Theophrastus (*Char.* I, 1-6) later describes the εἴρων, his first character, as follows: ὁ δὲ εἴρων [...] μηδὲν ὧν πράττει ὁμολογῆσαι, ἀλλὰ φῆσαι βουλευέσθαι: καὶ προσποιήσασθαι ἄρτι παραγεγονέναι [καὶ ὁψὲ γενέσθαι] αὐτὸν καὶ μαλακισθῆναι [...] καὶ ἀκούσας τι μὴ προσποιεῖσθαι, καὶ ἰδὼν φῆσαι μὴ ἑορακέναι, καὶ ὁμολογήσας μὴ μεμνήσθαι: καὶ τὰ μὲν σκέψασθαι φάσκειν, τὰ δὲ οὐκ εἰδέναι, τὰ δὲ θαυμάζειν, τὰ δ’ ἤδη ποτὲ καὶ αὐτὸς οὕτως διαλογίσασθαι. «The *eiron* is the sort of man [...] who admits to nothing that he is actually doing, but says he is thinking it over, and pretends that he just arrived, and behaves like a coward [...] If he has heard something, he pretends he hasn’t, and says he hasn’t seen something when he has, and if he has made an agreement he doesn’t remember it. He says about some things that he will look into them, about others that he doesn’t know, about others that he is surprised, about others that once in the past he had thought that way himself too».

a few formations, namely (ναύ)κρᾶρος < *(ναυ)κρᾶσ-ρο- and ἄγχ-αυρος, αὔριον < *αὔσ-ρο-; cf. LEJEUNE 1987: 122), meaning that we would have parallel formations in both branches.

However, the semantics would be much easier if this word is considered as having been coined from the verbal roots of εἶρω ‘to say’. Specifically, εἶρων could be tentatively interpreted as part of a group of those adjectives in -ων/-ωνος that are usually denominal (*e.g.* γάστρων ‘gluttonous’ < γαστήρ ‘belly’), or deadjectival (γλύκων ‘sweetie’ < γλυκύς ‘sweet’) but that can sometimes be interpreted as deverbative (φείδων ‘stingy’ < φειδός ‘thrifty’ or φειδῶ ‘parsimony’, but also φείδομαι ‘to spare’); cf. CHANTRAINE 1933: 161. Despite the absence of an uncontroversial etymology, a Greek-internal derivation seems in this case the easiest option, and the Hittite root should not be called upon in this case.

Gk. λύπη ‘pain’ ~ CLuw. (?) *lu(m)pašti-* ‘grief’

Lit.: *EDG*: 878-9; *DELG*: 651; *GEW II*: 146; *HED V*: 118-9; *HEG V*: 76; PISANI 1966: 51; MELCHERT 1994: 123; RIEKEN 1999: 223.

In 1966, Vittore Pisani tried to explain the otherwise unclear (*GEW II*: 146) etymology of Greek λύπη ‘pain’, ‘grief’ through a connection with Hittite (*sic!*) *lupašti-* ‘grief’, a term usually attested with the *Glossenkeil*. The Greek word is indeed obscure, since a link with Skt. *lumpāti* ‘break’, ‘tear apart’ is unlikely (*pace* Puhvel, *HED V*: 119): the latter is probably a dialectal variant of *rup-* (found in *e.g.* Skt. *rúpyati*) which belongs with Lat. *rumpō* ‘to break’ (see *EDG*: 879, *DELG*: 651 and *GEW II*: 146). By contrast, the IE cognates going back to the root **lup* (Lith. *lūpti*, OCS *lupiti*) point to a meaning ‘to peel off’, ‘to tear’; [PAIN] and [TO PEEL OFF] are quite distant from a semantic point of view (unless applied to the human domain), and if

Skt. *lumpāti* is actually a cognate of Lat. *rumpō*, Pisani's explanation is, for the moment, preferable. But let us look further into this 'Hittite' word.

According to *CHD L-N*: 85, *lu(m)pašti-* is found five times,¹⁶ and is translated as 'something unpleasant, displeasing, offensive or annoying'. All the texts where it is found are NH. An example is (*KUB* 36, 97 iv?, 1-2) *nu kuedani DINGIR-LIM-ni kuiš ZI-aš :luppaštiš nuza idālun [:]luppaštin ZI-ni piran [a]rḫa wiyaddu* «For whatever god there is any annoyance of the mind, let him send the evil annoyance away from (his) mind».

As for the spelling, the alternation between *-mp-*, *-pp-*, and *-p-*, is not easily explainable: as Tischler observes, it is difficult to establish the priority of the different forms (*HEG* V: 76). Oscillations between *-mm-* and *-mp-* are otherwise found in Hittite (e.g. *kurimma-* / *kurimpa-* 'left behind' > 'widow', 'orphan'; *ḫuimma-* / *ḫuimpa-* '?'; cf. MELCHERT 1994: 123), but this is not the case with *-mp-* / *-p-*.

The *Glossenkeil* suggests that this is not a proper Hittite word (or, at least, that it was not perceived as such by the scribes) and that a good candidate to look at is Luwian (this lemma is indeed listed in Laroche's and Melchert's dictionaries of Luwian). The suffix *-ašti-*¹⁷ is not found as such in our corpus of Luwian, but it is attested in three Hittite deadjectival formations: *dalugašti-* 'length' from *daluki-* 'long' (cf. Gk. *δολυχός*, Skt. *dīrghá*, etc.), *palḫašti-* 'breadth' from *palḫi-* 'broad' (cf. Lat. *plānus*), and *pargašti-* 'height' from *parku-* 'high', belonging to the well-known IE root **b^herǵ^h* (see OETTINGER 1986: 10). It also appears in Lydian: the nouns *srfasti-* 'right side' and *tesasti* 'left side' may have been formed with it, and the PN *Srkastu* may belong with Hitt. *šarku-* 'high' and come from an unattested **šargašti*,

¹⁶ Twice in the nominative ([:]*lu-um-pa-aš-ti-iš* *KUB* 21, 38 rev. 11; *:lu-up-pa-aš-ti-iš* *KUB* 36, 97 iv?, 1) and three times in the accusative (*:lu-um-pa-aš-ti-in* *KUB* 21, 38 rev. 13; *:lu-pa-aš-tin* *KUB* 21, 38 obv. 65; [:]*lu-up-pa-aš-ti-in* *KUB* 36, 97 iv?, 2).

¹⁷ Probably of IE heritage, cf. Pol. *dlugość* 'length' < PSL. **dʒlgostъ* < **-osti*.

meaning ‘height’ (GUSMANI 1980-1 and RIEKEN 1999: 223). So, *lu(m)pašti-* could theoretically be a hybrid Luvo-Hittite formation composed of a base **lu(m)p-* not otherwise attested, and the reflex of an IE suffix **-osti*.¹⁸

On the other hand, *λύπη* is not found as such in the first stages of alphabetic Greek, but we can infer from its derivatives in Homer and Hesiod that the word was already present in Greek: Homer has the adjective *λυπρή* ‘poor’, referring to Ithaca (ν 243 οὐδὲ λῖγν λυπρή ‘not very poor’), and Hesiod has a form of the verb *λυπέω* (*Op.* 401 ἦν δ’ ἔτι λυπῆς ‘if you vex (them) further’). From a morphological point of view, *λύπη* could belong with the series of *nomina actionis* in *-η*: most of them are oxytones (e.g. *ἀρχή*), but there are a few exceptions (e.g. *μάχη* < *μάχομαι*, *βλάβη* < *βλάπτω*) cf. CHANTRAINE 1933: 21-3. All members of this category are derived from a verb, and several of them are formed on the zero grade of the root: so, it is in principle conceivable that *λύπη* was derived from an unattested **λευπ-/ *λυπ-*. The fact that there is no such verbal root does not constitute much of a problem, since there are also other nominal formations whose corresponding verb is simply not attested in Greek (e.g. *κραυγή* ‘cry’; but cf. Goth. *hrukjan* ‘to crow’, Lith. *kraūkti*). However, the long *-ū-* of the Greek noun would stand in the way of such reconstruction. Also, how can we link this hypothetical **λευπ-/ *λυπ-* to an Anatolian base **lu(m)p-*? Unless the *-m-* is secondary, there is no obvious way to accommodate it to a known verbal pattern. The first thing which comes to mind is of course the PIE causative infix *-n-*, which can occur before the last consonant of the root: one finds Lat. *rump-ō* and Greek *λαμβάνω*, and even a verb **λύμπ-* would be possible in theory. However, in Hittite this infix takes the form *-ni(n)-*, and is only associated with some verbs ending in *-k*: *ḫark-* ‘to perish’ > *ḫarnink-* ‘to destroy’, *ištark-* ‘to get sick’ > *ištarnink-* ‘to make

¹⁸ It is interesting to note that in the aforementioned Hittite and Lydian cases, *-ašti-* is only found in derivatives belonging to the semantic category of spatial dimension (length, breadth and height), while our word has nothing to do with this sphere.

sick', *etc.* (cf. *GHL*: 179). As for Luwian, I am not aware of any verb with infixed *-n-*. Besides, we are looking for an adjective, if the parallel with other formations in *-asti-* is valid (only *parku-* has a corresponding verb, but neither of them is derived from the other, cf. *EDHIL*: 637).

If the option of direct inheritance from an IE root does not seem viable, one may look at neighbouring languages. The option of considering λύπη a loanword from Anatolian is open, in principle, but it would require the reconstruction of a base **lu(m)pa/i-* which would have been the model for the adaptation. In Luwian, the sequence */mp/* is only found in the word for 'cedar-(staff)', which also alternates in its spelling between *-mp-*, *-pp-*, and *-p-*: *KBo* V 1 ii 14: ^{GIS}*i-ri-im-pí* (nom./acc. sg.); *ABoT* 17 ii 5: ^{GIS}*i-ri-ip-pí-da* (nom./acc. pl.); *KBo* XXIII 27 I 27': ^{GIS}*e-ri-pí-da*¹. According to Starke, this is a loanword from Sum. *eren*, Akk. *erenu* 'cedar' with a Hurrian intermediate (**eren-bi* > *erembi*). The problem with a derivation of *lu(m)p-* from or through Hurrian is the fact that in this language liquids do not occur in initial position (WEGNER 2007: 47). In addition, all nouns in *-ašti* cited above are derived from adjectives, so one does not really see how a hypothetical transmission could have happened.

Therefore, unless one wants to resort to a substrate solution, which could in theory explain both isolated forms λύπη and *lu(m)pašti-* but would not add any positive piece of evidence, this case should be considered a *non liquet*.

Gk. ὄγμος ‘furrow’ ~ Hitt. *akkala-* ‘furrow’ (?)

Lit.: *EDG*: 1045; *DELG*: 773; *GEW II*: 348; *HED I*: 23; *DECLG*: 167; BENVENISTE 1962: 107; GUSMANI 1968a: 86.

The Greek term ὄγμος ‘furrow’ is traditionally thought to be a verbal noun to ὄγω similar to Skt. *ájma-* ‘trajectory’, ‘draught’.¹⁹ According to another explanation ὄγμος comes from an unattested *ὄχμος (with voicing and de-aspiration of χ in front of the nasal, which would be odd, at the very least!) and would be an *o*-grade derivative of ἔχω, meaning «ce qui est fixé» (*DECLG*: 167).

In 1962, Émile Benveniste offered a third solution, connecting ὄγμος to Hittite *akkala-*, and arguing that on the basis of these two words we can reconstruct the PIE root whose reflexes in the individual languages mean ‘furrow’: ὄγμος would be then derived from a root *ὄκ-, with voicing of the stop next to the nasal of the suffix *-mo-* (cf. πλέγμα < πλέκω, δείγμα < δείκνυμι, etc.), while *akkala-* would have the same root but with a different suffix. According to him, one should limit the comparison to these two languages, leaving out forms such as Lat. *occa* ‘harrow’ and Lith. *ekėti* ‘to harrow’, because [TO DIG A FURROW] and [TO HARROW] are two different actions, and that there is a dialectal distribution, since the languages which have the term for “furrow” do not have that for “harrow” and vice-versa (BENVENISTE 1962: 108). This hypothesis, reported by Chantraine, accepted by Gusmani, and rejected by Frisk, raises some difficulties.

The first omicron in ὄγμος may point to initial **h₂o-*, **h₃e-* or **h₁o-*, while the *a-* of *akkala-* may only come from **h₁o-*, unless one accepts – with KLOEKHORST 2006 – that in Hittite **h₂o-*

¹⁹ Beekes (*EDG*: 1045) notes that they cannot be «parallel» (presumably, independent) formations because the suffix *-mo-* is not productive in Greek. This is not accurate, since deverbal action nouns can be formed with this suffix; it is true, however, that several of the nouns in *-μος* are etymologically obscure and are commonly considered ‘Pre-Greek’ (cf. CHANTRAINE 1933: 132-157).

> *a-*. The Greek γ may be the outcome of $*g/*\hat{g}$, or of $*k/*\hat{k}$ (with the subsequent voicing hypothesised by Benveniste); in Hittite, the geminate velar points to $/k/ < *k/*\hat{k}$, rather than $/g/ < *g/*\hat{g}$. Following from this, the reconstructed root which could best account for $\delta\gamma\mu\omicron\varsigma$ and *akkala* is $*h_2ok-$; if $\delta\gamma\mu\omicron\varsigma$ were instead to be connected with $\delta\gamma\omega$ ($*h_2e\hat{g}-$, cf. Lat. *agō*, Skt. *ájati*, etc.),²⁰ the Hittite form would be unrelated, as the pre-form $*h_2o\hat{g}-$ would be incompatible with Hitt. *akkala-* (we would have expected $^{\dagger}h_2akala$). Finally, Lat. *occa*, Lith. *ekėti* and cognates (OHG *egida*, Lith. *akėčios*, Corn. *ocet* ‘harrow’ and Arm. *akaws* ‘furrow’, and also Gk. $\delta\zeta\iota\nu\eta$), are thought to belong to the root $*h_2e\hat{k}-$ (Gk. $\delta\chi\mu\omega\nu$, Lat. *acer*, etc.; cf. *NIL*: 287). In theory, $\delta\gamma\mu\omicron\varsigma$ could belong with either $*h_2e\hat{g}-$ or $*h_2e\hat{k}-$, but the former option is more likely in light of the parallel with Skt. *ájma-*. The Hittite form is, on the other hand, more problematic, since the only way to connect it with other IE words (specifically with the root $*h_2e\hat{k}-$) would be to accept the Hittite sound change $*h_2o- > a-$. Reconstructing an *ad hoc* root $*h_2ok-$ is possible in theory, but in this case we would need to make a very strong case, by showing that the semantics of $\delta\gamma\mu\omicron\varsigma$ and *akkala-* do not allow for a non-exclusive isogloss; however, this is not the case.

There is in fact a passage of the *Laws* which calls into question the very interpretation of *akkala-* as ‘furrow’ (HOFFNER 1997: 135, 216): the OH manuscript (aa₆ (+) aa₄ iii, in Hoffner’s *conspectus siglorum*) of §168 reads *ták-ku* A.ŠA₃-an ZAG-an *ku-iš-ki pá-r-si-ya* 1 *ag-ga-la-an pé-e-da-i* «if anyone violates a boundary of a field (lit. a field, its boundary) and *pēdai* one *akkala*». On the basis of the rendering of *akkala-* as ‘furrow’, Puhvel interprets *pé-e-da-i* as a *hapax* spelling for *pē-da-i* (= conventional *pád-da-i*) ‘he digs’, pointing to the correspondent Lithuanian verb *bedù* ‘to dig’ (PUHVEL 1979: 215). His translation of the passage would then be

²⁰ This is now the *communis opinio*: Beekes believes in the equation Gk. $\delta\gamma\omega$: $\delta\gamma\mu\omicron\varsigma$ = Skt. *ájati* : *ájma-* and in the regular development $*h_2o- > \delta-$ in Greek. The appurtenance of $\delta\gamma\mu\omicron\varsigma$ to $*h_2e\hat{g}-$, the $\delta\gamma\omega$ -root, is also hypothesised in *NIL*: 268.

«he digs one furrow». However, the interpretation of *pēdai* as ‘to dig’ does not hold water, as Melchert has convincingly shown: firstly, we find no example of **pè-e-da-i* with *scriptio plena* (while we do find *pé-e-da-i* ‘he carries!’), which we would expect for an accented /e/ in open syllable /péda:y/; then a *hi*-conjugation verb has the *o*-grade, not the *e*-grade in the singular (in *pēdai* ‘he carries’, the *e* is due to the preverb *pē-*); finally all later mss. have *ag-ga-la-an pé-en-na-a-i* «he drives (away) one *akkala*», and *pennai-* ‘drive away’ would be a rather unusual replacement for ‘to dig’, while it would be quite understandable for ‘carry away’ (MELCHERT 1994: 33). In this view, Oettinger’s suggestion that the *akkala-* could be a plough instead of a furrow (OETTINGER 1976a: 14, 50) is given new strength.

It is true that [PLOUGH] and [FURROW] are not completely unconnected, but interpreting the *akkala-* as a plough rather than a furrow weakens Benveniste’s semantic argument and stands in the way of an additional root only shared by Greek and Hittite. The (alleged) complementary distribution of the terms for ‘harrow’ and ‘furrow’ is not compelling. One could retain Benveniste’s exclusive connection between ὄγμος and *akkala-* by completely rejecting Melchert’s objections about the semantics of the latter and by keeping ὄγμος apart from ὄγω. However, ὄγμος seems to fit well with ὄγω (given the Skt parallel *ájati* : *ájma-*), while *akkala* might be connected to the root **h₂eḱ-*, provided that one accepts that Hitt. **h₂o-* > *a-*. Therefore, this seems a relatively unlikely Graeco-Hittite isogloss.

Gk. ὀπηδός ‘follower’ ~ Hitt. *ḫapati-* ‘river-land’

Lit.: *HED III*: 120; *HEG I*: 163-4; *EDG*: 1090; *GEW II*: 402-3; STURTEVANT 1928: 164ff; SAPIR 1934: 274-9; GUSMANI 1968a: 86; LAZZERONI 1969a: 627-30; NEUMANN 1971; LAROCHE 1973b.

Greek ὀπηδός ‘follower’ (also found in the Doric form ὀπαδός) was initially connected to the Hittite form *ḫapati-*, translated as ‘servant’, ‘vassal’, ‘subject’ (GÖTZE 1928; FRIEDRICH 1952: 54; KRONASSER 1963: 307). This idea²¹ has been proved wrong after Neumann and Laroche demonstrated that the meaning of *ḫapati-* is actually ‘river-land’ (to be connected with Hitt. *ḫapa-* ‘river’). The connection would also have been problematic in formal terms, since the single spelling of the intervocalic stop in Hittite points to the *lenis* /b/ rather than to the *fortis* /p/. Finally, the Greek form is easily explainable as a derivative from the root **sek^w* (Gk. ἔπομαι, Lat. *sequor*, Skt. *sacate*, etc.). Therefore, this isogloss must be abandoned once and for all.

Gk. ῥίον ‘mountain peak’ ~ Hitt. *šēr* ‘above’

Lit.: *EDHIL*: 730; GUSMANI 1968a: 86; HEUBECK 1964; RISCH 1965: 194 fn. 4; WILLI 1999.

The noun ῥίον (n.) ‘mountain peak’ (first found in Homer [Θ 25, Ξ 225, Τ 114, γ 295] and peculiar to epic) is obscure from an etymological point of view.²² The word is also attested as a toponym (of two places) in Thucydides (II, 86, 2-3, II, 92, 5), and there would be some historical continuity (at least, from an onomastic point of view) if the Mycenaean place name *ri-jo*, found in several tablets (PY An 1.3, 610.8, 724.14, Cn 608.11, Jn 829.12, Ma 193.1, Na 252.B), ought to be read as ‘Píon, as is commonly assumed.

²¹ First formulated by STURTEVANT 1928: 164ff and accepted (in different forms) by other scholars (SAPIR 1934, LAZZERONI 1969a, GUSMANI 1969; see literature in *HED III*: 120 and *HEG I*: 163-4).

²² Older attempts at reconstruction traced it back to a pre-form **ṛi-*, variously comparing it with Thracian βρία· πόλις, τεῖχος, Toch. A *ri* Toch. B *riye* ‘town’, with OSax. *wrisil* ‘giant’ or with Skt. *várṣman-* (n.) ‘height’, Lat. *verrūca*, OCS *vrъxъ*, Russ. *verx*, Lith. *viršūs* ‘highest peak, summit’ (references in *GEW II*: 658).

This identification is quite significant, since the Mycenaean evidence helps to shed some light on the problem: /w/ is still preserved in Mycenaean Greek, so we would have expected a Linear B form **wi-ri-jo* if ῥίον had come from **ṛp̥i-*. Therefore, all previous etymologies must be discarded, and a different solution becomes preferable. Alfred Heubeck argued that the Greek form could regularly come from **sri-*, and belong with the otherwise isolated series of Hitt. *šer*, *šarā*, etc. (see below). It should be pointed out that the author's focus was not the individuation of a Graeco-Anatolian isogloss *per se*; he wanted to reconstruct an IE root **sēr*, meaning 'above', for the Anatolian series, and according to him there were no other IE cognates except for ῥίον (connections with the Phrygian form *opov* are highly uncertain, cf. HEUBECK 1964: 266). Anatolian has a good range of lexical items belonging to this family,²³ and in origin these forms probably belonged to a nominal paradigm (EDHIL: 730). On the Greek side, one finds ῥίον < **sri-* and – if one follows WILLI 1999 – the prefix ἐρι- < **seri*. No other IE cognates are known, and both Heubeck and Kloekhorst reconstruct an IE form **sēr* on the basis of these two forms. One may wonder, following WATKINS 2011: 78, whether the Latin word *frons*, which is otherwise obscure from an etymological point of view, belongs to this group: it is perfectly conceivable that a zero-grade form **sr-* gave *fr-* in Latin (cf. *frigor* < **srig-*, cf. Gk. ῥιγ-), and the morphological formation could be something like **srō-h₂(e)nt-* (lit. 'fore-face').

Heubeck's hypothesis is upheld by Gusmani and Risch, and it is usually cited in the etymological dictionaries,²⁴ but it has never been considered the last word on the issue (see the caution of Frisk and Chantraine); slightly different – and not very compelling – is the

²³ Hitt. *šer* (adv.) 'above', 'on top', *šarā* (adv., postp.) 'up(wards)', 'aloft', 'on top of', 'above' (with its derivatives *šarāzzi(ya)* 'upper', 'superior', *šarāzziyaz* 'on the upper side', *šarāzziyešš-* 'to prevail', etc.), CLuw. *šarri* 'above', 'up', Lyc. *hri* 'up', 'on (top)', *hrzze/i-* 'upper', etc.), Mil. *Zri* 'id', Carian *šar-/šr-* 'upper' (only attested in compounds).

²⁴ Kloekhorst cites ῥίον as the only IE cognate of *šarā*.

interpretation of Beekes, who dismisses all of the above and opens the possibility of a ‘Pre-Greek’ origin for this word. If ῥόν actually belongs with the Anatolian forms listed above, then two possibilities are theoretically open: either we are in front of an IE root only retained in Greek and Anatolian (as Heubeck and Kloekhorst seem to believe), or ῥόν is a very ancient loanword (**seri?* **sriya?*) anterior to Mycenaean times which entered Greek before the sound change **s > h / #*. From the evidence we have, however, the former option is preferable, since with the current data at our disposal it would be difficult, if not impossible, to falsify this claim and to determine what the loanword would have looked like. Therefore, postulating an exclusive isogloss seems so far the most viable hypothesis, unless the Latin form is proved to belong with this root – in which case this would be an IE root preserved in three branches.

Gk. στόμα ‘mouth’ ~ Hitt. *ištama(n)*-/ištamin- ‘ear’

Lit.: *EDG*: 1408; *GEW* II: 801; *HED II*: 460; *EDHIL*: 412-3; STURTEVANT 1928: 123; KRONASSER 1955: 222; GUSMANI 1968a: 85; OETTINGER 2003: 147-50; MELCHERT 2007-8: 184-6.

In Gusmani’s list of Graeco-Anatolian isoglosses, one may find the correspondence between Gk. στόμα ‘mouth’, ‘opening’ and Hitt. *ištama(n)*-/ištamin- ‘ear’, first established by Edgar Sturtevant and then supported by Heinz Kronasser. In this case, there is a correspondence in the root, but this is by no means exclusive, since we find related forms such as Av. *staman-* (m.) ‘snout’, ‘maw’ and Cymr. *safn* ‘jaw-bone’. Some recent dictionaries reconstruct a pre-form **stéh₃-mn*/**sth₃-mén-s* (Greek would have generalised the zero-grade **sth₃-m₃*, cf. *EDHIL*: 412-3), but Oettinger noted that **stéh₃-* would not explain Goth. *stibna* or CLuw. ^{KÁ} *āš-tummant-* ‘gateway’ (lit. ‘mouth aperture’), and therefore suggested the pre-forms **(s)tómh₃-n*/**(s)tomh₃-én* / **(s)t₃mh₃-ón(t)-* derived from the root **(s)temh₃* ‘to cut’. Similarly

Melchert, who derived Gk. στόμα from $^*[stóm̥]$ < $^*[stómm̥]$ < $^*/stómh_1-m̥/$ (loss of laryngeal by the ‘Saussure-Hirt effect’) and the Hittite word from a hysterokinetic $^*/stomh_1-mén/$ which would regularly give $^*[stomén]$ and *īštamin-*. Regardless of the shape of the preform and of the appurtenance of the Germanic forms to the series,²⁵ we are dealing with the retention of an Indo-European word also attested in other branches, and this makes both the possibility of an exclusive isogloss and that of a contact phenomenon unlikely.

²⁵ The Germanic forms, already mentioned by Sturtevant, are considered related to the Hittite and Greek forms by some (*HED II*: 460) and unrelated by others (*EDG*: 1408, KROONEN 2013: 480)

4.3 Loanwords

Gk. ἀμάρα ‘canal’ < Hitt. *amīyar(a)*- ‘canal’?

Lit.: *GEW*: I, 86; III, 28; *DELG*: 70; *EDG*: 82; *HED* I: 48; LAROCHE 1955: XXXIII; NEUMANN 1961: 91-2; JIMÉNEZ DELGADO 2008: 9.

The word ἀμάρα is found once in Homer, in the genitive singular.²⁶ It is usually translated as ‘water conduit’, ‘canal’ ‘ditch’, and later attestations are occasionally found in post-Homeric poetry (Sappho, Theocritus, Callimachus) and in later sources.²⁷ Five main etymological proposals have been made so far: 1) an inner-Greek derivation from διαμάω and ἐξαμάω in the meaning ‘open a cut’, ‘open a conduit’; 2) a connection to ἄμη ‘shovel’, cf. *DELG*: 70; 3) a connection to Albanian *amë* ‘river bed’, and the names of the rivers *Amara*, *Amana*, *Amantia*, and so on (KRAHE 1953: 52-3); 4) a loanword from Egyptian *mr* ‘canal’ (SILVESTRI 1975); 5) a technical term derived from Hittite *amīyar(a)*- ‘ditch’, ‘canal’ (Neumann *apud* FRIEDRICH 1952 and 1961: 91-2; LAROCHE 1955: XXXIII).

The connections with ἄμη ‘shovel’ and δι-αμάω and ἐξ-αμάω ‘to dig out’ are generally thought to be unconvincing: both ἄμη and ἀμάω (which is only found in the middle form ἀμάομαι until a very late period) are quite obscure, and the uncertainty on these forms and meanings at an early stage makes any speculation on their possible derivatives much more difficult. By contrast, extra-Greek hypotheses seem more appealing.

²⁶ Φ 259: ὥς δ’ ὅτ’ ἀνὴρ ὀχετηγὸς ἀπὸ κρήνης μελανύδρου / ἄμ φυτὰ καὶ κήπους ὕδατι ῥόον ἡγεμονεύη / χερσὶ μάκελλαν ἔχων, ἀμάρης ἐξ ἔχματα βάλλων «And as a man running a channel from a spring of dark water / guides the run of the water among his plants and his gardens / with a mattock in his hand and knocks down the blocks in the **channel**» (transl. Lattimore).

²⁷ Hesychius, in his lexicon (α 3447, p. 121 Latte), glosses the word as ἡ ἐν τοῖς κήποις ὕδρορρόη, παρὰ τὸ ἅμα καὶ ἴσως καὶ ὁμαλῶς ρεῖν, ἢ οἶον ἀμαρόη τις οὖσα «irrigation [lit. the flow of water] in gardens, from “flowing together, in the same way and uniformly”, or being something like “flowing together”». As Beekes remarks, the latter is a folk etymology, connecting ἀμάρα with ἅμα ‘together’ and ῥέω ‘to flow’.

The only implication needed in order to accept the Anatolian derivation is that *amiyara-* may have had a reduced by-form **amara-*, with the simplification *-iya-* > *-a-*. Examples such as *Arzawiyaš* / *Arzawaš*, *Gaššuliyawiyaš* / *Gaššulawiyaš*, *zilipuriyatallaš* / *zalipurratallaš*, *šalhiyanti* / *šalhanti-* seem to provide support for this argument, and Laroche indeed suggested that *-iya-* > *-a-* is a diachronic development within Anatolian: «XIV^e siècle *amyara-* > IX^e siècle *amara*; cf. le nom de la ville d'Adana : vieux Hittite *Adaniya* > Karatepe (VIII^e siècle) *Adana* ; vieux hittite *Arzavya* hitt. classique *Arzava*» (LAROCHÉ 1955: XXXIII). The problem with this interpretation is that there is no such sound change in Hittite: *Arzawiya-* is an ethnic adjective in *-iya-* (PIE **-iyo-*) translatable as 'Arzawean', and it can be used interchangeably with *Arzawa* by ellipsis of the word for 'land'; the same goes for *Adaniya* and *Adana*; *šalhiyant(i)-* and *šalhant(i)-* are separate derivatives.

A connection between the Greek and the Anatolian is still tempting because there is a precise correspondence in meaning and the form is very similar.²⁸ It is difficult to envisage inheritance from PIE not only because of the lack of cognates, but because it also denotes a technology that is hardly likely to have been inherited. However, a direct transmission from Hittite to Greek also makes problems, as we would expect a form [†]ἀμάρα. An Anatolian provenance can only be argued for if we postulate a Luwic form **amara-*, which could have been adopted at any stage, either before or after the Ionic change [a:] > [æ:].²⁹ The isolation and specialisation of this word in Greek, together with the semantic identity with the Hittite form – as isolated as the Greek one – seem to be arguments in favour of the separate adoption of this term from a third source, which is however difficult to identify. There does

²⁸ Pace Beekes, who claims that initial *am-* is the only part the two words have in common (EDG: 82). The connection with Albanian *amë* seems, instead, only based on the similarity of the initial part of the word.

²⁹ The word might indeed have been borrowed after the change [a:] > [æ:] and then adapted to the regular Ionic first-declension pattern.

not seem to be a similar term in other neighbouring languages, with the exception of the aforementioned Egypt. *mr*. Therefore, an areal connection of the Greek and Anatolian words is possible, but their ultimate etymologies remain obscure for the time being.

Gk. ἄρσεα ‘pastures’ < Hitt. *arši-* ‘plantation’?

Lit: *GEW* III: 39; *HED* I: 174; *HEG* I: 68; FORBES 1958: 254-5; GUSMANI 1969: 512.

In the lexicon of Hesychius (α 7458), one finds the term ἄρσεα glossed as λειμῶνες ‘pastures’. The only Greek-internal explanation which is normally mentioned (*GG*: 513, FORBES 1958: 254-5) goes back to Curtius, and implies an *s*-stem derivative from the verb ἄρδω ‘to irrigate’: ἄρσος < *ἄρδ-σος, just as ἄψος < ἄπ-σος, cf. ἄπτω. Nouns in -σος are frequent in Greek (see CHANTRAINE 1933: 433-6), but very few of them are *s*-stem neuters: μῖσος ‘hatred’, μύσος ‘impurity’, πῖσος ‘meadow’, ἄλσος ‘grove’, ἄρσος ‘pasture’, ἄψος ‘joint’, ὕψος ‘height’ and φάρσος ‘part’ are the ones cited by Schwyzer (*GG*: 513).³⁰ From a different angle, Gusmani compared ἄρσεα with Hitt. *arši-* ‘plantation’, ‘cultivation’, including it in his list of shared Graeco-Hittite lexical items. This hypothesis is mentioned by some dictionaries (*HED*, *HEG*, *EDG*) and has been reposed by SZEMERENYI 1974, but it has never been developed any further.

The etymology of *arši-* is not entirely clear: some thought that it is connected to the verb *arš-^{zi}* ‘to flow’ (cf. CLuw. *āršiya-* ‘to flow’ and Skt. *ārṣati* ‘to stream’, ‘to flow’), but this does not seem very likely from a semantic point of view. Others postulated a foreign origin: M. Meyer (*apud HED*) believes that the verb *aršai-/aršiya-* ‘to plant’, ‘to cultivate’ is derived from Akk.

³⁰ Interestingly, most of them have an uncertain etymology, and are considered Pre-Greek by some, while others are allegedly related to Anatolian forms: ἄλσος ~ Hitt. *als-* ‘owe fealty’, ‘give allegiance’ (VAN WINDEKENS 1987); φάρσος ‘part’, ‘quarter’ ~ Hitt. *parši-^{a(r)}*, *parš-^{a(r)}* ‘to break’, *parša-* ‘morsel’, ‘fragment’ (*EDG*: 1555). Only ἄψος and ὕψος are derivations from clearly inherited PIE lexemes.

arāšu/erēšu ‘cultivate’, ‘plough’. However, the verb is probably a denominative formation from the *i*-stem noun, and not vice-versa, so if one wants to argue for the Akkadian origin of this word, a better starting point for the loan could be *e.g.* the noun *aršu/eršu* ‘cultivated plot’.

As for Gk. ἄρσεα, although scholars usually cite the aforementioned Hesychian testimony, a very similar (possibly the same) word appears in a Delphic inscription:³¹

FD III, 4, n°42, ll. 10-4

καὶ ἄλλον ἀπὸ τούτου τοῦ

ὄρου παρὰ τὰν ὁδὸν τὰν δι[οχμά]δα παρὰ τὸ προγεγραμμένον χωρίον, ἀπέχοντα ἀπὸ τοῦ
 πρώτου ὄρου ἐν τῷ ποτ’ ἀ[ὡ μέρ]ος δεκάπεδα δωρικὰ ἐνενήκοντα καὶ ἐπτὰ, πόδας ἕξ, ἀπέ-
 χοντα δὲ καὶ ἀπὸ τῆς λεγο[μέν]ας ὁδοῦ παρὰ τὰ ἄρσια, μετρεϊμένου ἐν τῷ ποθ’ ἐσπέραν
 μέρος παρὰ τὰν ὁδὸν τὰν δι[οχμ]άδα

«and the other (scil. κίονα ‘milestone’) from this
 border along the sloping road beyond the aforementioned region, distinct from the
 previous border to the eastern part by ninety-seven Doric ten-footers and six feet,
 separated from the aforementioned road along the *a.* (pastures?), measured to the western
 part along the sloping road»

We know very little about this word, so in principle one could think that this ἄρσια (= ἄρσεα) could have meant ‘plantation’ as well, and that Hesychius might have made a mistake; but there is one formal problem which may be insurmountable: why would a Hittite *i*-stem be adapted as an *s*-stem in Greek? Also, it is true that a word possibly meaning ‘pastures’ (λειμῶνες) does not have to be necessarily connected to ἄρδω ‘to irrigate’ (depending on whether or not one would irrigate a pasture), but ἄρδω means ‘give water’, both to cattle and to land, and the action may be carried out by people but also by rivers (*DELG*: 106). So, little seems to stand against a Greek-internal derivation (σος-derivative from

³¹ This document is dated to the end of the 2nd c. BCE and it is part of a group of inscriptions engraved on the base of the monument of Aemilius Paullus at Delphi. It records the resolution of a land dispute between Thronion and Skarphai and the consequent drawing of new boundaries. A land named Chonneia was contested by the two parts, and embassies were sent to the Roman Senate (ll. 5-7: ὥστε τῆς χώρας τῆς καλειμένης Χοννείας, [π]ερὶ ἧς διεφέροντο ποτ’ ἀλ[λ]ήλας α]ἰ πό[λε]ις καὶ ἐπρέσβευσαν ἐπὶ σύγκλητον, εἰ<μ>εν αὐτοῖς ὄρους τοὺς ὑπογεγραμμ[ένου]ς). Cf. *AGER* 1997: 469.

ἄρδω), as ἄρσεα could be '(irrigated) pastures'. One cannot rule entirely out the possibility of independent loans from a third source either, so a direct connection between Greek and an Anatolian language, despite being possible in principle (though ultimately not provable), is not very probable.

Gk. ἀτύζομαι 'to be distraught' < Hitt. *ḫatugi-* 'terrible'?

Lit.: *DELG*: 137; *EDHIL*: 336-7; *HED* II: 274-7; *EDG*: 167; SAPIR 1936; BENVENISTE 1937; LAZZERONI 1969: 625-7.

A connection between ἀτύζομαι 'to be distraught (by fear)', 'to be amazed', and *ḫatugi-* 'terrible', 'frightful' was first proposed in 1936 by Edward Sapir, who hypothesised a Hittite loan into Greek. Soon after, Benveniste suggested instead that both forms were inherited from PIE. Let us briefly review their arguments.

According to Sapir (1936:175) the verb ἀτύζομαι is isolated, since the connection with Skt. *tujāti, tuñjāti* 'he beats, pushes, strikes at' is not formally or semantically tenable and the initial alpha would have to be analysed as «a 'prefix' ἄ- (of unknown meaning, possibly referable to **n* < **en-* 'in' or to **sm-*)»; Hittite would instead offer a solution to the etymological problem, because the adjective *ḫatuki-* and its derivatives could have been borrowed into Greek and have produced a de-adjectival verbal formation **atug-ye/o-* 'to become terrified'. The spelling of the Hittite consonant would be a proof of the fact that this is a loanword, since Greek -τ- corresponds to a geminate spelling -tt- or -dd- in Hittite, not to a single -t-, and the Hittite sequence [d] ... [g] (written <t> ... <k>) was heard by the Greeks as [t] ... [g] (<τ> ... <γ>); in his opinion, this would be parallel to ὁπαδός ~ Hitt. *ḫapatis*,

which also shows a sequence of two Hittite *lenis* (voiced) stops adapted respectively with a voiceless stop and a voiced stop.³²

The main problem with Sapir's hypothesis is that he was working with Anatolian and 'PIE' paradigms which look very different from what is generally accepted today: for instance, the «prefix $\dot{\alpha}$ - of unknown meaning» is currently interpreted as the vocalic reflex of initial $*h_2$ -, and is not a prefix, but part of the root. The regular outcome of initial $*h_2$ - is $\dot{\alpha}$ - in Greek, but when it comes to loanwords from Hittite, where the consonantal reflex of laryngeals sounds are usually thought to be either uvular fricatives (cf. 4.1.3 *supra*), a complete loss in the transmission to Greek would be just *one* possibility. Besides, the parallel of Greek $\delta\pi\tilde{\alpha}\delta\acute{o}\varsigma \sim$ Hittite *hapatis* must be rejected, since the two words are completely unrelated, (cf. *supra*), and – on a more general level – the idea that Greek could adapt two Hittite *lenis* stops with a plain voiceless stop and then with a voiced stop should be abandoned. Today we acknowledge that Hittite also had a verb *hatuk*-³ⁱ 'to be terrible'.

Benveniste independently argued that Gk. $\acute{\alpha}\tau\acute{\upsilon}\zeta\omicron\mu\alpha\iota$ and Hitt. *hatugi*- are actual cognates, and go back to an original form $*h_2tug$ -, the zero grade of a 'thème II' $*h_2t\text{-}\acute{e}u\text{-}g$ -.³³ $\acute{\alpha}\tau\acute{\upsilon}\zeta\omicron\mu\alpha\iota < *h_2tug\text{-}yo$ - and *hatugi*- < $*h_2tug\text{-}i$ -. In the same year, Cuvreur (re)proposed to extend the connection to Skt. *tujāti* 'to move quickly', 'to thrust' (COUVREUR 1937:147), which could hold from a formal point of view, but would be semantically difficult (though Gonda suggested that the semantics of the middle form *tujāte* 'to flee frightened' could better fit the comparison, cf. GONDA 1951: 89, fn. 174). Finally, Puhvel plainly rejected the connection

³² SAPIR 1936:176. One should be aware that Sapir calls 'voiceless lenis stop' what today is normally called 'voiced stop'.

³³ In Benveniste's terms, h_2t - is the zero-grade root, $-eu$ - is the radical suffix in the full grade, and $-g$ - is an 'élargissement'. The same root $*h_2et$ - would also have given rise to the word $\acute{\alpha}\tau\eta$, which merged with the outcome of $*\alpha\tilde{\phi}\acute{\alpha}\tau\tilde{\alpha}$ (BENVENISTE 1937:498).

between Gk. ἀτύζομαι and Hitt. *ḫatugi-*, comparing the latter to Gk. ὀδύσσομαι (*HED* III: 274-7).

Benveniste's etymology has fewer formal obstacles than Sapir's, but it is true that the spelling of the intervocalic consonant in the Hittite forms does make problems, as Sapir pointed out. Benveniste tried to solve it by hypothesising that the sequence *ḫa-tu-ga* stands for /htuga/, but Kloekhorst notes that this would be the only example of **h₂t-* spelled *ḫa-tV-* and not with the expected sequence ***ḫa-at-tV-*, and he suggests that the cluster **h₂t-* lenited to Hitt. /Hd-/ (spelled *ḫa-tV-*), whereas forms with **HT-* as a zero grade of **HeT-* had a restoration of the *fortis* **T*, which gave initial clusters /HT-/ and /ʔT-/ spelled *ḫa-aT-TV-* or *aT-TV* (*EDHIL*: 337).

In sum, provided that one accepts the connection of ἀτύζομαι with Skt. *tujáte* (as Beekes and others do), this cannot be considered as a loanword from Anatolian into Greek, or an exclusive isogloss of Greek and Hittite; it would simply be an Indo-European lexeme, preserved in Greek, Hittite, and Sanskrit. If, on the other hand, *tujáte* were to be traced back to a different root, we would be in front of an exclusive isogloss. Other etymological hypotheses that have been put forward (*e.g.* by Georgiev and Van Windekens, see *HED*: 276-7 for references) do not speak in favour of any further connection between Greek and Anatolian.

Gk. ἄφενος 'wealth' < Hitt. **ḫappina-* 'wealth'?

Lit.: *EDG*: 177; *GEW* III: 45; *HED* III: 124-5; LAROCHE 1950: 42; HEUBECK 1961: 70; BENVENISTE 1962: 13; LAROCHE 1963: 72-3; SZEMERÉNYI 1964: 144-148; MASSON 1965: 235-6; GUSMANI 1968a: 85; BEEKES 1969: 51-2; PISANI 1976; KIMBALL 1987: 190, fn. 11; BALLE 1997; WILLI 2004.

The etymology of Gk. ἄφενος ‘wealth’ and that of the related adjective ἀφνειός ‘rich’ has been at the centre of a long discussion. The old connection with Skt. *āpnas*- ‘possession’, ‘riches’ (BRÉAL 1905-6) is not tenable on formal grounds (we would expect [†]ἄπνος), while the reconstruction of a form **apsnos*, postulated on the basis of Lith. *apstas* ‘abundance’, *apstus* ‘rich’ and on the assumption that ἄφνος (found in the dat. ἀφνει in Pindar, fr. 219 Maehler) would be the original form in Greek, is based on false premises: the Lithuanian words are in fact derived from the preposition *ap(ie)* ‘around’ and the verbal root **stā-* (or **steh₂-*) ‘to stand’ (Fränkel *apud* SZEMERÉNYI 1964: 146), while ἄφνος is probably a secondary derivative from ἀφνειός. Another hypothesis, proposed by Pisani and later supported by Balles, suggests that ἄφενος is connected to Skt. *aghnyá-* ‘breeding bull’ and Av. *agəniia-* ‘id.’, which go back to a gerundival verbal form **n-g^{wh}n-iyō-* containing the root **g^{wh}en* ‘to strike’, ‘to kill’ and having a meaning ‘that which must not be killed’ > [VALUABLE] (PISANI 1976, BALLEs 1997); but this reconstruction is problematic as well.³⁴

From another perspective, the addition of Hittite to the discussion³⁵ (with the forms *ḥappinant-* ‘rich’, *ḥappinahḫ-* ‘to make rich’, and *ḥappinēšš-* ‘to become rich’) led some scholars to suggest that the Greek form could have been borrowed from an Anatolian language (HEUBECK 1961: 70; SZEMERÉNYI 1964: 147). The crucial point is that, whatever proto-form we reconstruct for Latin, Sanskrit, Iranian (Av. *afnah-*), and Hittite, the Greek form (ἀφ- < **h₂b^h-* or **h₂eb^h-*) cannot belong with it because the geminate spelling *-pp-* in Hittite, together with Avestan *-f-*, guarantees that the proto-form had a **p* and not a **b^h*. So if one

³⁴ «it seems unlikely (1) that **n-g^{wh}hn-o* could be a semantic equivalent of a gerundival verbal adjective **n-g^{wh}hn-īō-*, (2) that an s-stem abstract noun was built on the basis of this adjectival **n-g^{wh}hn-o*, a development for which there are no parallels, and (3) that the root grade of the resulting **n-g^{wh}hn-es* ‘(that which must not be killed) > that which is valuable’ was remodelled into **n-g^{wh}hen-es* on the analogy of words like σθένος» (WILLI 2004: 324).

³⁵ It was Laroche who noted that these forms must have had a base **ḥappina-* ‘wealth’ which is not directly attested, and that this belongs to the lexical family of Skt. *āpnas*, Gk. ἄφενος (perhaps ὄμπνη), Lat. *op-*, etc. (LAROCHÉ 1950: 42).

wants to find some sort of connection between ἄφενος and the family of Hitt. *ḫappinant-*, etc. (especially on semantic grounds), the only viable option would be to imagine a borrowing from Anatolian into Greek. Given that the Latin, Indo-Iranian and Hittite forms point to initial **h₃e-* or **h₂o-*, the source needs to be a language (or a branch) in which the vowel **o* turns into *a*, as suggested by SZEMERÉNYI 1964: 147.³⁶ In other words, since ἄφενος cannot descend from any PIE form reconstructed on the basis of Indo-Iranian, Latin and Hittite but is still semantically compatible with *apnas*, *ops*, *ḫappinant-*, etc., it could be a loanword from a language in which what Szemerényi reconstructs as **o* (in laryngealistic terms, **h₃e-* or **h₂o-*) became *a*: Anatolian seems indeed the best candidate, since initial antevocalic **h₂* and **h₃* are preserved as *ḫ-*, and, generally speaking, **ō > ā* (cf. *Appendix 3*).³⁷ However, the situation is more problematic: the loan hypothesis would require the complete loss of the initial laryngeal (which may be possible in direct loans from Hittite, but not from the other Anatolian languages), the adaptation of <pp> = /p/ with <φ> = /p^h/, and an alternation between *e* and *i*.

On these grounds, Willi tried to find an inner-Greek explanation, arguing that ἄφενος is inherited from **h₂eb^h* ‘stream’, ‘river’ (cf. Hitt. *ḫapa-*, Lat. *amnis*, OIr *ab*, perhaps Goth. *abrs*) rather than borrowed from Anatolian: it would be an *s*-stem derivation from a the oblique *n*-stem of a proterodynamic *r/n*-paradigm **h₂éb^h-r* / **h₂b^h-en-* which would also include the fossilised adverbs ἄφαρ ‘quickly’ and ἄφνω(ς) ‘suddenly’. This etymology would reveal a semantic connection between [WEALTH] and [FLOWING] which seems quite common in the IE languages, and in Greek itself (cf. WILLI 2004). Beekes rejected this hypothesis without

³⁶ One should note that he reconstructs a proto-form **opnes-*.

³⁷ A small clarification about the initial sound changes is needed: if one follows Kimball, in Hittite both initial **/h₃é/* and **/h₂ó/* yield /hā/ (KIMBALL 1999: 141-143), so we would expect something like **ḫāppinant-*; on the other hand, Kloekhorst’s model, in which PIE **h₃e-* > PAn. **Ho* > Hitt. *ḫa-* and PIE **h₂o-* > PAn. **?o* > Hitt. *a-* (EDHIL: 75), would allow a regular derivation of *ḫappinant-* and related terms from a base **h₃e-*.

further arguments and at the same time did not accept the idea of an Anatolian loan (EDG: 177); however, the arguments brought forward by Willi are quite persuasive, especially on a semantic level.

One should then weigh this against the contact hypothesis, which – as we have seen – has the following formal problems: imperfect correspondence between $-\varphi-$ and $-pp-$, e/i alternation, and change of grammatical class.

Oscillations between e/i are often found in Anatolian, and the adjectives *ḥappina-* /*ḥappinant-* ‘rich’ allow us to reconstruct an unattested substantive **ḥappina-* ‘wealth’ (which is necessary to explain the Greek form), but the problems concerning consonants are truly formidable: one would have to accept that the initial laryngeal dropped in the transmission and that Greek might have adapted a voiceless stop with the correspondent aspirated. This could be solved in part by postulating a loan from some «dialecte louvisant» (LAROCHE 1963: 73) in which the initial laryngeal either dropped or was not pronounced as in Hittite or Luwian proper.

All in all, a *direct* loan from Hittite to Greek should be excluded. On the other hand, the alternative solution proposed by Willi does not seem as unconvincing as Beekes seems to imply, and does require fewer formal adjustments. This is why the loanword hypothesis should be considered relatively dubious for the time being – though it cannot be completely ruled out.

Gk. γάγγαμον '(fishing) net' < Luw. (?) *kank-* 'to hang'?

EDG: 253-4; GEW III: 58; NEUMANN 1961: 100.

Gk. γάγγαμον, first found in Aeschylus³⁸ and later in Strabo and in the lexicographers, means '(fishing)-net' (cf. Hesych. γάγγαμον· δίκτηον), but its etymology is obscure. Frisk suggested that it may belong with γέντο 'he took',³⁹ while Günter Neumann derived it from a past participial form of a Luwian verb *kank-* 'to hang'.⁴⁰

Unfortunately, Neumann did not offer further details or textual references, so we are left with very little material. I have not been able to find this verb in any resource dealing with the Luwian lexicon; *kānk-ⁱ/kank-* is in fact a *Hittite* verb, which means 'to hang', 'to suspend', 'to weigh' and which is usually connected to Goth. *hanh* 'to hang', Skt. *śaṅkate* 'to waver', 'to hesitate' and Lat. *cunctor* 'to delay', 'to hesitate' (EDHIL: 437). Despite the fact that Hittite has a couple of derivatives (*gangala-* (c.) 'hanger', 'curtain', *kangali-* (n.) 'hanging', 'suspension', cf. HED III: 50-1), there is no way to make sense of the eventual suffix through Hittite alone. As Neumann pointed out, though, Luwian does have a participle in *-m(m)a/i-*, which could explain a hypothetical **kankama-*. Although a participial noun could be a possibility, another option seems to be available: we know that Luwian also has a suffix *-ma/i-* which forms common gender nouns from verbs (e.g. *lalama-* 'receipt' < *lāla* 'to take', 'to receive'), and this **kanka-ma-* 'hanger', 'suspender' (either a noun from an unattested Luwian/Luwic **kank(a)-* or a Luwo-Hittite formation) could be the source of Gk. γάγγαμον.⁴¹

³⁸ Ag. 361: μέγα δουλείας γάγγαμον 'huge net of slavery'.

³⁹ But this is not very convincing, since the very etymology of γέντο is also uncertain, cf. EDG: 266-7.

⁴⁰ «ließe sich das bei Oppian und sonst nur selten (bei Aischylos, Strabon, und den Lexica) belegte γάγγαμον [sic!] „Fischnetz“ als luw. Part. Pass. zu *kank-* „hängen“ = „das <ins Wasser> Gehängte“ auffassen» (NEUMANN 1961: 100).

⁴¹ The second /k/ in **kanka-ma-* would become allophonically voiced after nasal, cf. 5.3.3.1 *infra*).

A very hypothetical transmission path would start from this **kankama* ‘suspender’, which could have been adopted by Greek as a neuter plural γάγγαμ-α, with the subsequent creation of a new singular form γάγγαμ-ον. Alternatively, the starting point could have been an accusative **kankaman*, borrowed as a neuter γάγγαμον. In either case, an analogy with the semantically similar neuter noun δίκτυον could have played a role.⁴² This is very speculative, and one cannot say much more on this form; however, this explanation seems to account for the etymology of this Greek technical term better than the previous one, both from a formal and from a semantic point of view.

Gk. δαῖ ‘(in) battle’ < Hitt. *lahḫa-* ‘battle’?

Lit.: *EDG*: 296; *GEW*: 377-8; *HEG* V: 8-11; *HED* V: 1-8; GUSMANI 1968a: 85; GUSMANI 1968b: 14-17; HEUBECK 1969; KATZ 2004.

The term δαῖ, only found in the dative singular, occurs three times in Homer (N 286, Ω 739 ἐν δαῖ λυγρῇ and Ξ 387 ἐν δαῖ λευγαλέῃ), and is attested twice in the compound δαικταμένων (probably a univerbation of **δαῖ κταμένων*; Φ 146, 301). Later authors use it in imitations of epic poetry (Hesiod *Th.* 650, 674 uses the same formula ἐν δαῖ λυγρῇ and Aesch. *Sept.* 925 has ἐν δαῖ). Usually translated as ‘battle’, ‘fight’, this word is residual already in Homer, and belongs to those formulaic expressions whose linguistic transparency was already lost.⁴³

According to the traditional interpretation (*GG* I: 578; *GEW*: 377-8), δαῖ would be the dat. sg. of **δαῦς*, a root noun from the verb δαίω < **δαῖjw* ‘to burn’. This is problematic for two

⁴² That the two terms were perceived as synonyms is testified by their association in Aesch. *Ag.* 358-361.

⁴³ The accusative δαῖν, found in two fragments of Callimachus, 518 and 562 Pfeiffer, and the nom. sg. δαῖς reported by the scholion to α 48: δαῖς ὀξυτόνως ἢ λαμπάς, δαῖς δὲ βαρυτόνως ἢ μάχη] do not tell us much in terms of productivity of this root.

reasons: first, the semantic shift [HEAT] > [BATTLE] is not very probable – despite being possible in theory; most importantly, the Mycenaean PNs containing the element Δαῖ^o or Δηῖ^o are spelled *da-i^o* (e.g. *da-i-qo-ta* /da^(h)ik^wontas/, cf. later Greek Δηῖφόντης), without the digamma. So, the reconstruction of a totally hypothetical form *δαῖς does not lend much support to this derivation.⁴⁴

On these grounds, Gusmani suggested to connect δαῖ with Hittite *lahḫa-* ‘campaign’, ‘battle’, mainly used in the dat.-loc. and governed by verbs of movement such as *pāi-* ‘to go’ or *iya-* ‘to make’ in the sense ‘to go to war’, ‘to march to war’ (GUSMANI 1968b: 16). Semantically, this would be a good match, and in his view *-ḫḫ-* would explain the hiatus in Greek (if one expects Hitt. *-ḫḫ-* to be adapted with [h] in Greek). The major problem is, admittedly, the initial consonant (*d-* in Greek and *l-* in Hittite), though Gusmani points out, following PISANI 1959, that this oscillation is anything but isolated in the Mediterranean (cf. *infra*).

Puhvel does not rule out this explanation, remarking that the most diffused etymology for Hitt. *lahḫa-* is that which connects it with another Greek word, λαῖ(φ)ός ‘men’, ‘troops’, ‘army’, ‘folk’ (cf. Myc. *ra-wa-ke-ta*) and with OIr. *laech* ‘warrior’ (on which see *infra*): this was first proposed by Sturtevant (STURTEVANT 1931: 120) and is generally accepted (e.g. JURET 1940: 199, HEUBECK 1969, KATZ 2004: 205-6; *EDHIL*: 510). In this case, an IE root **leh₂* would need to be reconstructed.

Gusmani’s explanation is still tenable on semantic grounds: a root **leh₂* giving *lahḫa-* and λαῖ(φ)ός requires a semantic shift [FOLKS IN ARMS] > [MILITARY CAMPAIGN] in Hittite and [FOLKS IN ARMS] > [PEOPLE] in Greek, whereas – as we have seen – δαῖ and *lahḫa-* have almost the

⁴⁴ Beekes stresses the impossibility of this reconstruction, excluding a connection to δαῖω, but does not give any alternative (*EDG*: 296).

same meaning.⁴⁵ Besides, derivatives and cognates⁴⁶ reveal that this is a productive family whose primary meaning has little to do with an assembly of people and is more similar to a *nomen actionis*. Gusmani concludes stating that this is either a substrate word in both branches or a very ancient loan from Anatolian to Greek; the two options are somehow equivalent according to him (GUSMANI 1968b: 16-7), but we can perhaps be more precise in light of what we have just seen.

Direct Indo-European heritage could be a possibility: it is perfectly conceivable that a root **leh₂-* could have yielded Hitt. *lahḫa-* and Gk. *λαῖ(φ)ος* (OIr. *laech* ‘secular warrior aristocrat’ must be excluded, since it is a borrowing from Latin *laicus*, not a form directly inherited from PIE, as per *e.g.* EDHIL⁴⁷), even though the morphology is not the same (in Hittite we would have **lōh₂-o-* > *lāḫḫa-*, while in Greek *λαῖ(φ)ος* would go back to **leh₂-wó-*). In this case we would have an exclusive parallel between Greek and Hittite; the semantics of Greek *λαός* and Myc. *ra-wo-* have received much attention in the literature,⁴⁸ also in view of its possible relationships with Hittite *lahḫa-*, but several details are still under discussion (see a review of the proposed explanations in HEG V: 8-11).

On the other hand, *lahḫa-* and *δαῖ* are very similar, semantically and formally: they are both defective forms (no nominative attested) mainly used in the dative-locative, and the two forms coincide in their primary meaning ‘battle’, ‘fight’. The adaptation of the medial laryngeal is a problem (though Gusmani believed that the Greek hiatus would be explained

⁴⁵ The CHD (L-N: 5-6) gives some evidence in support of an interpretation of *lahḫa-* as ‘journey’ in a non-military sense, but I do not find any of the examples given absolutely compelling.

⁴⁶ Such as Hitt. *lahḫiye/a-* ‘to travel’, ‘to go on an expedition’ (intrans.), ‘to attack’ (trans.), *lahḫiatar/lahḫiann-* (n.) ‘campaign’, ⁽¹⁰⁾*lahḫiyala-* (c.) ‘campaigner’, ‘warrior’, ‘infantry’, *lahḫema-* (c.) ‘military field action’, ‘raid’, CLuw. *lahḫi(ya)-* ‘to travel’, ‘to campaign’, *lahḫiya-* (c.) ‘journey’, ‘campaign’, the Lydian gloss *λαῖλας ὁ τύραννος ὑπὸ Λυδῶν* and Lycian B *laχ-* ‘to strike (?)’.

⁴⁷ I am indebted to Mark Williams for pointing this out to me.

⁴⁸ Cf. *e.g.* HEUBECK 1969, BENVENISTE 1969b, HOOKER 1987; MILANI 1991, CASEVITZ 1992, WYATT 1994-1995.

through the intervocalic laryngeal seen in Hittite), but it could find a partial answer in the possible Lydian cognate *λαίλας*, where the laryngeal has already disappeared. Other Anatolian cognates do not change the situation, and there are several parallels for the oscillation *d//l* in the Mediterranean and in Anatolia: Gk. *λαβύρινθος* ~ *da-pu₂-ri-to*, *λάφνη* ~ *δάφνη*, ‘Hitt.’ *tabarna* ~ *labarna*, Lat. *lacrima* ~ *dacruma*. Finally, *δαῖ* lacks an established etymology, both from an inner-Greek and from an IE point of view, unless one believes, with Schindler *apud* OETTINGER 1979: 447, that it should be connected to the Hittite verb *zahḫ-* ‘to strike’, ‘to fight’ (*zahḫ-* would go back to and extended form **ds-eh₂* while *δαῖ* < **das-i*; cf. also MELCHERT 1994: 96). However, this parallel between Hittite *z-* and Greek *d-* would be quite isolated, and the origin of Hittite <*z*> = /t^s/ in initial position before /a/ and /u/ is far from certain. So, I would not regard this reconstruction as entirely reliable.

All of this suggests that we are dealing with a twofold situation: we have (1) *λαῖ(ῥ)ος* and *lahḫa*, which share the same IE root and consequently may be classified as a Graeco-Anatolian isogloss; and (2) *δαῖ*, which would be a loanword from an Anatolian lexeme related to *lahḫa*-, if not from *lahḫa*- itself. Alternatively, this could also be a substrate word independently adopted by both branches, but in this case there are no positive arguments except perhaps the frequency of the *d//l* oscillations in loanwords from a substrate language. The productivity of the lexical family in Anatolian and the isolation and archaism of *δαῖ* seem to point to the former option, which is not in contradiction with the IE etymology outlined above: *λαῖ(ῥ)ος* could in fact be cognate with *lahḫa*-, while *δαῖ* could have been the Greek adaptation of the same word.

Gk. δάμαρ ‘wife’ < Hitt. ^{MUNUS} *dammara*- (a female cult attendant)?

Lit.: *HEG* III: 72; MORPURGO 1958; NEUMANN 1961: 37; GUSMANI 1968a: 86; GUSMANI 1969: 512;

GAMKRELIDZE – IVANOV 1995: 798.

The etymology of Gr. δάμαρ, -αρτος, found five times in Homer (Γ 122, Ξ 503, δ 126, υ 290, ω 125) and once in the Homeric Hymns (*H. Ap.* 212) with the meaning ‘wife’, ‘legitimate spouse’, and always accompanied by the name of the husband, is uncertain. There are two generally cited Greek derivations: (1) either δάμαρ would be related to the IE word for ‘house’ **domo-* (cf. Gk. δόμος, Lat. *domus*, Skt. *dama-*, etc.) in composition with the root ἄρ- of ἄραρῖσκω ‘to fit together, ‘to equip’, ‘to construct’ (SCHULZE 1887) and a dental suffix -τ-, meaning ‘the house-equipper’, or similar;⁴⁹ or (2) it would be an ancient neuter in -r (PEDERSEN 1893: 244), with the addition of the suffix -t and the generalisation of the nom.-acc. stem to the entire paradigm (BENVENISTE 1935: 30).

In a much-cited 1958 article, Anna Morpurgo produced further arguments in favour of the latter, arguing that δάμαρ, which we find in Mycenaean as *da-ma-te* / *du-ma-te*, should be connected to the verb δάμνημι, δαμνάζω ‘to subdue’, ‘to tame’ (cf. Skt. *dāmyati*, *damayati*), and would then find a cognate in the (post-Vedic) Sanskrit word *dāraḥ* < **dām-ra* ‘wife’, ‘married woman’ (see already PISANI 1951: 6-7) and in the Hittite ^{MUNUS} *dammara*- ‘cult attendant’ (where we also find the verb *damašš-* ‘to oppress’, cognate with Gk. δάμνημι, Lat. *domāre*, etc.). However, as Morpurgo pointed out, the Mycenaean form *da-ma-te* (nom. plural /*damartes*/ or dat. sg. /*damartei*/) does not mean ‘wife’, but indicates a group of people who have a particular function in the Mycenaean state. In any case, neither the derivation of δάμαρ from the root of δάμνημι, nor the connection with Skt. *dāraḥ* (whose

⁴⁹ Other hypotheses involving the root for ‘house’ have been made: e.g. WILLI 2010: 247-8 suggested that δάμαρ could be interpreted as **dām-sr-* a *tatpuruṣa* compound of **dom-* ‘house’ + **s(o)r* ‘woman’.

etymology is debated anyway: cf. *KEWA*: 36) is certain, so it is difficult to draw definite conclusions.

Although the etymology of all these forms is uncertain, some scholars have stressed this presumptive Graeco-Hittite coincidence. Gusmani cited this as one of those examples that point to closer linguistic connections than those indicated by normal loanwords (GUSMANI 1968a: 85-6), while Gamkrelidze and Ivanov took this as an example of loan from Greek into Anatolian (Myc. *da-ma-te* 'servants' > Hitt. *dammara-* Luw. *dammaraanza* 'female servants').

There are some formal points which speak against any exclusive connection between Greek and Hittite. First the morphological class: regardless of the identity of the Mycenaean form, δάμαρ, -αρτος is a dental stem, while ^{MUNUS} *dammara-* is not (although one could say, with RUIJGH 1967: 385, n. 166, that the stem in -τ- is secondary, or alternatively that the nom.sg. was the borrowed form); then *da-ma-te* alternates with *du-ma-te*. Finally, the very meaning of *da-ma-te* is debated.⁵⁰ In recent times, Anna Morpurgo Davies herself (*apud* DUHOUX 2008: 307) came back to this noun, which appears once in PY En 609.1 (*pa-ki-ja-ni-ja to-sa da-ma-te DA 40*), giving an alternative explanation: *to-sa* is feminine and agrees with *da-ma-te*, which should be read as /damartes/ 'households', and probably refers to the pieces of land. The whole sentence could then be /pakiianiās tos(s)ai damartes/ «so many households of the place *pa-ki-ja-ne*».

The idea of a loanword could be plausible at a speculative level, especially if one takes into account that some cultural aspects such as administrative practices were similar on both sides of the Aegean. The direction of the loan is however difficult to define (one would need to establish the primary meaning of the lexeme and then explain eventual semantic

⁵⁰ See several different hypotheses and the relative literature in *DM I*: 151-2.

shifts), and the alternations of the vocalism in the Mycenaean form would remain unexplained. This makes a direct transmission from Anatolian into Greek quite unlikely. Alternatively, one could take ^{MUNUS}*dammara*- as the adaptation of a *Wanderwort* which also has Semitic reflexes (e.g. Hebr. *Tamar*),⁵¹ but this would remove Myc. *da-ma-te* from the discussion.

Gk. δέπας ‘beaker’ < CLuw. *tappaš*- / HLuw. *dibas*- ‘sky’?


Lit: GEW III: 71; DELG: 264; EDG: 317; MERIGGI 1937: 93, fn. 8; LAROCHE 1960: 96; NEUMANN 1961: 20; PISANI 1966: 44-6; GUSMANI 1969: 509; GAMKRELIDZE – IVANOV 1995: 798; MELCHERT 2003b: 184; WATKINS 2007a; JIMÉNEZ DELGADO 2008: 9-10; YAKUBOVICH 2010: 146; YAKUBOVICH 2013: 119; SIMON 2016, 2017; HAJNAL 2014: 110; HAJNAL 2018: 2042; ORESHKO 2018: 102-4.

The comparison between Gk. δέπας (Myc. *di-pa*) and CLuw. *tappaš*- / HLuw. *dibas*- has become a somewhat “classic” case study in the literature on Graeco-Anatolian linguistic contacts. Before the discovery of the Anatolian languages and the decipherment of Linear B, the Greek lexeme δέπας ‘beaker, ‘cup’, ‘goblet’ was completely obscure from an etymological point of view,⁵² and the attempts at providing cognate forms⁵³ were already considered untenable at the time. Mycenaean Greek added new data to the discussion, as the term is found in a few tablets: *di-pa*, nom.sg. (KN K 875.1-5, PY Ta 641.2-3), *di-pa* nom. pl (KN K 740.2), and *di-pa-e* nom. du. (PY Ta 641.2). We can be sure that it refers to a kind of vessel because it is often found next to a vase ideogram.

⁵¹ Arbeitman (2000), elaborating on an observation made by Neumann (1961: 37) suggested that the biblical PN Tamar is the Hebrew reflex of a *Wanderwort* for a cultic priestess that is also found in Hitt. ^{MUNUS}*dammara*-. This would incidentally speak against the connection between the Greek and Anatolian forms because the onset of the latter would be with a voiceless dental.

⁵² «etym. inconnue» BOISACQ 1916: 177.

⁵³ Gk. δάπτω, Lat. *daps*, Skt. *dāpayati*, OE *tiber*, etc. CURTIUS 1879: 233; «zend. gafya m. Abgrund, Tiefe, jafra klaffend, tief. δέπας : γύπη, δύπτω vgl. gebh.» FICK 1890: 34; δαπάνη PRELLWITZ 1905: 111.

The Anatolian languages, on the other hand, provided some viable *comparanda*: NEUMANN 1961: 20, following MERIGGI 1937: 93, fn. 8, compared the Hittite form *tapišana*, as did PISANI 1966: 44-6, who argued that this is an “indo-mediterranean” word which has reflexes also in Latin (*lepesta*) and Umbrian (*tapistena*). Other scholars, instead, derived Myc. *di-pa* from CLuw. *tappas-* / HLuw. *dibas-*, underlining some cultural coincidences: as LAROCHE 1960: 96-7 noted, the Hieroglyphic Luwian word *ti-pa-s*^o ‘sky’ is preceded by the determinative (CAELUM), which looks like a bowl: .

One of the most recent works on the Anatolian background of Gk. δέπας is WATKINS 2007a: 315-32, whose argumentation is summarised here. First, the etymology of HLuw. *tipas-*: there are two Luwian forms, CLuw. *tappas* and HLuw. *tipas* (phonetically [di:bas?]), both meaning ‘sky’, ‘heaven’, and they can be traced back to PIE **nēb^hes*/**neb^hes* respectively (cf. Skt. *nábhas-* ‘cloud, mist’, Gr. νέφος ‘cloud’, OCS *nebo* ‘heaven’, Lith. *debesis* ‘cloud’, etc.). They show respectively **éb* > *abb/app* (by Čop’s Law) and **ē* > *i*, with the initial nasal becoming a dental stop, and are related to Hitt. *nepiš* ‘sky’, ‘heaven’, which sometimes denotes a representation of the sky as an object.⁵⁴ Oettinger (*apud* WATKINS 2007a: 319) suggested that both the Cuneiform and the Hieroglyphic forms could be the likely source of either Greek form (Myc. *di-pa* or later Gk. δέπας) because Luwian lacks a vowel /e/, and Watkins added that in the onomastics of Western and Southern Anatolia in the first millennium, Luw. /a/ can be adapted as Gk. ε (*e.g.* *Apaša* ~ Ἐφεσος).⁵⁵

⁵⁴ *E.g.* *KBo* 17.1 i 7-8: *hurtyali=ma* [AN.B]AR-*aš nepiš* 1-EN *kitta* URUDU-*ašš=a* 1-EN *kitta* «one sky of iron is placed in the basin and one of copper is (also) placed (therein)».

⁵⁵ This example is perhaps somewhat controversial, because there is no independent proof that the name of this city is originally Luwian, and both Greek and the Anatolian languages could have adapted it independently from a third source.

This shows that in Hittite and Luwian there was an identification of the sky with a vessel. According to Watkins, a reflex of this conception is directly observable in a fragment by Sappho (cited after its *editio princeps*, GRONEWALD – DANIEL 2004)⁵⁶:

P. Köln 21351 + 21376

καὶ γὰρ ποτα Τίθωνον ἔφαντο βροδόπαχυν Αὔων
ἔρωι δέπας εἰς(ομ)βάμεν' εἰς ἔσχατα γὰς φέροισα[ν]

«For once, they said, rosy-armed Dawn for love went up into the *depas*,
carrying Tithonus to the ends of the earth»

Tithonus is the mortal lover of the Dawn goddess, and the vessel-shaped chariot used by celestial deities (and Herakles) is a recurrent motif in early Greek poetry (cf. Stesichorus' fr. S17). Also, if one thinks about the sky as a reversed vessel, the metaphor could be more transparent, and Dawn might have gone into the sky in order to carry Tithonus to the ends of the earth (though another option would be to consider the δέπας as a simple vessel).

This is one of the few Anatolian loanwords in Mycenaean that most scholars agree upon.⁵⁷ One should also note that δέπας is an *s*-stem, and so are CLuw. *tappas*/HLuw. *tipas*. In this case, the Anatolian derivation seems fully valid, because there is no viable Greek internal explanation, and – if one follows Watkins' theory – an ideological remnant of this representation of the sky as a bowl is still visible in Early Greek literature.

⁵⁶ It is difficult to argue such a case only on the basis of a restoration, and the reading of the papyrus becomes crucial. Scholars have made a number of suggestions (φ..αθεισαν, West, Obbink; λα[λ]ᾱγεισαν βάμεν' Janko), but there seems to be nothing that would exclude a reading δέπας. Jürgen Hammerstaedt observed that the possible readings on which restorations can be made are ερωιδε[.]αθεισαν or ερωιδε[.]ασεισαν. Only the proposal of Gronewald and Daniel in the *editio princeps* and three other proposed restorations fit the traces: δέμα θεϊσαν (Danielewicz 2006); δέμας εἶσαν (Austin 2007); δέμας εἰσαμβάμεν' (Livrea 2007); cf. HAMMERSTAEDT 2009.

⁵⁷ See e.g. YAKUBOVICH 2010: 146, HAJNAL 2014: 110 and HAJNAL 2018: 2042.

This connection, however, is not without problems. Yakubovich (2013: 119) pointed out two difficulties: one of a semantic and the other of a formal nature. Gk. δέπας does not mean ‘bowl’, but ‘beaker’, ‘goblet’: while in his opinion this is «a legitimate reason to describe an etymology as not proven», I believe that this argument is not compelling, because 1) it is not necessary that the loanword reflect the exact same type of object; 2) it would not make much sense to depict the δέπας in the Sapphic passage above as a goblet. On a formal level, though, since Luwian possibly lacks initial /d/ because of the devoicing of initial voiced stops («in Iron Age Luwian, at least, the sign <ta₃>, reserved for the weak/ voiced dental stop, is simply not used at the beginning of a word»), the initial consonant would make problems,⁵⁸ and if one wants to consider δέπας a loanword from Anatolia, Luwian should not be regarded as the source. Yakubovich suggested that this possible source could be “Arzawa Luwic”, a western Luwic dialect, and similarly Simon (2017) claimed that δέπας is one of a small set of loanwords deriving from an as yet unidentified luwoid language, after having argued for the existence of a homonymous Luwian word meaning ‘bowl’ (2016).

I believe that this should still be regarded as a good example of an Anatolian loanword, because one can still agree with Melchert’s (2003b: 184) suggestion that initial devoicing only affected *inherited* voiced stops. Even if this were not the case, and in our word /n-/ > /d-/ > /t-/ (a second stage with a voiced stop is necessary for phonetic reasons), nothing stands against postulating a loanword at the stage when initial de-voicing (generally considered an areal phenomenon) had not started operating – perhaps some time in the second millennium.

⁵⁸ Cf. already KATZ 2001: 119.

Gk. ἡλίβατος ‘steep’, ‘deep’ < Luw. *āla/i-* ‘?’

Lit.: *EDG*: 514; *DELG*: 410; *GEW* I: 630; WATKINS 1986, WATKINS 1995: 146-8.

The etymology of Greek ἡλίβατος is unclear («ETYM Unexplained» *EDG*: 514»; «Et.: Obscure» *DELG*: 410; «Unerklärt» *GEW* I: 630). This word is found in Homer, Hesiod, in the *Homeric Hymns*, in Stesichorus, Theognis, Aeschylus, Euripides, Aristophanes, Xenophon and in several later authors. In the earliest attestations, it is mostly used as an epithet of πέτρη/πέτρα,⁵⁹ but it is also found in connection with ἄνθρον (Hes. *Theog.* 483), πεύκη (Hes. *Sc.* 422), δρύς (*Hymn. Aphr.* 267) and κευθμών (Eur. *Hipp.* 732). Therefore, it has been commonly interpreted as ‘steep’, ‘high’, but also as ‘deep’.

Older studies tried to find Indo-European etymologies (see BOISACQ 1916 for a review), but these turned out to be unconvincing (*GEW* I: 630). The only hypothesis we find cited in the dictionaries is Buttmann’s (*Lexilogus* 2 [1825]: 176ff.): he claimed that ἡλίβατος goes back to *ἡλιτό-βατος (with “Silbendissimilation”), semantically comparable to ἄβατος and δύσβατος, and morphologically similar to ἡλιτό-μηνος ‘missing the right month’. This does not seem very compelling: the drop of -το- is *ad hoc*, and in ἡλιτόμηνος and similar late formations (ἡλιτοεργός, ἡλιτόμηνης) the structure is different, as the second part of the compound is a noun, not a verb.

Watkins (1986) offered a different explanation. If we accept that the second part of the compound is connected to the verb βαίνω, we are left with an obscure first member ἡλί-. This is, indeed, ‘obscure’ from an exclusively Greek point of view; but it could find a simple explanation if we look at the Anatolian languages. Cuneiform Luwian has an adjective *āla/i-*, which is found in correlation with the word for ‘mountains’ (*ālīnza* 𐎶UR.SAG^{HIA}), with

⁵⁹ O 273, 619; Π 35; ι 243; κ 88; ν 196; Hes. *Theog.* 675, 786; *Hymn. Herm.* 404; *Hymn. Pan* 10.

alaššamma/i- ‘sea’ (*a-li-in a-la-aš-ša-am-me-in KUB XXXV 107 iii 13*) and with *uwaniya* ‘source for salt’ (see MELCHERT 1993a: 6 for attestations and WATKINS 1986: 59 fn. 29 for a discussion of the meaning). The Luwian and Greek forms seem to coincide not only on a formal level (it is indeed easy to conceive an original form **āli-*), but also in their usage, so Watkins argued that *āla/i-* is entirely comparable to the first member of ἡλίβατος (provided, of course that one takes into account the Ionic change [a:] > [æ:]), and seems very much like a Luwian loan into Greek.

Rieken and Yakubovich (*forthcoming*) have recently given a very different account of Luw. *ali-*: if accepted, this would falsify some of Watkins’ arguments, but it would not necessarily jeopardise the idea of an Anatolian origin for ἡλίβατος. They suggest that Luw. *ali-* goes back to **al-o*, a thematised form of the PIE pronominal stem **al*, which means ‘nicht zur Sphäre des Sprechers gehörig’ and is particularly diffused in the form **alyo-* (Gk. ἄλλος, Lat. *alius*, Gaul. *allo-*, Arm. *ayl*, TochB *alyek*, *allek*, Lyd. *ala-*, etc), and if their account is correct, the “Wilusiad” fragment (*KBo IV, 11 Rs 46: aḫ-ḫa-ta-ta a-la-ti a-ú-i-en-ta ú-i-lu-ša-ti*) should be translated as «when they came from remote Wiluša», and not as «when they came from steep Wiluša» (as per Watkins), and the parallel of Ἴλιος ἀπεινή should be discarded. This, however, does not mean that Gk. **āli-* cannot be compatible with the Luwian form: ἡλίβατος could still find an etymology as ‘remote (**āli-*) to trod (*-βατος*)’, i.e. ‘inaccessible’.

Gk. ἤρα 'help' < Hitt. *warri*- 'help'?

Lit.: *GEW I*: 641-2; *EDG*: 524; GUSMANI 1968a: 85; GUSMANI 1968b: 17-22; GARCÍA RAMÓN 2006a, 2011a.

Homer has six instances of the noun ἤρα,⁶⁰ always depending on the verb φέρω and governing a dative of a personal name followed by ἐπί (only in one case, Ξ 132, ἐπί is omitted and we find θυμῷ instead of a PN): it is usually translated as 'favour' or 'help', but the primary meaning is obscure («Bed. Unklar, viell. 'Freundlichkeit'» *GEW I*: 641).

The obscurity of this word is proved by the coinage of the adjective ἐπίηρος (found in Sophocles and later writers), which is very likely due to a wrong segmentation of cases such as A 572 and A 578, where the preposition ἐπί was perceived as belonging with ἤρα;⁶¹ this is also proved by the adjective ἐπιήρηνος 'pleasant' (τ 343), which is clearly derived from *ἐπίηρα (GUSMANI 1968a: 17). From Bacchylides onwards, ἤρα is used as the equivalent of χάρις, which means that the two words were perceived as interchangeable. All of this shows that the transparency of this form had been lost long before the time of our texts.

In 1968, Roberto Gusmani specifically studied this term, arguing that the primary meaning of ἤρα is 'help': in three out of the six passages (A 572, A 578, Ξ 132), the formula ἤρα φέρειν τινί has to be translated as «to please», «to satisfy», in π 375 it means «to be in favour of», while in γ 164 and σ 56 it should be better interpreted as «to help».⁶² According to Gusmani, the meaning of the expression in π 375 is crucial in order to establish the primary

⁶⁰ A 572 μητρὶ φίλῃ ἐπὶ ἤρα φέρων λευκωλένῳ Ἥρῃ; A 578 πατρὶ φίλῳ ἐπὶ ἤρα φέρειν Διί; Ξ 132 θυμῷ ἤρα φέροντες ἀφ' ἑστέα σ' οὐδὲ μάχονται; γ 164 αὐτίς ἐπ' Ἀτρεΐδῃ Ἀγαμέμνονι ἤρα φέροντες; π 375 λαοὶ δ' οὐκέτι πάμπαν ἐφ' ἡμῖν ἤρα φέρουσιν; σ 56 μή τις ἐπ' Ἴρῃ ἤρα φέρων ἐμὲ χειρὶ βαρεῖη / πλὴξῃ ἀτασθάλλων [...].

⁶¹ One should note that some modern editions of Homer, such as Monro-Allen, have ἐπίηρα at A 572 and A 578; conversely, West has ἐπὶ ἤρα.

⁶² In σ 56, a translation «making Irus happy» could be acceptable, but the concrete meaning is particularly evident, so «helping» is preferable: «that no one, by helping Irus and recklessly striking me with a heavy hand».

meaning: he argues for a semantic shift [TO HELP] > [TO BE IN FAVOUR] > [TO PLEASE], where the original value also accounts for the construction with $\phi\acute{\epsilon}\rho\omega$. Furthermore, the adjective $\acute{\epsilon}\rho\lambda\eta\rho\epsilon\varsigma$ (mainly found in the plural and used as an epithet of the $\acute{\epsilon}\tau\alpha\lambda\iota\phi\omicron\iota$) would mean, according to this theory, ‘those who help’ (‘hülfreich’, Ahrens *apud* GUSMANI 1968b: 19).

Gusmani finds a confirmation of his argument by connecting $\eta\rho\alpha$ to the Hittite noun *warri-* ‘help’ (mainly used in military contexts): *KUB* 21, 1, iii 43-4 (Treaty between Muwatalli II and Alakšanduš of Wiluša) *nu 1-aš 1¹-e-da-ni wa-ar-ri šar-di-ya-aš GEŠPU₂-aš-ša e-eš-du* ⁴⁴ *nu 1-aš [(1-a)]n pa-aḫ-ša-ru* «May one be help (and) ally in battle to the other, may one defend the other!». He argues that if $\eta\rho\alpha$ is to be reconstructed with initial digamma (* $\text{ḫ}\rho\alpha$ -), it would find a formal parallel in Hitt. *warri-* (where $e > a / _r$) and a form * $\text{w}\bar{e}r$ - could be reconstructed. The initial digamma would be confirmed by the Mycenaean PN *E-ri-we-ro* (PY Vn 130), which can be interpreted as * $\text{E}\rho\lambda\eta\rho\omicron\varsigma$, and by the fact that in γ 164 the final vowel of the preceding word does not elide.⁶³ Gusmani concluded that the resemblance between the two words is not due to preservation of an IE lexeme, but that the word has spread during a period of intense contact between Greek and the Anatolian languages.

Differently, Frisk (followed by Beekes) connects $\eta\rho\alpha$ < * $\text{w}\bar{e}r$ - (or * weh_r -) with Lat. *sev̄erus* ‘earnest’ < * $\text{s}\bar{e} \text{ v}\bar{e}ro$ ‘without friendliness’, and Germanic forms such as ON *værr*, OHG *ala-wāri* ‘friendly’, or with Lat. *v̄erus*, OIr. *fir*, OHG *wār*, etc. (cf. *infra*).

José Luís García Ramón re-opened the issue and rejected Gusmani’s hypothesis, arguing that the reconstruction of an IE form * werH- (or * swerH-) with outcomes in other branches, the productivity in Anatolian vs. the residuality in Greek, and the differences in the constructions in the two languages all speak against an Anatolian origin of the Greek word.

⁶³ This is not a very strong argument, because the dative singular in *-i* does not usually elide in hexametric poetry.

So does the different degree of specialisation of the term: Greek seems to have preserved the original meaning [TO FAVOUR] while in Anatolian **werH-* has developed a peculiar military connotation that Greek does not have (GARCÍA RAMÓN 2006a; 2011a: 40-2). In sum, his argument against the Anatolian derivation of $\eta\rho\alpha$ is based on two assumptions: (i) the presence of the root in other branches, and (ii) the impossibility of deriving the Greek form from the Anatolian one.

Re (i), one must observe that, despite the semantic parallels, synonyms and similar constructions in the other Indo-European branches analysed by García Ramón,⁶⁴ the actual connection of $\eta\rho\alpha$ and *warri-* with other Indo-European forms only relies on the interpretation of a single Latin form. Let us briefly review the hypothesis. As mentioned above, according to some scholars the supposed cognates of $\eta\rho\alpha$ and *warri-* are Lat. *verus*, OIr. *fír*, OHG *wār*, and OCS *věra*. These forms are clearly related, and point to an adjectival pre-form **weh₁-ro*, meaning ‘true’, ‘real’ (which is quite different from both $\eta\rho\alpha$ and *warri-*). The interpretation of Latin *severus* as a compound of **swe* ‘apart’, ‘away’ + **wēro-* (compared indeed with Gk. $\eta\rho\alpha$) made Walde and Hoffmann think that the original meaning of the reconstructed adjective was [FRIENDLY], and that this would have secondarily developed to [TRUE]; however, the OIr., OHG, and OCS forms all mean ‘true’, so it is very difficult to imagine that this kind of semantic shift happened independently; besides, *severus* is now interpreted by many as a reflex of **seǵ^h-wēr-o* ‘steadfast’, ‘tough’, a possessive *o*-derivative of **seǵ^h-wēr* ‘steadfastness’, a hysterokinetic nom./acc. which would in turn be a collective derived from a neuter **seǵ^h-ur/-wen-* (NUSSBAUM 1998: 536, DE VAAN 2008: 560). This has significant implications for the etymology of $\eta\rho\alpha$, because no Latin form can be used as an

⁶⁴ E.g. Skt. *ávate* / *ūtáye gam* / YAv. *auuayhe gam* / Lat. *adiūmentō uenīre* ‘to come to help’ would be semantically parallel to *warri uwe-*.

independent proof of its direct IE filiation, unless one postulates a (non-trivial) semantic shift [TRUE] > [HELP].⁶⁵ Besides, **weh₁-ro* is presumably interpreted as an adjective in *-ro-* while *ḡpa* and *warri-* could be a root noun (**wēr-m*)⁶⁶ and *i*-stem noun/adjective (**wérh₁-i-*) respectively. I am not sure whether **weh₁-ro* and **wérh₁-* should ultimately be connected, but it seems safe to assume that – as far as our reconstruction can go – the Greek and Anatolian forms seem quite distant from the other cited items.

The second counterargument presented by García Ramón is more compelling, since it is indeed difficult to derive the Greek form from the Anatolian one. This is the case not necessarily because of the degree of specialisation of the term (one could argue that [TO HELP] was still the primary meaning in both branches), but because it is difficult to imagine how *warri-* could have entered Greek: in our Homeric form, there is no trace of specifically Anatolian phonetics, and one does not see why the vowel [a] and the geminate [rr] have not been adapted as such.⁶⁷

If this previous account is correct and the loanword hypothesis must be discarded, I would then conclude that in this case we might be in front of an exclusive isogloss between Greek and Anatolian: it seems indeed possible to reconstruct a separate and independent Indo-European form **wérh₁-* ‘to help’, whose reflexes we find in Gk. *ḡpa* and Hitt. *warri-*.⁶⁸

⁶⁵ One could posit a proto-meaning [FAITHFUL], which then became [TRUE] and [SUPPORTIVE] / [HELPFUL], but this does not seem entirely convincing.

⁶⁶ This would be a form **wérh₁-*/**wrh₁-* (of the type of *θῆρ*) with lengthened grade in the nominative singular, then analogically levelled (cf. SCHINDLER 1972: 36-7).

⁶⁷ As we have seen above, Gusmani’s account is quite unclear in this respect, since he just states that *ḡpa* and *warri-* are comparable (giving the impression that he is arguing for an exclusive isogloss) right before saying that «non si tratta di eredità « indoeuropea » altrove andata perduta, bensì di termini che si sono diffusi posteriormente nell’ambito di un’area di contatti tra popolazioni parlanti i dialetti confluiti da un lato in ittito, dall’altro in dialetti greci, cioè in sostanza sul suolo anatolico» (GUSMANI 1968b: 22).

⁶⁸ One could in theory interpret Lat. *severus* ‘strict’ as ‘without supportiveness’, in which case the Greek and Hittite form would not be isolated anymore, but the obstacle of the unlikelihood of independent shifts in Lat. *verus* and in the OIr. OHG and OCS forms would still stand.

Gk. θεράπων ‘attendant’ < Luw. **tarpan(i)*- ‘substitute’?

Lit.: GEW: III 104; DELG: 431; EDG: 541; VAN BROCK 1959; GUSMANI 1968a: 86; TISCHLER 1981: 21-3; STARKE 1990: 233-4.

The etymology of Gk. θεράπων ‘attendant’, ‘servant’, but also ‘companion’ (in the *Iliad*) is debated (GEW I: 664, DELG: 431). This word is part of a large lexical family in Greek, which includes θεράπεινα, θεράπνη and θεραπαινίς, -ίδιον ‘(female) servant, maid’, θεραπεύω ‘serve’, ‘honour’, ‘care for’, ‘heal’ (with several deverbative nouns), and θέραψ, -απος (m.), mostly found in the plural.

Despite the number of internal cognates, this lexeme does not seem to have been inherited directly from PIE, and so far two solutions have been proposed: a ‘Pelasgian’ one and an ‘Anatolian’ one. On the one hand, Kretschmer suggested that the cognate form θεράπνη found in Euripides with the meaning ‘house’, ‘dwelling’ (e.g. *Bacch.* 1043), and the Laconian place-name Θεράπνα are the ‘Pelasgian’ versions of an IE **terabnā*, which would ‘regularly’ appear in Greek as τέραμνον/τέρεμνον ‘house’, ‘room’ and correspond to Lat. *trabs* ‘beam’, Osc. *tríbúm* ‘house’, Lith. *trobà* ‘dwelling’, etc. (KRETSCHMER 1940: 269-70, KRETSCHMER – KROLL 1935: 90-1; cf. also KRETSCHMER 1929: 72-4 and VAN WINDEKENS 1952: 90). According to this view, there would have been a shift from [HOUSE] to [(domestic) SERVANT], which would not be completely implausible on a purely semantic level; what seems problematic, though, is the ‘Pelasgian’ explanation itself. The connection between θεράπνη and τέραμνον/τέρεμνον is arbitrary, and has recently been criticised (see EDG: 1467) while the concept of ‘Pelasgian’ itself is much less popular now than it was in the 1950s. Moreover, θεράπνη is probably a derivative of θεράπων, and not vice-versa: θεράπνη is derivable from an *n*-stem θεράπων, the

nt-stem being secondary (cf. θεράπεινα) (EDG: 541). In sum, θεράπνη has very little (if not nothing) to do with the lexical series of Lat. *trabs*, etc.

An alternative, perhaps less problematic, explanation was put forward in 1959 by Nadia Van Brock, who suggested that θεράπων could be the Greek reflex of the lexical series of (Cuneiform) Luwian *tarpalli-*, *tarpašša-*, *tarpanalli-*, which have to do with the concept of ritual substitution: *tarpalli-* is often found in Hittite texts with a *Glossenkeil*, while *tarpašša-* appears in Luwian texts proper. Finally, *tarpanalli-* also means ‘rival’, ‘usurper’, ‘rebel’ (cf. *KUB XXXIII* 96 i 8: *nu* ^d*10-ni :tar-pa-nal-li-in* *šal-la-nu-u[š-ke-ez-zi]* «and he (Kumarbi) raises a *t.* against the Storm-God»), and this is another derivative which became somewhat productive, as the forms *:tarpanallašša* ‘become a rival’ (inchoative to a denominative **:tarpanallā(i)-*; *KBo IV* 7 iii 13), *tarpani(ya)-* (adj.) ‘of a rival’ (*KBo XIX* 53 ii 5) show (cf. also MELCHERT 1993a). The texts do not reveal many details on the nature of this substitute, but one can infer that it is an animal (or, less frequently, a human), and that it is present and visible during the ritual.⁶⁹

It clearly appears that *tarpalli-*, *tarpašša* and *tarpanalli-* are derivatives of an unattested form. On the basis of *tarpanalli-*, Van Brock reconstructed an *n*-stem **tarpan-* which can be added to *tarpalli-* and to *tarpašša-* (an *s*-stem); Starke later pointed out that, given forms such as *tar-pa-ni-in* (*KBo XIX* 53 ii² 5) and *tar-pa-ni-ya-aš* (*KBo XIX* 58, 4), one should derive *tarpanalli-* from a base **tarpani-*, an adjectival derivation in *-ya-* from **tarpan*; and also that

⁶⁹ *KBo IX* 129 Ro 5-9: *nu ma-a-an LÚ-aš nu-uš-ši* ^{GUD.MAH}[...] *tar-pa-al-li-in i-ya-an-zi na-[an-kán]* *I-NA É-ŠU* [x] *an-da ha-at-ta-a-an-[zi]* *ma-a-an-aš MUNUS-za-ma GUD.ÁB tar-pa-al-li-[in]* [*i*]-*ya-an-zi na-an ha-at-ta-an-[zi]* «if (it is) a man, they make an ox his substitute and they slaughter it in his house; but if it is a woman, they make a cow her substitute and they slaughter it»; *KUB XVII* 18 ii 17-8: *nu hu-u-iš-da-an-du-uš nam-ma tar-pa-al-li-uš LÚ MUNUS-ya a[n-da] ú-wa-da-an-zi* «then they bring in living substitutes, a man and a woman»; *KUB VII*, 10, I 1-3: *ka-a-ša a-pé-e-da-ni ud-da-ni pí-di ku-u-uš tar-pa-al-li-i-e-eš ka-ru-ú a-ra-an-da-ri* «here, for this matter, these substitutes are already in place»

this **tarpan* is a derivative from the verb *tarpyi-/tarpayi-* ‘to substitute’, ‘to replace’ (STARKE 1990: 233-4).

Let us now turn back to Greek: as mentioned above, the most ancient (and probably primary) sense of *θεράπων* is ‘companion’, ‘attendant’: the word is found 57 times in the *Iliad* and 12 times in the *Odyssey* (the first derivatives attested are *θεράπευον* in *ν* 265 and *θεραπέυειν* in Hes. *Op.* 135). At first sight, none of these occurrences seems to have much to do with the concepts expressed by the series of Luwian *tarpalli-*. However, as Van Brock points out, there is one Iliadic episode where it is tempting to see a reflex of the Anatolian concept: Patroclus taking Achilles’s place. Patroclus is the *θεράπων* *par excellence* (expressly defined as such in *Π* 653), and he goes to battle as Achilles’s *substitute*, wearing his armour and pretending to be the leader of the Myrmidons. Of course, this would be nothing but a faded reminiscence of a past concept surviving in poetry but no longer transparent for Homer and his contemporaries. Van Brock specifies that, on a formal level, the similarity between the Luwian and Greek words must be due to contact, and not to inheritance from a common lexeme. Although it is based only on this one interpretation of the Homeric occurrences of *θεράπων*, the Anatolian hypothesis provides a reasonable explanation for this word. Also, the relative isolation of *θεράπων*, contrasted with the productivity of the Luwian form, is another hint towards the connection.

Starke shares the scepticism of Tischler, who thinks that *θέραψ* could well be a deverbal formation from *θεραπέυω*, and that the solid attestations of this word family in Anatolian (cf. also HLuw. *tara/i-pa/i* and Lyc. *trbbi*) are arguments against the contact hypothesis

(TISCHLER 1981: 23). However one reconstructs the derivation of $\theta\acute{\epsilon}\rho\alpha\psi$,⁷⁰ though, the latter argument may speak against borrowings *into* Luwian, but not against borrowing *from* Luwian into Greek. Although the ultimate etymology of this word family is still relatively obscure in Luwian, the connection with Greek may seem possible. However, although it is conceivable that Greek could adapt Luwian /a/ as [e], the main formal obstacle is the imperfect correspondence in the initial dental. Only if one accepts that initial /t/ may be adapted with [t^h], could this be considered a valid loanword. Another formidable problem is the accented *alpha* in the Greek form, which would remain unexplained (/rp/ sequences are unproblematic in Greek). These formal difficulties make the hypothesis of an Anatolian loanword relatively dubious for the time being, but do not completely rule it out.

Gk. $\theta\acute{\upsilon}\rho\sigma\omicron\varsigma$ ‘thyrsus-wand’ < HLuw. *tuwarsa*- ‘vineyard’?

GEWI, 697, III, 108; DELG: 447; EDG: 566; GELB 1931: 10; BOSSERT 1953: 177; LAROCHE 1955: XXXIII-XXXIV; FORBES 1958: 271-2; HEUBECK 1961: 80; YAKUBOVICH 2010: 147.

The Greek term $\theta\acute{\upsilon}\rho\sigma\omicron\varsigma$, the ‘thyrsus-wand’ famously known from Bacchic rituals, is unanimously considered a loanword of some sort, but earlier unlikely connections (*e.g.* with Lat. *fustis* ‘stick’, ‘staff’, see bibliography in BOISACQ 1916: 359) can be easily discarded. The decipherment of Hieroglyphic Luwian would give us a possible source for this word: in 1931, Ignace Gelb was already comparing the sequence $\text{𐎲𐎠𐎼𐎶}(+ra/i)\text{𐎲𐎠}$ (which he read *tirsa*(*ti-i+ri-sá*)-*wā*) to Gk. $\theta\acute{\upsilon}\rho\sigma\omicron\varsigma$, Hebr. *tirôš* and Assy. *sirâšu* ‘must’, to the PNs $\Theta\upsilon\rho\sigma\omicron\varsigma$ and Tirsas, to the city names Ταρσος (in Cilicia), *Turša* (in Nuzi documents), and *Tyrsa* (in Asia Minor), and to Pis. Τυρσηγος and Συρσηγος , ethnic names, and to the name of the “Tyrsenians” (GELB

⁷⁰ Which, even if it were a Greek-internal formation, does not seem sufficient to exclude a loan from Luwian into Greek, since $\theta\epsilon\rho\alpha\pi\epsilon\acute{\upsilon}\omega$ is generally taken as a denominative formation from $\theta\epsilon\rho\acute{\alpha}\pi\omega\nu$.

1931: 10-11). Although the new readings of HLuw. now give “VINUM”*tu-wa/i+ra/i+sà-zi* (see BOSSERT 1953: 177 and LAROCHE 1960: 85-6 but also GELB 1935: 11 and GELB 1942: 15), making most of Gelb’s connections implausible, the possibility of an Anatolian loanword in Greek is reinforced, since there is no need to postulate an alternation between *i* and *u* ($\nabla = tu$).

Today, it is generally agreed that θύρσος is a loanword either from *tuwarsa*- ‘vineyard’ itself or from an Anatolian form close enough to it (FORBES 1958: 272; *DELG*: 447; *EDG*: 566), but we would need to accept a rendering of Luwian /t/ with Greek θ and a contraction *uwa* > *u* already in Luwian. While the latter is relatively unproblematic,⁷¹ the correspondence between Luwian /t/ and Greek /t^h/ (cf. θεράπων *supra*) made Yakubovich think that this might be a common borrowing from a third source (YAKUBOVICH 2010: 147).

The usage of this word in Greek and its cultural contexts seem to suggest an Anatolian origin (the first instances of θύρσος are found in Anacreon, *Epigram* 204 (Gentili) and *Carmen* 43 (West), already in association with Dionysus),⁷² but the semantics are not obvious, as the Luwian form only means ‘vineyard’, and its derivation (does it come from the root **twer*- ‘to enclose’?) is not entirely clear. One would have to assume that *tuwarsa*- originally meant a single vine plant, and was later used in a collective sense (which – incidentally – finds a parallel in Gk. ἄμπελος), because it is more difficult to assume the inverse.

Neumann accepted the Anatolian derivation of θύρσος, and argued that the word τύβαρις, which we find in Pollux (6, 71) and which is glossed as the designation of a Doric

⁷¹ One may find several parallels in Hittite: e.g. *šanḫuwant* > *šanḫunt*- ‘roasted things’ *GHL*: 32-3, cf. RIEKEN 2001 for a more detailed discussion.

⁷² One should recall the frequent usage in the *Bacchae*, where the god cites Lydia and Phrygia among the other places he has travelled across (v. 11-2: λιπὼν δὲ Λυδῶν τοὺς πολυχρύσους γύας / Φρυγῶν τε). Bacchus himself is often thought to be an Anatolian deity (cf. also the equation Gk. Βάκχος ~ Lydian *Bakivalis*).

salad (ἐν ῥῆξει σέλινον ‘celery pickled in vinegar’), is also derived from *tuwarsa-*. He argued that, if the connection is correct, the *-rs-* cluster is resolved through anaptyxis (*-ris-*), and the *-s-* of the suffix is re-interpreted as a nominative singular marker; besides, the presence of θύρσος and τύβαρις, both derived from the same Anatolian form, may bring the comparison to a further level.⁷³

By accepting the Anatolian provenance of τύβαρις, one needs to postulate the absence of the contraction *uwa > u*, an anaptyctic vowel, and the re-interpretation of the *-s* as a marker of nominative singular, which are not impossible *per se*; however, the correspondence $\beta \sim w$ would not be explainable unless the transmission happened well into Hellenistic times, when the bilabial stop /b/ and the semivowel /w/ had ended up with a similar phonetic realisation (cf. HORROCKS 2010: 169-70). It is not impossible, in principle, that τύβαρις is derived from a form related to *tuwarsa-*, but this should be considered as a separate issue, which – in any case – is much less provable (though one need not qualify it as «invraisemblable» DELG: 1142).⁷⁴

To sum up: the loanword hypothesis seems possible but not ultimately probable in the case of θύρσος. As for τύβαρις, instead, the loanword hypothesis is not very plausible, not because of explicit counterarguments, but because of the lack of arguments in favour.

⁷³ «Wir beobachten, daß das Dorische, das von den drei großen griech. Dialektgruppen am weitesten südlich sitzt, und das ebenfalls am Südrand Kleasiens beheimatete Lykische in der Form τύβαρις : Τουβερις übereinstimmen. Andererseits hat der griech. Dionysoskult, auf den das Wort θύρσος weist, wohl wesentliche Züge von Norden, aus Phrygien und Thrakien, angenommen. Diese Differenz könnte darauf hindeuten, daß die Entwicklung eines alten *-uwa-* in den nördlichen und südlichen Randgebieten Kleasiens verschieden verlaufen ist» (NEUMANN 1961: 87).

⁷⁴ The same can be said about Neumann’s dialectal partition of the borrowed lexeme, cf. previous note.

Gk. ἵχωρ ‘blood’ < Hitt. *ešhar* ‘blood’?

EDG: 607-8; *DELG*: 474-5; *GEW*: 747; SAYCE 1922; KRETSCHMER 1930b; HEUBECK 1949-50: 212-4; HEUBECK 1961: 81; PUHVEL 1965; JIMÉNEZ DELGADO 2008: 11-2.

Gk. ἵχωρ ‘blood (esp. of the gods)’ (m.) does not have a clear etymology, and has been thought to be a non-Greek lexeme. The word is found twice in Homer (*E* 340, 516), once in Aeschylus (*Ag.* 1480), twice in Plato (*Tim.* 82e and 83c), and several times in the *Corpus Hippocraticum* and in later authors.⁷⁵ Chantraine derived the Homeric accusative singular ἵχῶ (*E* 516) from *ἵχσσα: this would point to an *s*-stem alternating with the *r*-stem of the nominative singular, which would in turn point to an ancient neuter (CHANTRAINE 1958: 212). The other regularly attested cases follow the declension of *r*-stems. Three solutions have been proposed, all of which are discarded by Chantraine (*DELG*: 475): 1. a connection with ἰχμάς ‘wetness’ (Clemm *apud* PISANI 1939: 495); 2. a connection with ἵχαρ ‘desire’, ἵχανάω ‘to desire’ (BOLLING 1945); 3. a loanword from Hitt. *ešhar* ‘blood’. We will now focus on the last one, which was first mentioned by Sayce in 1922 and then argued for by Kretschmer in 1930. Heubeck only cites it very doubtfully (HEUBECK 1961: 81; see also HEUBECK 1949-50: 212-4), and Puhvel also regards it as impossible (PUHVEL 1965: 85).

The precise reconstruction of the *r/n*-stem Hitt. *ešhar* (n.) ‘blood’, especially ‘dark blood’ is debated, especially with regard to its oblique cases (see *EDHIL*: 258-260 for discussion); however, it seems clear that this is a good IE word, cognate to Ved. *ásrk* (nom.) / *asnás* (gen.), Tocharian *ysār*, Tocharian *yasar*, Gk. *ἔαρ*, Lat. *sanguen* and Latv. *asins*, which all mean ‘blood’. Anatolian cognates of Hitt. *ešhar* are CLuw. *āšhar* and its derivatives (a complete list

⁷⁵ But in most of these cases it had a different, more specialised meaning ‘serum’.

can be found in *EDHIL*: 258). One should also note that while in OS the nom./acc. was always spelled *e-es-har*, the more common form in NS texts is *iš-har*.

Gk. ἔαρ, which is now generally taken as one of the ‘regular’ cognates of Hitt. *ešhar*, is only found in later poets⁷⁶ and in Hesychius (ε 31), who considers the word Cypriot and gives the alternative forms εἶαρ (ε 718) and ῆαρ (η 8), and the compound εἰαροπότης· αἱμοπότης, ψυχοπότης ‘blood-drinker, breath-drinker’ (ε 718).⁷⁷ The isolation of ἔχωρ is an argument in favour of a loanword, and Homer himself seems to regard ἔχωρ as an unusual word, as something that requires an explanation.⁷⁸

However, the loanword hypothesis presents phonetic difficulties which are quite difficult to overcome: even if the more recent Hittite form were something like [iṣḫar] (which is far from being proved), how could this be adopted as [ikʰɔːr] in Greek? It is perfectly acceptable that Hittite *ḫ* could be adapted with [kʰ] (cf. *infra* ταρχύω ~ *tarḫu-*), and one may even try to argue that Hittite [ä] was perceived as [ɔː] in Greek; however, I can find no acceptable way to accommodate the differences in consonantism, notably the drop of preconsonantal *-s-*, *pace* Jiménez Delgado, who imagines a drop of the sibilant with subsequent compensatory lengthening of the iota. This problem is not new, and Heubeck (1949-50: 213), more than 60 years ago, tried to solve it by postulating a Hittite development š

⁷⁶ Callim. Fr. 328.2, 523; Nic. *Al.* 314; Opp. 2.618, etc.

⁷⁷ The *scholium* to T 87 reports the *varia lectio* εἰαροπῶτις, referring to the Erinys (which would make better sense than the transmitted ἡεροφοῖτις).

⁷⁸ E 339-342 [...] ῥέει δ' ἄμβροτον αἶμα θεοῖο / ἰχώρ, οἷός πέρ τε ῥέει μακάρεσσι θεοῖσιν / οὐ γὰρ σίτον ἔδουσ', οὐ πίνουσ' αἶθοπα οἶνον / τοῦνεκ' ἀναίμονές εἰσι καὶ ἀθάνατοι καλέονται «and blood immortal flowed from the goddess / ichor, that which runs in the veins of the blessed divinities; / since these eat no food, nor do they drink of the shining wine, / and therefore they have no blood and are called immortal».

> *šh* > *h*, which Kretschmer (1930b: 10) had already admitted.⁷⁹ This solution seems completely *ad hoc* as well, and it is of no use in proving that ἵχωρ is a loanword from Hittite.

A common substrate solution (which could explain both the isolated Greek word and the eventual difficulties of the Hittite paradigm) also seems unlikely, because the *r/n*-stem inflection in Hittite suggests that the lexeme is inherited from PIE. Therefore, an Anatolian origin should be excluded for Greek ἵχωρ, whose etymology unfortunately remains obscure.

Gk. λαλέω ‘to chat’ < Hitt. *lāla*- ‘tongue’?

Lit.: *GEW III*: 144; *DELG*: 615-6; *HED V*: 40ff; *CHD L-N*: 21ff; *EDHIL*: 515-6; EVANGELISTI 1965: 16-17.

The verb λαλέω ‘to chat’, ‘to speak’ is well-attested and is part of a productive lexical series in Greek (cf. the backformation λάλος ‘chattering’, and the derived λαλία ‘chatter’, *etc.*). Most scholars believe that this is an onomatopoeic formation, a *Lallwort* (cf. also Lat. *lallāre*, Lith. *lalioti*, ModGerm. *lallen*), but Enzo Evangelisti argued that a more precise correspondence may be found in the series represented by Hitt. *lalāi*- ‘artikuliert reden’ (after *HW*: 126), *lāla*- ‘tongue’ and CLuw. *la-a-li-in* ‘id.’. He claimed that the phonetic and semantic resemblance between the Greek and Hittite words «è tale da escludere con quasi assoluta certezza il caso fortuito» (EVANGELISTI 1965: 17).

The Greek and Anatolian forms are undoubtedly similar, in that their meaning is restricted to the semantic field of speaking (and not to any kind of sound implied by the *Lallformen* in the other IE languages), and it is true that they would otherwise be isolated; however, a review of the Anatolian evidence of the word *lāla*- and its cognates will lead us to a different conclusion from Evangelisti’s.

⁷⁹ Heubeck also defined this sound change “striking” in light of foreign PNs in which *-sh-* was adapted with Gk. ξ or ξσ (Θαράξος, Ὀξσας in Pisidia, Οὐαξαμοας in Cilicia) and of Gk. κύπασσις, which he regards as a loanword from Hitt. *kupahiš*.


The noun *lāla-* is well attested in Hittite with the meanings ‘tongue’, ‘(true or correct) speech’, but also ‘harmful speech’, *etc.* (see *CHD L-N*: 21ff. and *HED V*: 40ff. for attestations and meanings), but the rendering of the verb *lalāi-* with ‘artikuliert reden’⁸⁰ is debated: while some scholars believe that it belongs to a separate verbal root,⁸¹ others accept the appurtenance to *lāla-* and translate ‘bewitch with the tongue’ (CARRUBA 1980, *HED V*: 43) or perhaps ‘speak inarticulately’, in *KUB* 12.62 + *KBo* 53.3 Vs. 12’ (*CTH* 338)⁸². Luwian also has related forms: CLuw. *lāla/i-* (c.) ‘tongue’ and HLuw. **lalant(i)-* (c.) ‘language’⁸³ (but there is no trace of a cognate verb). According to Kloekhorst, the presence of *lāla-* in Hittite and Luwian points to a PANat. **lólo-* or **lālo-*; but the form remains isolated in the IE panorama.

It is not entirely clear what Evangelisti meant when he wrote that that this could be a «congruenza lessicale avveratasi nell’ambiente micrasiatico» (EVANGELISTI 1965: 17). Did he mean that this is a common innovation of Greek and Anatolian, or a loanword from Anatolian into Greek (or viceversa)? Or is it instead a retained archaism? Only if one categorically excludes the possibility of onomatopoeic formations in both branches (which does not seem methodologically sound, in this case), and assumes either that a verbal form connected to *lāla-* existed in Anatolian or that Greek coined a verb on a foreign noun (which is perhaps less likely), can Evangelisti’s hypothesis be perhaps accepted. By no means, though, can we be as confident in supporting it: the «caso fortuito» could well be a concrete possibility. So, for the moment, it is better to consider *lala-* and *λαλέω* – with the respective derivatives – independent *Lallwörter*.

⁸⁰ This was initially suggested by SOMMER – FALKENSTEIN 1938: 136 and then accepted by Friedrich in his *Kurzgefaßtes Hethitisch Wörterbuch*.

⁸¹ It is a reduplication of *la-* ‘to take’ according to Laroche and of *la(i)-* ‘to loose’, ‘to release’ for Rosenkranz; see *CHD L-N*: 25-6.

⁸² I am indebted to H. Craig Melchert for this reference. A recent discussion of this text and of the semantics of *lalawanzi* may be found in FRANCIOS 2016.

⁸³ This is spelled “LINGUA”-*la-ti-na* [acc.]; it is worth noting that *176, the hieroglyphic sign for <la>, depicts a tongue: .

Gk. μόλυβδος ‘lead’ < Lyd. *mariwda*- ‘dark’?

BEEKES 1999, MELCHERT 2008f; ORESHKO 2018: 107-8.

Before the decipherment of Linear B, Gk. μόλυβδος was generally thought to be a *Wanderwort* of western ascendancy, ultimately derived – together with Lat. *plumbum* – from an ‘Iberian’ term (see lit. in *DELG*: 710), which was also thought to be behind the Basque form *berun*.

In Mycenaean, one finds the form *mo-ri-wo-do* (KN Og 1527), from which – following BEEKES 1999 – all later variants of this form (μόλιβος, μόλυβος, μόλιβδος, βόλυβδος, βόλιβος; *EDG*: 964) can be derived, and which is difficult to reconcile with the Latin or Basque forms. The Mycenaean noun could indeed be read either /moliwdos/ or, less likely, /moliwodos/ (the spelling is quite peculiar, since the semivowel *w* should not be spelled when closing the syllable).⁸⁴ In his article, Beekes suggested that *plumbum* should be connected to the Celtic words for ‘lead’, reconstructing a form **pl(o)ud^ho-*, perhaps of substrate origin, and that the Greek word originated in the Aegean (either in Greece or in Asia Minor). The Lydian DN *mariwda* and other Lydian sequences of /vd/ (e.g. *tiwdali*) or /v/ before consonant (e.g. *fasiwli*, *siwra^hla*), together with the fact that some lead found in the Aegean came from Anatolia, would support this hypothesis. After having separated the Greek word from its western equivalents and having argued in favour of an origin in Asia Minor (but cf. LEJEUNE 1961, who considered *mo-ri-wo-do* an “Asianic” loanword), Beekes did not bring his argumentation any further.

⁸⁴ Chantaine, in his *Dictionnaire*, notes that the *w* could be a fricative [β], but even in this case we would not expect it to be written before [d]; the other fricative, [s], is not written before stops (e.g. <pa-ka-na> = /p^hasgana/).

Almost ten years later, H. Craig Melchert added important data on the Lydian side, bringing support to the Anatolian derivation of this Greek word. The word under analysis occurs only once in a curse formula: *fak=mλ sāntas kufaw=k mariwda=k ēnslibb[i]d* «Santa and Kubaba and the *mariwda* shall do harm to him» (4a). There is only another attestation of Santa in our Lydian corpus, but its association with the *mariwda*- is reminiscent of a Luwian passage, which reads *wa/i-ru-ta | (DEUS)sà-ta-si-i-zi || (DEUS)ma_x-ra/i-wa/i-i-zi-i | (“*256”)tà-sá-za | a-ta | “CRUS”-tu* «let the dark deities of Sanda step on his memorial» (KULULU 2, §9, after *CHLI*: 488)⁸⁵.

The PIE root is **merǵ*- ‘dark’ (cognate with. ModEngl. *murky*) and the Lydian form *mariwdaś* (-ś is regularly lost before the enclitic conjunction -k ‘and’) may reflect the regular outcome of **morg^w-iyo-* > **marwida-* (**y* > *d* [ð] intervocalically and initially before vowel, cf. **piyom* > *bidu* ‘I gave’; MELCHERT 1994: 364) > **mariwda-* (either metathesis, or syncope followed by anaptyxis). This adjective *mariwda-* (phonetically [marivð̥a] or [mariβð̥a]) could then have been borrowed by Greek with a substitution of /l/ for /r/. Given the Mycenaean evidence, we must postulate a very early, pre-15th-century borrowing, which may well pre-date the **o* > *a* change (unless one argues that the Greeks perceived Lydian *a* as an *o*, which is also a viable option) but which should have happened after **y* > *d*. However, the change **y* > *d* could have taken place at any time between 2500-1500 BCE, since we do not possess any further data on the relative chronology of pre-Lydian sound changes (MELCHERT 2008f: 154). As for the semantics, it is quite common to name metals after colours: cf. Lat. *argentum* (< **h₂erǵ-* ‘white’) or ModEngl. *gold* (< **ǵ^hel-* ‘yellow’); for the connection between [LEAD] and

⁸⁵ The reading /marwainzi/ is confirmed by the DINGIR^{MES} *mar-wa-a-in-zi* we find in Cuneiform Luwian (see *CHD* 3/2: 201), and as a dat. pl. ^d*Mar-wa-ya-an-za* (in Hittite context: the Hittite equivalent would be ^d*Mar-ku-wa-ya-aš*).

[BLACK], see Lat. *plumbum nigrum* ‘black lead’ vs. *plumbum album/candidum* ‘white lead’ = ‘tin’.

All in all, if one follows Beekes in considering the Mycenaean form *mo-ri-wo-do* as the ‘original’ Greek form,⁸⁶ and postulates with Melchert a pre-Lyidian **mariwda-* ‘dark’, ‘black’, a borrowing from Lydian seems a good solution for the etymology of Gk. μόλυβδος. It is probably true that *Mariwda* is a theonym, as Schurr (*apud* GANDER 2015: 484 fn. 191) pointed out, and that all theonyms in the passage are borrowed (so *mariwda-* might not even be the Lydian word for ‘dark’); but this does not necessarily exclude that the word entered Greek through Lydian.

Gk. ὀβρυζα ‘assaying of gold’ < Hitt. (Hurr.) *hubrušhi-* [a ritual vessel]?

Lit.: EDG: 1043-4; HED III: 394-6; BENVENISTE 1953; BENVENISTE 1962: 126-131; GUSMANI 1968a: 84; JIMÉNEZ DELGADO 2008: 17.

Gk. ὀβρυζα is a technical term belonging to metallurgy (specifically of gold), and is only found, together with some derivatives, in late sources: χρυσοῦ βρύζης, χρυσίον ὀβρυζον, ὀβρυζιακός. It means ‘assaying of gold’, and it is a metonymical extension, the original referent being the crucible in which gold was molten.⁸⁷ The Latin term *obrussa* (found already in Cic. *Brut.* 258 and Petr. 67, 7, 1) reveals that the loanword must have entered quite early, since the Greek -ζ- was adapted as Latin -ss- only in pre-classical times (*e.g.* *massa* <

⁸⁶ And there is no reason to doubt that, *pace* ORESHKO 2018.

⁸⁷ Cf. the similar semantic development in English *test* < OFr. *test* ‘vessel (used for testing the purity of metals)’ < Lat. *testa*.

μᾰζα, *-issō* < *-(ζω)*. This word is isolated from an etymological point of view, since the connection with *russus*⁸⁸ is probably a folk etymology.

Benveniste argued that the origin of the Greek term was to be found in Asia Minor, and specifically in the Hurro-Hittite word *hubrušhi*, a vessel used in rituals. There is no reference to gold or metals in the attestations of *hubrušhi*, but the word is often preceded by DUG, the determinative for ‘vase’. Also, the *hubrušhi* seems to have been a vessel that could be fired in the hearth and/or used for burning materials.⁸⁹

From a morphological point of view, *hubrušhi* is a derivative in *-(u)šhi* which finds a parallel in *aḫrušhi*, another kind of vase, from *aḫru* ‘incense’ (cf. example above and *HED* III: 395); the meaning of *hubru-*, however, is obscure. As for the transmission process, Benveniste (1962: 131) postulated a Semitic intermediary without going into further details. Jiménez Delgado (2008: 17), instead, went further and sketched the following developments: loss of initial laryngeal, dissimilation *u* > *o*, preservation of the *muta cum liquida*, adaptation of the internal laryngeal with a voiced velar, with regular development **-gy-* > *-ζ-* after the shift to the first declension, and finally loss of internal sigma with subsequent compensatory lengthening (JIMÉNEZ DELGADO 2008: 17). These developments (*hubrušhi* > **obrusg-ya* > **ὀβρουσζα* > *ὀβρυζα*) seem to be the only solution if one wants to accept the ultimate Hurrian origin of *ὀβρυζα* avoiding the (unknown) intermediary;⁹⁰ ‘however, in order to accept this loanword, one has to accept that the laryngeal was adapted with [h], which means that the

⁸⁸ Pliny 33, 59: *quin immo quo saepius arsit, proficit ad bonitatem. Aurique experimentum ignis est, ut simili colore rubeat ignescatque et ipsum; obrussam vocant* «Indeed as a matter of fact it improves in quality the more often it is fired, and fire serves as a test of its goodness making it assume a similar red hue and itself becomes the colour of fire; this process is called assaying» (transl. Rackham).

⁸⁹ *namma-kan anāhita* ^{DUG}*āhrushiaz dāi n-at-san* ^{DUG}*hūprushiya hassi parā dāi* ‘then he takes the morsels from the censer and puts them into the h. by the hearth’ (*KUB* XII, 12 v 2-4); *hūbrushiya warnuanzi* ‘they burn in the h.’ (*KUB* X, 63 i 32); *namma-san* ^{DUG}*hūprushi* *GiŠ.HI.A hādan warn[uzi]* ‘then he burns dry wood in the h.’ (*KBo* XXI 33 i 12); cf. also *HW²* III/2: 744-748.

⁹⁰ [zdz] > [zd] is regular, and the idea of a vowel dissimilation seems plausible (although [o] could also be considered an adaptation of a foreign sound not perfectly coincident with Greek [u] or [o]).

loan must have happened directly from a language in which the /h/ was either [h] or [χ]; also, we are not able to independently determine the quantity of the *u* (which could well be short). As for the date, we must hypothesise a very early borrowing, before the change **-gy-* > *-ζ-* took place.

The formal correspondence is not as perfect as Jiménez Delgado would want, and the number of *ad hoc* adjustments required is considerable. Given the nature of the word and the absence of alternative solutions, either parallel loans from a third source or a loanword from Hurro-Hittite through the mediation of another (undefined) language in which the initial sound was dropped seem the least unlikely hypotheses.

Gk. σάφα ‘clearly’ < Hitt. *šuppi-* ‘pure’?

Lit.: *GEW II*: 684; *DELG*: 991; *EDG*: 1314; SZEMERÉNYI 1974: 154.

The adverb σάφα means ‘surely’, ‘certainly’, ‘clearly’, and is the form from which σαφής ‘sure’, ‘definite’ and σαφέως/σαφῶς ‘clearly’ derive. Its etymology is obscure, and any attempt at connecting it to φάος/φάινω or to σοφός seems to be difficult (see *GEW II*: 684). Szemerényi argued that the origin of his adverb should be found in the Hittite adjective *šuppi-* ‘pure’, ‘clear’. This hypothesis could hold from a semantic point of view, but the difference in the vocalism makes problems. A solution would be possible if we postulate a change *u* > *a* (possible parallels are the PN *Šuppiluliuma* [lit. ‘of Clearwell’] becomes *Šapalulme* in Late Hittite, and also the PN Πανύασσις is the Greek adaptation of *Puna*/_u*wašši*; SZEMERÉNYI 1974: 154).

It seems that Luwian showed an unsystematic correspondence of *u* and *a*: Neumann (1961:18) lists, among others, Hittite/Hieroglyphic Luwian couplets such as *hurtāi-* ‘to curse’ ~

hartai- ‘to curse’, *hurnāi* ‘to chase’ ~ *harnai* ‘to pursue’, *takšul* ‘friendly’ ~ *Taksalas* (PN), *hutarli-* ‘servant’ ~ *halarla-* ‘libertus’ (?), Hitt. *Šuppiluliuma* (PN) ~ ‘Late Hittite’ *Šapalulma* (PN attested in Assyrian annals), and Hitt. *Guršaura* (place-name) ~ Γαρσάουρα (a place name attested in Strabo XIV, 2, 29). Almost all the second elements of each couplet are Hieroglyphic Luwian words, so it is possible that a hypothetical transmission might have happened through Luwian. If, at the end of the second millennium, there were a change *u* > *a* in Luwian and/or late forms of Hittite, Szemerényi’s claim would be well founded.

From a formal point of view, Gk. *σάφα* could be reasonably considered a loanword from Anatolian if one accepts that Greek adopts a voiceless aspirate to adapt an Anatolian *fortis* (which is difficult: see above under *θύρσος* ~ *tuwarsa-*; *θεράπων* ~ Luw. **tarpan(i)-* and *ἄφενος* ~ *happina-*). The syntax and the semantics of this form in Homer make the connection even more difficult. Out of the 21 Homeric occurrences of *σάφα* (9 in the *Iliad* and 12 in the *Odyssey*), 15 are found with forms of *οἶδα*, 5 with forms of *εἶπον*, and only in one case (*δ* 730) do we find the adverb accompanied by a different verb, *ἐπίσταμαι*, which is semantically close to *οἶδα*. In Hittite, by contrast, where the primary meaning is ‘(ritually) pure’ (and there is no independent evidence for a meaning [CLEAR]), there is no trace of an adverbial formation, nor of the association of *šuppi-* with verbs of knowing or saying. Incidentally, Hittite *šuppi-* lacks an IE etymology and Anatolian cognates (*EDHIL*: 790).

The only way to support the connection also seems to be to reconstruct an adverbial formation already in Anatolian (perhaps derived from a neuter?). There do not seem to be much better alternatives for the etymology of *σάφα*, but there are some formal and semantic difficulties. So this hypothesis cannot be totally ruled out, but it should be regarded with much caution.

Gk. σιγαλδεις ‘gleaming’ < Hitt. (Hurr.) *šeḫeli*- ‘clean’?

Lit.: GEW III: 178; SZEMERÉNYI 1969: 243-5; SZEMERÉNYI 1974: 153; RICHTER 2016: 368.

Gk. σιγαλδεις, attested in Homer together with several nouns,⁹¹ is only found in the nom.-acc. neuter plural, in the dative singular, and in the accusative singular, and it always stands in verse-final position. It is generally considered an epic word, and its usual translation is ‘gleaming’ ‘brilliant’ and the like.

Despite the fact that this is a typical epic adjective in -εις (< *-went-s), the etymology is quite difficult, and various attempts have been made since antiquity. Brugmann tried to explain it through the comparison with the Hesychian gloss γελεῖν· λάμπειν (which belongs to the lexical family of γαλήνη ‘stillness of the (sun-beaten) sea’) plus a reinforcing prefix σι- < *t(u)wi- ‘schwellend’, also found in the PN Σίσυφος (BRUGMANN 1921: 143). Even less convincing are Fick’s and Bezzenberger’s solutions (*apud* BOISACQ 1916: 863), which compare σιγαλδεις respectively with OSax. *swigli* ‘pure’, ‘clear’ and Goth. *swikns* ‘clean’, ‘innocent’. These connections are very difficult on a phonetic level because initial antevocalic *sw- regularly gives h-, (e.g. *sweh₂d-ú- > ἡδύς). So are Prellwitz’s interpretation of this word as *twis-galo (*twis- ~ Skt. *twiṣ-* ‘glitter’ and *galo, cf. γαλήνη; PRELLWITZ 1905: 411), and Bechtel’s comparison with Lith. *twiska* ‘es blitzt, flackert’: they are both based on the assumption that -zg- > -g-, which is completely *ad hoc*. Another etymology, rightly rejected by Szemerényi, is Čop’s analysis of the word as *ksī-g-alo- (SZEMERÉNYI 1969: 244). At the same time, any connection of σιγαλδεις with σῆγα ‘silently’ (adv. and interj.) is untenable on semantic grounds.

⁹¹ ἡνία (E 226, 328; Θ 116, 137; Λ 128; P 479; ζ 81), εἵματα (X 154; ζ 26) δέσματα (X 468), θρόνῳ (ε 86), ῥήγεα (ζ 38; λ 189; τ 318, 337; ψ 180), ῥήγεϊ (ν 118), χιτῶνα (ο 60, τ 232), and ὑπερώϊα (π 449; σ 206; τ 600; χ 428).

Szemerényi suggested, instead, that one should give up the direct IE derivation and turn to the hypothesis of a loanword from an Anatolian language, specifically to Hitt. and Luw. *seheli-* ‘clean’. This seems to be the same word as Hurrian *sehala-* ‘clean’, which has also been found at Ugarit in the form *siḫal(a)e*. This in turn corresponds to Ugaritic *tūru* ‘pure’, and their ultimate source seems to be Sumerian *skil* ‘pure’ (SZEMERÉNYI 1969: 245).

Despite Chantraine’s scepticism («hypothèse compliquée de Szemerényi» *DELG*: 1001) and Beekes’s silence, this does not seem an unreasonable hypothesis: the Greek usage of a velar to represent an Anatolian laryngeal is relatively unproblematic (especially when there is a Western Anatolian intermediary),⁹² and the *e/i* alternation is well attested in Anatolian (though one must say that the first vowel is always <e>). One should also note that for a word beginning by *sV-* which is not derived from a cluster (**ty-*, **tʰy-*, **ky-*, **tw-* and perhaps **sw-* can all become *s-* in initial prevocalic position; cf. LEJEUNE 1987: §83), the loanword hypothesis is always a distinct possibility. The only formal obstacle is the nature of the vowels, in particular the second one, which is spelled with either <i> or <e> in our documents (*šehel(l)i-*/*sehil(l)i-*/*šehil(l)i-*, cf. *CHD* Š/3: 346). However, if one considers that Luwian only has /a/, /i/ and /u/, it is fully conceivable that the word might have been adapted as **/sihali-/*⁹³ and that this might have been the source of Gk. *σιγαλεις*. Alternatively, the option of the transmission of this word directly from the aforementioned *siḫal(a)e* from Ugarit would be at least as viable.

Finally, a morphological note: provided that one accepts a foreign derivation for the first part of the compound, it is a fact that adjectives in **-went-* are usually derived from nouns

⁹² Cf. *HED* V: 7-8 «for the gamma-rendering of Anatolian intervocalic laryngeals, cf. e.g. Hitt. *huhha*, Lyc. *χυγα* : *Κουγας*».

⁹³ **/sihili-/* and **/sahili-/* are the other theoretical possibilities.

(e.g. ἄμπελος ‘vine’, ‘vineyard’ > ἀμπελόεις ‘provided with vineyards’; ἰχθύς ‘fish’ > ἰχθυόεις ‘abundant in fish’, etc.). However, one finds adjectival derivation as well, especially in poetic language (e.g. ὀξύεντ- < ὀξύς 9x in the *Iliad*; N 686 φαιδιμόεντες < φαίδιμος). Therefore, the contact hypothesis cannot be discarded on morphological grounds either. The nature of this lexeme seems compatible with potential contact, since it may have been a word specific to ritual which lost its original connotation in the transmission. Unless a better inner-Greek explanation is found, the idea of an Anatolian (probably Luwian) intermediary for this originally non-IE term seems to be fully viable, though it is not the only possibility.

Gk. ταρχύω ‘to bury’ < Hitt. *tarḫu-* ‘to prevail’?

Lit: *DELG*: 1095; *GEW II*: 858-9; BLÜMEL 1926; KRETSCHMER 1939: 104; HEUBECK 1949-50: 214; LAROCHE 1958; WATKINS 2008: 137.

Greek ταρχύω is first found in Homer (H 85, Π 456, 674), and from the context it is generally interpreted as ‘to bury’, ‘to inter’.⁹⁴ Since the word is not transparent from a Greek point of view (the connection with Gk. τάρχιος ‘fish or meat conserved by salting, smoking or drying’ is untenable), it was soon related to Anatolian, and in particular to Lycian. Blümel first proposed the connection with a Lycian form **tarχu*,⁹⁵ adducing Homeric parallels in which heroes are said to be honoured like gods (in particular K 33 θεὸς δ’ ὥς τίετο δῆμῳ; but also I 155), and interpreting ταρχύω as ‘to be buried like a god (or hero)’. In 1939, Kretschmer reinforced Blümel’s hypothesis by linking the Lycian and Greek forms to the (then) widely-known family of ‘*kleinasiatisch*’ *Tarḫu-*, *Tarḫunt-* and Lyc. *Trqqas*, all divine names referring

⁹⁴ The verb is later found in Apollonius Rhodius, Lycophron, and Quintus Smyrnaeus (among others), but it is clearly a Homeric imitation. A detailed analysis of the Homeric passages may be found in BADER 2002.

⁹⁵ He extended the comparison to the lexical family of Etruscan *Tarquinius* (BLÜMEL 1926: 82-3). One must bear in mind that in 1926 the linguistic position of Lycian was very uncertain, and that the issue of the ‘provenance’ of Etruscan is still very debated at the present day.

to the Storm-God, and by bringing up a conceptual parallel with the Hittite expression DINGIR^{LIM} *kišat* ‘he became a god’ = ‘he died’. By the 1960s, it was clear that the Hittite verb *tarḫ-* ‘to prevail’, ‘to conquer’ also belonged to this lexical family (LAROCHE 1958; HEUBECK 1959: 32-5).

Today we have more evidence for this Anatolian lexical family, so it will be good to present it in an orderly fashion (following *EDHIL*: 835ff.). The divine name is found in CLuw. ^d*Tarḫuwant-* / ^d*Tarḫunt-* (ablauting stem), HLuw. *Tarhunt-* / *Tarhunza-* (often written (DEUS)TONITRUS-*hu-za*), Lyc. A and B *Trqḡñt-*. In Hittite, although this name is always spelled with the sumerograms ^dU and ^dIŠKUR, we find *tarḫu-^{zi}*, a frequent verb whose participle gave the divine name just seen. For many years, scholars thought that Hittite had two separate verbal forms, *tarḫ-* and *tarḫu-* / *taruḫ-*, semantically identical but formally dissimilar (they are still listed separately in the lexica); but in recent years, Alwin Kloekhorst has shown that the difference is only apparent, since all cases of *tarḫ-* (/tarH-/) should be read as *tarḫu-* / *taruḫ-* (detailed discussion in *EDHIL*: 836-8), and the stem is synchronically /tarH^w-/ with a labiovelar fricative. Kloekhorst also reconstructs an ablauting paradigm **trh₂-u-ént-s* / **trh₂-u-nt-ós* for the (participial) name of the Storm-God, and on the IE level, he connects Hitt. *tarḫu-* to Skt. *tūrvati* ‘to overcome, to overpower’, Av. *tauruuāieiti* ‘to overcome’.⁹⁶

In the light of this new evidence, is the connection with *ταρχύω* tenable? It seems that it is, since *ταρχύω* still remains without a Greek or IE etymology, there is a formal coincidence between the two forms, and the semantics are understandable with Blümel’s and Kretschmer’s explanations. Given its close relationship with the name of the main god of the

⁹⁶ Following EICHNER 1974: 28, fn. 8 and rejecting the previous etymology by which the Hittite form would be related to Skt. *tar* ‘to pass through’ and Lat. *trāns*.

Anatolian pantheon, it may well be that *ταρχύω* could have been derived from *tarḫu-* (or a similar form) with the meaning ‘treat like a god’. In order to accept the loanword, we would need to accept a semantic development [BE POWERFUL] > [TREAT LIKE A GOD] (but cf. the name of the Storm-God); this is not completely unproblematic, unless we postulate an unattested Anatolian base (perhaps an adjectival *u*-stem?) to which Greek added a verbal **-ye/o-* suffix (**tark^huyō* > *ταρχύω*), which would give the meaning [TO TREAT LIKE X], or [TO TURN INTO X]. A further development [TREAT LIKE A GOD] > [BURY] (provided that we actually need it!) may have been secondary and independent from Anatolian, and might have taken place when the transparency of this form had been lost.

Calvert Watkins adduced an interesting cultural note: if we read the entire Homeric passage in which the verb is attested – which, it must be noted, has to do with the death of the Lycian (!) Sarpedon (Π 456-7: *ἐνθα ἔ ταρχύσουσι κασίγνητοί τε ἔται τε / τύμβω τε στήλῃ τε· τὸ γὰρ γέρας ἐστὶ θανόντων*) – the Greek *iunctura* *τύμβω τε στήλῃ τε* recalls Lycian practices (cf. WATKINS 2008: 137-8). Lydian also provides an interesting parallel which – to my knowledge – was previously unnoticed: *eśś wānaś mru=k blasso=k=iτ qid katavil laqrisa=k=in qid ētośrś ak=ad karolid sablalid* «this tomb, and stele, and the *blasso-* that he made for himself⁹⁷, and the dromos that they have installed[?], belong to Karo son of Sabla» (2. 2-4).⁹⁷

To paraphrase Watkins’s words, it seems that everything is Anatolian in this Iliadic passage: the Lycian origin of Sarpedon, the concept of “tomb and stele”, and probably also *ταρχύω* itself, which looks like a valid Anatolian loanword.

⁹⁷ I have followed the translation presented in YAKUBOVICH 2010: 181.

Gk. τολύπη ‘ball of spun yarn’ < CLuw. *taluppi*- ‘lump’?

Lit.: *EDG*: xv-xvi, 1492; *GEW II*: 909; *DELG*: 1124; *DECLG*: 221; *HEG III*: 240-4; FURNÉE 1972: 340; JOSEPH 1982; MAURICE 1991; MELCHERT 1998b; GASBARRA – POZZA 2012: 190; HAJNAL 2014, 2018: 2042.

Greek τολύπη ‘ball of spun yarn’, ‘ball of wool ready for spinning’, but also a ‘type of globular-shaped cake’ has long been considered etymologically obscure (*GEW II*: 909, *DELG*: 1124). The old connection (FICK 1890) with τύλος ‘swelling’, ‘knot’, ‘knob’ is not satisfactory, especially from a formal point of view (the passage υ > ο remains unexplained). Nor is Nicole Maurice’s idea of connecting with this word the obscure Mycenaean term *tu-ru-pte-ri-ja* (PY An 35: /struptēriās/, cf. later Greek στ(ρ)υπτηρία, probably meaning ‘alum’) by assuming influence of κορόνη ‘club’ or τορόνη ‘stirring ladle’ to explain the vocalism: as Melchert (1998b: 47) rightly remarks, this would be completely *ad hoc* from a formal point of view. Van Windekens’s idea, according to which τολύπη would be a methatesised form deriving from an unattested *πολύτη connected with the ‘turn’-root **k^wel*-⁹⁸ simply makes no sense because the metathesis is completely *ad hoc* and no parallels for a suffix [†]-*ut*- are given.

In 1982, Brian Joseph argued that τολύπη is a loanword from Anatolian,⁹⁹ and specifically from the Hittite verb *tarupp*- ‘to assemble’, ‘to gather’. As Joseph himself admitted, there are three problems with this hypothesis: the *r/l* interchange, the ultimate etymology of *tarupp*-, and the discrepancy between a first-declension noun in Greek and a verb in Hittite.

⁹⁸ «τολύπη s’explique excellemment à partir d’un ancien *πολύτη dans lequel il s’est produit une métathèse π-τ > τ-π: ce *πολύτη remonte à i-e **q^uol*- de **q^uel*- «circuler, circuler autour», avec gr. πέλομαι [...]», *DECLG*: 221.

⁹⁹ But cf. already FURNÉE 1972: 340, who paired Gk. τολύπη ~ Luw. *taluppi*-, associating them with pre-Roman forms. One should note (*pace* SIMON 2018: 406, fn. 73) that Furnée was not *deriving* τολύπη from *taluppi*-; he was simply observing that substrate words often show oscillations between *o* and *a*.

Joseph argued that the first one is easily solvable by postulating a borrowing in Greek from an intermediate (Anatolian) language, or by noting that there are sporadic *r/l* alternations within Hittite (see examples in JOSEPH 1982: 232 and MELCHERT 1998b: 48). Next, the etymology: the Indo-European character of a given lexical form does not in principle exclude the possibility of a loan; nonetheless – as Joseph admits – if some of the following etymologies are correct, the correspondence between *τολύπη* and *tarupp-* would be much more difficult to defend. Some scholars connected Hitt. *tarupp-* with Gk. *θόρυβος* ‘tumult’, ‘crowd’ or Lat. *turba*; but this is in contradiction with the fact that the Hittite spelling *-pp-* corresponds to a voiceless (or *fortis*) sound */p/*, and not to the voiced (or *lenis*) */b/*. Joseph accepted Tischler’s derivation from **(s)treu-p-*, cf. Latvian *strupulis* ‘short, fat man’, ‘short, round piece of wood’ (TISCHLER 1975). As for the third issue, he admitted that it is not necessary to postulate a direct loan from Hittite to Greek, and that Greek might have acquired this word from an intermediary language.

Some years later, Craig Melchert reconsidered the issue and refined Joseph’s hypothesis, adding evidence from Luwian in support of the Graeco-Anatolian connection: the ‘Luvo-Hittite’ noun *taluppa-* ‘lump’, ‘clod’ (Luwian has *taluppiš* [nom.] and *taluppin* [acc.], with *i*-mutation) would indeed provide the missing link and also make the loan more plausible from a geo-linguistic point of view. He sketched a possible semantic development, arguing that the verb *tar/lupp-* originally meant ‘gather’, ‘collect’ and that it was used of self-adhering materials such as dough, clay and even raw wool and spun yarn. The derivative *taluppa/i-* was consequently used with reference to the mass of these gatherings, and the verb underwent a semantic extension, applying to objects, people, and materials (MELCHERT 1998b: 49).

Melchert also observed that the connection of *tarupp-* with **(s)treu-p-* (and Latvian *strupulis*) is not unproblematic, because the semantics of the Anatolian and Baltic forms do not really fit together, and because the two other examples we have of a PIE anlauting sequence **tRV-* (Hitt. *tēri-* ~ Luw. *tarri-* ‘three’ and Hitt. *teripp-* ~ Luw. */tarrupp-/* ‘to plow’) have an anaptyctic vowel **tRV- > *téRV- > Hitt. tērV-, Luw. tarr-* (by Čop’s Law): therefore, we should have had Hitt. ***tērupp-* ~ Luw. ***tarrupp-*. He then suggested a new etymology, admittedly very speculative, which considers *tarupp-* the univerbation of a **to-reup-* (**to* is found in the Lydian preverb *da-* and cognate with OIr. *to-/do-* ‘towards’, ‘to’, while **reup-* ‘to tear’, ‘to break’ is reconstructed from Lat. *rumpō*, OE *rēofan* ‘to break’ and OIc. *reyfa* ‘to tear’).

Melchert’s reconstruction does not seem implausible, but one needs to stress a couple of criticalities regarding the connection between the Hittite and Luwian forms: oscillations between *r* and *l* are more common in Luwian than in Hittite, but while Hitt. *tarupp-* shows no *l*-variants, Luw. *taluppi-* shows no *r*-variants. Furthermore, *tarupp-* is never used with reference to wool or dough. However, even if one separated the Hittite form from the Luwian (e.g. connecting it with Gk. ἄθροός, after ČOP 1959: 92), this does not mean that Gk. τολύπη cannot have been borrowed from Luwian. In this perspective, a further point that has apparently escaped previous notice must be stressed: from a purely formal point of view, one wonders why the Greek form, if actually borrowed from Luwian, does not look like [†]ταλύπη, i.e. why it displays no *o*-vocalism. Luwian has three vocalic timbres (/a/, /i/, and /u/) and PANat. **/o/* merges with /a/ in Luwian. The transmission thus seems problematic, unless it is placed at a very early date (before **/o/ > /a/* in Luwian) and if one attributes the difference in the first vowel to the adaptation process (i.e. if one postulates that the Greeks might have

heard a Luwian /a/ as [o]). From a semantic point of view, one could reinforce the argument by pointing out the vicinity of [LUMP] and [DOUGH] (cf. Gk. μάζα > Lat. *massa*).

On different grounds, Robert Beekes also hypothesised parallel adoptions from a third source. He suggested that because of the structure *CaC-up* (in his view *a* appears as *o* before *u*) and the absence of an Indo-European etymology, τολύπη must be a Pre-Greek word, specifically brought to Greece by settlers from Anatolia. He believes that this Pre-Greek language is (cognate to) what was spoken in Anatolia (*EDG*: xv-xvi). Beekes's explanation of the vocalism does not seem entirely convincing, but the possibility of independent borrowings from a common source must be kept open (and would perhaps solve the problem of the omicron in Greek). Even so, the option of an Anatolian (specifically Luwian) provenance of Greek τολύπη cannot be ruled out, because the formal obstacles are not insurmountable, and its explanatory power is greater.

Gk. τύραννος 'absolute ruler' < HLuw. *tarrawanna/i-* 'just'?

Lit.: *DELG*: 1146; *GEW II*: 946-7; HEUBECK 1961: 68-70; HESTER 1965: 366; PISANI 1967: 407; GUSMANI 1968a: 86; GUSMANI 1969: 511; PINTORE 1983; JIMENEZ DELGADO 2008: 20; GIUSFREDI 2009; MELCHERT 2019.

The word τύραννος 'absolute ruler', 'tyrant' is generally considered non-Greek and possibly belonging to the Aegean-Anatolian area.¹⁰⁰ Its etymology is uncertain, and scholars have postulated Phrygian, Philistine, or "Pelasgian" origins (see a survey of theories in HESTER 1965: 366). In 1961, Heubeck advanced a more specific hypothesis, connecting this term with HLuw. *tarwana-*, which he (and others) interpreted as a dynastic title (cf. *infra*), and Etr.

¹⁰⁰ «terme de substrat ou emprunté à l'Asie Mineure» *DELG*: 1146; «Unerklärtes Fremdwort aus der kleinasiatisch-ägyptischen Kultursphäre» *GEW II*: 947.

turan.¹⁰¹ The same idea was independently proposed by Pisani in 1967, accepted by Gusmani one year later, and is still present in more recent accounts (JIMENEZ DELGADO 2008: 20, GIUSFREDI 2009: 141).

Today we find the following forms: a noun *tarwana/i-* (with more than 40 occurrences in the corpus; the nom. sg. is spelled (IUDEX)*tara/i-wa/i-ni-sa*), a verb *tarwanaza-* (only one attestation in MARAŞ 1: (“IUDEX”) *tara/i-wa/i-na-za-ta-*’, 3rd p. sg. pret. act.) and an adjective *tarwani-* (spelled (“IUDEX”) *tara/i-wa/i-ni-sá* or (“IUDEX”) *tara/i-wa/i-ni-i-sa* in the nom. sg.).

Cuneiform Luwian does not have an equivalent form (the obscure verb *tar-wa-n[u-]* is not probative), nor do the other Anatolian languages provide any evidence. Attempts have been made to link *tarwana-* to other Anatolian forms: Eichner (1992) tried to derive it from the numeral ‘three’, while Carruba (1989) thought that it is to be connected to the Hittite verb *tarḫu-* ‘to conquer’, ‘to prevail’ or to a hypothetical Luwian cognate. The latest contribution on the topic (GIUSFREDI 2009) weighs the two hypotheses and ultimately supports Carruba’s, but does not add much to the picture.

Deriving *tarwana-* (and τῶραννος, for that matter) from an Indo-European root has always proved a difficult task, but a new analysis opens up a further possibility. I have not given the meaning of these forms until now, because a very recent article by Craig Melchert, based on the reassessment of the entire corpus, shows that *tarrawann(i)-* (this is how the sequence should be read, according to Melchert) is an adjective meaning ‘just’ when referring to persons, and that it became substantivised as a honorific title only secondarily. This adjective would be derived from a noun *tarrawann(i)-* ‘justice’, ‘righteousness’, which Melchert traces back to a PIE thematic stem **trewwo-* < **drewH-o-* (cf. ModEngl. *true*, etc.).

¹⁰¹ An epithet of Venus; but this parallel, first noted by HAMMARSTRÖM 1921: 217, is very uncertain.

This not only replaces the current interpretation of (IUDEX)*tara/i-wa/i-ni-sa* as ‘ruler’, which was nothing more than a cautious suggestion by Laroche (1960: 197-8) which then became a *vulgata*, but it also changes the picture with regards to the eventual relation with Gk. τύραννος. If one follows the common interpretation of *tarwana-* as ‘ruler’, one wonders how the adaptation into Greek might have happened: the only possibility is to assume, with HEUBECK 1961: 69, a phonological shape /trwan-/ which has been adopted as /turan-/ with or after metathesis and vocalisation of the semivowel. Heubeck also postulated that the corresponding word in Lydian and “Minyian” might have been **turwanas*, and that this – after dissimilation of the *w* – might have been the actual source for Gk. τύραννος.

However, this is extremely speculative and difficult to prove, and despite the fact that it is highly likely that τύραννος is a loanword (cf. other terms related to political institutions such as βασιλεύς and ἄναξ), and that Luwian *tarwana-* is somehow related to it, the option of independent adoptions from a third language is also conceivable, because it is difficult to work out the precise details. The spelling *tara/i-wa/i-n^o* allows different phonological representations (/traw-/ , /triw-/ , /truw-/ , /tar(r)aw-/ , /tar(r)iw-/ , /tar(r)uw-/ , or /tarw-/) and a geminate /-nn-/ may well be underlying, which would be compatible with -νν- in τύραννος. If we instead follow Melchert in envisaging a /tarrawanni/, there is another possibility beside the metathesis envisaged by Neumann (and YAKUBOVICH 2002: 113): if the accent was on /-wán-/ , the preceding vowel might have undergone syncope in the transmission process (so, [trwán-]), and there might have been a leftward labialisation of the [r] ([[r^w]]), as in ModEngl. reed [r^wi:d] and tree [t^ɹ_ɹ^wi:] which could have given [tura-], in a process similar to the “u-infection” of Old Irish (where dat.sg. **wiru* > *fiur* ‘man’).

The semantics do not pose any issues, as the negative connotation of τύραννος is a later development. Interestingly, we know from Euphorion (*FGH* 3, 72, fr. 1) that the first ruler to be given the title τύραννος was the Lydian Gyges, and the first attestation of a related word in Greek is in the famous poem by Archilochus (*F* 19 West) in which the poet says that he does not care about the affairs of wealthy Gyges (οὐ μοὶ τὰ Γύγεω τοῦ πολυχρύσου μέλει, l. 1), or about rulership (μεγάλῃς δ' οὐκ ἔρέω τυραννίδος, l. 3) (cf. PARKER 1998). All in all, there is no reason not to believe that this word entered Greek from Anatolian in the first part of the 1st millennium.

Gk. ὑλίμη ‘battle (?)’ < Hitt. *šulli-* ‘fight’?

Lit.: *EDG*: 1530; *DELG*: 1155; *GEW II*: 963; *EDHIL*: 778-9; KRONASSER 1960: 178.

Hesychius’ lexicon (v 160) has an entry ὑλίμη· μάχη τις that Heinz Kronasser related to Hitt. *šulli-* ‘fight’, ‘quarrel’ and *šulliazi-* ‘to fight’ (KRONASSER 1960: 178); while Frisk reports this possibility without particular comments and Beekes agrees that a Hittite derivative **šullima* ‘fight’ – it it ever existed – could have been the source of the Greek word (*EDG*: 1530), Chantraine seems less positive (*DELG*: 1155) but does not give alternatives. The connection seems possible in principle, but the lack of further attestations on the Greek side is an obstacle to further speculations.

For Hittite, by contrast, a recent contribution by C. Melchert has shown that the original meaning of *šullē-* (and variants: the formal interpretation is difficult, see discussion in *EDHIL*: 778-9) was ‘to become swollen, puffed up’ (< **sw_lH-eh₁-*, cf. Lat. *īnsolēscō*, ModEng. *swell*; this root was previously thought to have reflexes only in Germanic and Italic, cf. *LIV*²: 609-10) and then ‘to become arrogant’, a meaning which is compatible with the attestations

of this verb. This does not seem to jeopardise the connection, since one can still translate many instances of Hittite *šullē-* with ‘to quarrel’, ‘to become angry’, or ‘to become arrogant, disrespectful’ (MELCHERT 2004b: 91).

On a formal level, if ὕλιμη is a loanword, the transmission must have happened at a very early date, before the change **s > h / #_*, which is common to all Greek dialects, and the adaptation must have eliminated the geminate <ll>; in other words, we should postulate a pre-Mycenaean loan of an unattested **sullima*. In Hittite this form would not be impossible, since the suffix *-ima-* is used for forming common-gender action nouns from verbs and adjectives.¹⁰²

The option of a parallel inheritance of the same root in both branches is in principle available, and it could in theory be at least as economical as the loanword hypothesis: in this case, ὕλιμη would be an independent Greek formation with inherited material (the suffix *-μα/-μη*, albeit relatively unclear, is well attested, cf. CHANTRAINE 1933: 147-50). However, if this were the case, ὕλιμη would not necessarily be classifiable as an exclusive Greek-Anatolian isogloss, as the root **swelH-* is also found in other Indo-European branches; besides, the second vowel gives some problems, since **sulH-meh₂* > [†]ὕλέ/ά/όμη.

Finally, one could regard ὕλιμη as a simple derivative from ὕλη ‘woods’: one of Hesychius’s sources might have read a text in which reference to a battle in the woods (a **ὕλιμη μάχη*) was made, and then ὕλιμη might have been glossed as μάχη (τις) and then ended up in Hesychius’s lexicon. It is true that adjective in *-ιμος* often have two endings, but this is not a strict rule.

¹⁰² E.g. *kurkurima-* ‘intimidation’ < *kurkuriya-* ‘to intimidate’, *taškupima-* ‘screaming’ < *taškupāi* ‘to scream’, *tuhhima* < ‘groaning’, ‘agony’, ‘pain’ < *tuhhāi-* ‘to groan’, ‘to be in pain’ (GHL: 58).

All in all, for the moment the hypothesis of a very early loanword from an unattested Anatolian form seems slightly less likely than the idea of a Greek-internal derivation, or even of independent IE formations, but a definite answer must await additional data, especially because all of this is based on a gloss.

4.4 Calques

Gk. ἔμπορος ‘merchant’ ~ Hitt. *unattalla-* ‘merchant’

Lit.: WATKINS 1995.

Calvert Watkins suggested that the Greek term ἔμπορος ‘merchant’,¹⁰³ analysable as ‘im-
porter’, is a calque from Hittite *unattallaš* ‘merchant’ (WATKINS 1995: 38).

The main problem with this idea concerns the Hittite etymology of *unattallaš*: Watkins seems in fact to rely on the derivation of this word from the verb $\bar{u}nna^{-i}$ / $\bar{u}nni-$ ‘to send here’, ‘to drive here’ through the deverbal suffix *-talla* (first proposed by KRONASSER 1966: 176). However, the Hittite word for ‘merchant’, which occurs in non-sumero-graphic form in only one passage of the *Laws* (*CTH* 291), is spelled $\acute{u}-na-at-ta-al-la-an$ (𐎶𐎵𐎠𐎥𐎧𐎺𐎠𐎫𐎶; *KUB* VI, 2 i 6), whereas the verb ‘drive hither’ is constantly spelled *u-un-n^o* (𐎶𐎵𐎠). This difference is significant because the spelling of the preverb *u-* ‘hither’ with either U or Ú is consistent within the same verbal paradigm (*i.e.* a given verb with *u-* is almost always spelled either with U or with Ú), and if *unattallaš* were derived from $\bar{u}nna^{-i}$ / $\bar{u}nni-$, it would have been spelled *u-u^o*.¹⁰⁴

The exact derivation of the Hittite word is in fact uncertain, and the same can be said about its meaning. The interpretation of *unattalla-* as ‘merchant’ entirely depends on the occurrence of the Sumerogram ¹⁰DAM.GAR ‘merchant’ (cf Akk. *tamkaru* ‘id’), in the same passage of the *Laws*, a few lines before:

¹⁰³ Which we never find in Homer; ἐμπορίη ‘commerce’ appears in Hesiod’s *Works and Days* (v. 646).

¹⁰⁴ It should also be mentioned that U and Ú could reflect phonemically distinct vowels, namely /o/ and /u/, cf. *Appendix and EDHIL* 35ff., *contra* MELCHERT 1994: 26.

ṽtāk¹-ku¹⁰ DAM.GÀR ku-iš-ki ku-e-en-zi 1 ME MA.NA KÙ.BABBAR pa-a-i pár-na-aš-še-e-a šu-
wa-i-ez-zi
tāk-ku I-NA KUR^{URU} Lu-ú-i-ya na-aš-ma I-NA KUR^{URU} Pa-la-a 1 ME MA.NA KÙ.BABBAR pa-a-i
5 a-aš-šu-uš-še-et-ta šar-ni-ik-zi na-aš-ma I-NA KUR^{URU} Ḫa-at-ti
nu-uz-za ú-na-at-ta-al-la-an-pát ar-nu-uz-zi

If anyone kills a merchant of Ḫattuša, he shall give 100 minae of silver and he shall look to his house.

If (it is) in the land of Luwiya and in the land of Palā, he shall give 100 shekels of silver and replace his goods.

If (it is) in the land of Ḫatti, he himself shall bring the merchant (for burial).

Craig Melchert (*apud* YAKUBOVICH 2010: 240, fn. 41 and p.c.) suggests that the *unattallaš* might be a loanword from Luwian, with a loss of *-s before -n. The hypothetical starting form would be **usnattalla-*, from a verb **us-ne/o-* ‘buy’, ‘sell’ (or perhaps **we/os-no-* with syncope), a more likely source for ‘merchant’. If this is true, the hypothesis of a calque from Anatolian loses its *raison d’être*; besides, ἔμπορος could be a univerbation of ἐν πόρῳ (ὦν) ‘being in transit’ (cf. GEW, DELG, EDG).

Myc. *wo-no-wa-ti-si* ~ Hitt. GAL.GEŠTIN ‘chief of wine’

EVANGELISTI 1966: 8; MILANI 1980: 85.

The obscure Mycenaean form *wo-no-wa-ti-si*, found in PY Vn 48 and PY Xa 1419, has been compared by Enzo Evangelisti to Hitt. GAL.GEŠTIN ‘chief of wine’, one of the most important military offices in the Hittite administration:¹⁰⁵ he suggested that /woinowaltis/ is a calque, a compound of the ‘wine’ root (*wo-no*) and the verb **wal* (**welH*) ‘to be strong’. Celestina Milani also supported this interpretation (MILANI 1980: 85).

We know that the Sumerogram GEŠTIN corresponds to Hittite *wiyana-* (cf. Gk. οἶνος, Myc. *wo-no*), but Evangelisti’s hypothesis remains difficult, since (1) it rests on an IE root, **welH*,

¹⁰⁵ Cf. MARIZZA 2007. A very recent assessment of all Hittite GAL.GEŠTINS may be found in BILGIN 2018: 117–38.

which is not otherwise attested in Greek or in the Anatolian languages (*LIV*²: 676-7); (2) it is unclear how the morpheme *-ti-* would fit into this reconstruction; (3) there is no reason why the *Hittite* reading of a sumerogram made of the word for ‘great’ and the word for ‘wine’ should also be made of the same words (as in a hypothetical **šalliwiya-*). On the other hand, there does not seem to be an uncontroversial etymology for this word: it is generally agreed that *wo-no* reflects /woino/, but while some scholars think of a feminine ethnicon from a toponym /woinōwās/ or /woinowā/ comparable to Οἰνός, others take it as the dat.pl. /woinowátsi/ (< **woino-wnt-si*) of a masculine adjective **woinowen(t)s* whose existence we are able to postulate thanks to Att. οἰνοῦττα, the name of a kind of flat bread in Aristophanes *Plut.* 1121 and of a toxic plant in Aristotle fr. 107 (see *DMic* II: 444-5 for a review of the hypotheses and the relative bibliography). Although there does not seem to be a clear solution, the option of a calque from Hittite should be discarded, since a Greek-internal derivation seems more viable.

4.5 *Wanderwörter*

The so-called ‘wandering words’, or *Wanderwörter*, are a somewhat special kind of loanwords whose diffusion makes it difficult for us to point their origin on a linguistic map. The items collected under this heading are found in Greek and Anatolian, but they also appear in other related or unrelated languages in the area, which may or may not have left traces during the transmission of the word. In other words, one cannot be sure whether one of these words found in a Greek text actually came from an Anatolian language, or that Anatolian was the intermediary between Greek and a non-IE language of the Ancient Near East. These are, in fact, only two of the possibilities. It may also be the case that Greek and Anatolian independently borrowed a given word from a third language.

As a consequence, this category needs to be treated separately from the other loanwords. Below is a list of the main *Wanderwörter* found in Greek and in one or more Anatolian languages. The format is slightly different, rather schematic if compared to that used for the other lexical isoglosses, as I shall just list the forms found in Greek and Anatolian, together with the relevant literature:

- Gk. ἐλέφας (Myc. *e-re-pa*) ‘ivory’ ~ Hitt. *lahpa*-; cf. also Akk. *alpu*, Ugar. *’lp*, Phoen. *’lp*, Hebr. *’elep* (LAROCHÉ 65; MASSON 1965: 80-3; GUSMANI 1968a: 85; GEW III: 86; BLAŽEK 1998-9)
- Gk. κύανος ‘dark blue enamel’ ~ Hitt. *kuwanna(n)*-; cf. also Hurr. *ku-wa-an-na-še*, Ugar. *iqnu*, Akk. *uqnu* (Götze *apud* FRIEDRICH 1952; GUSMANI 1968a: 84; LAROCHÉ 1966: 180-1; GEW II: 37; III: 139; DELG: 593-4; EDG: 793)

- Gk. κύμβαχος ‘crest (of a helmet)’ ~ Hitt. *kupaḫi-*; cf. also Akk. *qabūtu*, Ugar. *qbt*, Phoen. *qb*, (SZEMERÉNYI 1965; CARDONA 1968; GUSMANI 1968a: 85; GASBARRA-POZZA 2012; ROSSI 2016)
- Gk. κύπελλον ‘goblet’ ~ Hitt. *ḫuppar-*; cf. also Akk. *huppu* (PISANI 1964: 282; GUSMANI 1968a: 84; GUSMANI 1969: 509; GEW II: 51; III: 141)
- Gk. λάγυνος ‘flask’ ~ Hitt. (Akkad.) *laḫanni-*; cf. also Gk. λάγηνος, Lat. *lagōna*, *lagūna*, *lagēna* (GUSMANI 1968a: 84; GUSMANI 1969: 509; GASBARRA-POZZA 2013; HED V: 7-8)
- Gk. λείριον ‘lily’ ~ Hitt. *alil*, *alēl*; cf. also Lat. *lilium*, Alb. *lule*, Egypt. *ḥrrt*, Cush. *alili*, Berb. *alili* (BENVENISTE 1954: 43; MASSON 1967: 59; GUSMANI 1968a: 85; GEW II: 101; III: 145; DELG: 729)
- Gk. νίτρον ‘sodium carbonate’ ~ Hitt. *nitri-*; cf. also Egypt. *ntr(j)* Akk. *nit(i)ru*, Hebr. *neter*, Lat. *nitrum* (GUSMANI 1968a: 84; GEW II: 321; HED VII: 122)
- Gk. οἶνος ‘wine’ ~ Hitt. *wiyan(a)-* / HLuw. *wa(i)ana-*; cf. also Lat. *vinum*, Arm. *gini*, Hebr. *yayin*, Arab. *wain* (GELB 1931: 10; GEW II: 365; but cf. GORTON 2017 and Lipp *apud* GORTON 2017, who make the case for an originally IE word)
- Gk. σήσαμον ‘sesame’ ~ Hitt. *šam(m)am(m)a-*; cf. also Akk. *šamaššammu(m)*, Hurr. *šamšamme*, Ugar. *ššmn* Phoen. *ššmn* (MASSON 1967: 57-8; LAROCHE 1955: XXXIII; LAROCHE 1972: 83; GEW II: 698; DELG: 1000)
- Gk. χαλκός ‘bronze’ ~ Hitt. *ḫapalki-*; cf. also Hurr. *ḫapalki/apalki*, Akk. (Amarna) *ḫapalkinnu*, Hatt. (gen. sg.) *ḫapalkiyan* (PISANI 1966: 46; DELG: 1244; HED II: 117-8 with reff.).

4.6 Graeco-Anatolian Lexicon: conclusions

Following the above reassessment of the lexical items only shared by Greek and Anatolian (with Hittite being the main *comparandum*), some conclusions may be drawn.

More than half of the couplets analysed do not speak in favour of any special relationship between the two branches, since they are not genuine and exclusive Graeco-Anatolian isoglosses.

I find the following isoglosses valid, or at least possible:

- Gk. αἶσχος ~ Hitt. *iškuna(hh)-/ishuna(hh)-*
- Gk. ἀλύω ~ Hitt. *halluwai-*
- Gk. ἄντλος ~ Hitt. *han-*
- Gk. ῥίον ~ Hitt. *šēr*

To these, one should perhaps add Gk. λάος ~ Hitt. *lahha* and ἦρα ~ Hitt. *warri-*, which were discussed in the loanword section.

The following, by contrast, should not be considered Graeco-Anatolian exclusive isoglosses:

- Gk. ἀλαζών ~ Hitt. *halzai-ⁱ/halzi-*, CLuw. *halta/i-*;
- Gk. εἶρων ~ Hitt. *ešri-*
- Gk. ὄγμος ~ Hitt. *akkala-*
- Gk. ὀπηδός ~ Hitt. *hapati-*
- Gk. στόμα ~ Hitt. *ištamana-*

The case of Gk. λύπη ~ CLuw. (?) *lu(m)pašti-* is a *non liquet*.

These etymological connections were made, for the most part, in a period when the ‘outsider’ Anatolian (specifically Hittite) was being added to an already complete picture of Indo-European, which developed in the 19th century and found a codification with Brugmann and his contemporaries. Our knowledge of Anatolian documents and historical grammar has exponentially increased over the past decades, new etymologies have been found, and some lexical items which were previously thought to have only a Greek cognate, either have a completely different meaning (*e.g.* Hitt. *ḫapati-* ‘river valley’), or are part of a bigger group within the family (*e.g.* *ištamana-*).

Finding a *tertium comparationis*, *i.e.* a lexeme present in another Indo-European branch, means that common innovation must be excluded, unless there is a semantic specialisation which cannot have occurred by chance. As previously said, it is not always easy (or possible at all) to decide between what is an inherited item which has been lost in all other branches, and what is a development of the two branches – especially when this has to be done exclusively through a reconstruction which goes well beyond our attestations. However, it is clear that, as far as the lexicon is concerned, Greek and Anatolian are not particularly close to each other.

All of this is relatively common knowledge: even in 1954, Porzig stated that there are very few traits linking Anatolian to Greek at a prehistoric stage (PORZIG 1954a:189), and this seems to be confirmed by our analysis of the presumptive Graeco-Anatolian shared lexicon. As Gusmani correctly remarked when mentioning the relationship between Greek and Hittite, «le due lingue non devono aver avuto in epoca antica contatti particolarmente intensi, perché le isoglosse esclusive (limitate cioè alle lingue in questione), che da un punto di vista cronologico siano riferibili ad una fase abbastanza antica e comunque anteriore ai

rapporti intercorsi nell'ambiente egeo-anatolico, sono estremamente scarse» (GUSMANI 1968a: 79-80).

While both suggested calques should be rejected, the panorama of Anatolian influence on the Greek lexicon in historical times tells us much more, but at the same time gives a fuzzier picture: an analysis of several presumptive Anatolian loanwords in Greek opens different scenarios, which are much more complex and not always uncontroversial. First of all, it must be said that Anatolian ascendancy has been rejected for several of the Greek words. In other cases it has not been possible to decide between an exclusive isogloss and a loanword. But it seems clear that the influence of Anatolian on early Greek has often been overstated, especially in the older literature, since for a good number of items the loanword hypothesis is not the most convenient one.

The following are (more or less) likely Anatolian loanwords in Greek:

- Gk. γάγγαμον < Luw. *kank-*
- Gk. δέπας < CLuw. *tappaš-* / HLUw *dibas-*
- Gk. ἡλίβατος < Luw. *āla/i-*
- Gk. μόλυβδος 'lead' < Lyd. *mariwda-* 'dark'
- Gk. σιγαλόμεναι < Hitt. (Hurr.) *šeḫali*
- Gk. ταρχύω < Hitt. *tarḫu-*
- Gk. τύραννος < HLUw. *tarrawanna/i-*

For the following, an Anatolian origin can be reasonably excluded:

- Gk. ἀτύζομαι ≠ Hitt. *ḫatugi-*
- Gk. δάμαρ ≠ Hitt. ^{MUNUS} *dammara-*

- Gk. ἦρα < Hitt. *warri*-
- Gk. ἔχωρ < Hitt. *ešhar*
- Gk. λαλέω < Hitt. *lāla(n)*-
- Gk. ὑλίμη < Hitt. *šulli*-

If one is ready to accept ‘irregular’ adaptations of Anatolian sounds in Greek, a few more items can be considered real loanwords. Specifically:

- If Luwian /a/ had been perceived as [o]:
 - Gk. τολύπη < CLuw. *taluppi*-
- If Luwian initial /t/ had been perceived as [t^h]:
 - Gk. θεράπων < Luw. **tarpan(i)*-
 - Gk. θύρσος < HLuw. *tuwarsa*-
- More generally, if an Anatolian *fortis* stop was perceived as an aspirated stop in Greek:
 - Gk. σάφα < Hitt. *šuppi*-
- If the laryngeal had been perceived as [h] and then dropped without leaving traces:
 - Gk. ὄβρυζα < Hitt. (Hurr.) *hubrušhi*-
 - Gk. δαῖ < Hitt. *lahḫa*
- If both of the above conditions are applicable, then:
 - Gk. ἄφενος ~ Hitt. *ḫappina*-

For all of the above, other accounts are possible, and sometimes likely. For the following, on the other hand, it is difficult to decide – although an Anatolian origin *cannot* be categorically excluded:

- Gk. ἀμάρρα < Hitt. *amiyar(a)*- ?
- Gk. ἄρσεα < Hitt. *arši*- ?

On the basis of those Greek words which seem to be explained better with an Anatolian etymology, it is possible to offer some considerations on the phonetic adaptations which might have taken place in the borrowing process. We can confirm that most Anatolian consonants were adapted with the corresponding sound in Greek. However, we have seen that in order to accept some loanwords, we need to postulate different treatments of some sounds. In particular, Greek *might*:

- adapt Anatolian *fortis* stops with voiceless aspirates (e.g. /p/ = <pp> → [p^h]);
- adapt Anatolian laryngeals with velar sounds, voiced in intervocalic position ((/h/ → [g], cf. σιγαλόεις < *šeḫali*) or aspirate (/h/ → [k^h], cf. τάρχύω < Hitt. *tarḫu-*); laryngeal loss is much less certain (cf. *ḫappina-* < ἄφενος, and δαῖ < Hitt. *lahḫa-*); here it is crucial to identify which Anatolian language is the possible source of a Greek word, which is not always possible.
- present imperfect correspondence of liquids, usually adapting /r/ with [l] (μόλυβδος 'lead' < Lyd. *mariwda-*, τολύπη < Hitt. *tarupp-*).

As for the vowels, one notes that:

- Anatolian /a/ may have been perceived as [o] by the Greek ear (e.g. τολύπη < CLuw. *taluppi-* / Hitt. *tarupp-*);

- there may have been oscillations between /e/ and /i/, which are otherwise found both in Greek- and Anatolian-speaking areas (*e.g.* ἄρσεα < Hitt. *arši-*, σιγαλόμεναι < Hitt. *šeḫali*).

From a semantic point of view, it seems that most loanwords, together with most *Wanderwörter*, refer to objects of common use, which may have been diffused through commercial relations between the Aegean and the Ancient Near East (*e.g.* δέπας, μόλυβδος, τολύπη, and perhaps ὄβρυζα). In this case, as in that of the loanwords referring to concepts until then unknown in the Greek world (*e.g.* τύραννος, perhaps θεράπων and θύρσος), one may see the application of the concept of “a new word for a new thing”. However, there is a smaller number of lexemes which are peculiar to a different register, namely that of ritual and of literary language, and which might have had a different path of transmission (ἡλίβατος, ταρχύω, perhaps δαῖ and σιγαλόμεναι).

5 Greek in Anatolia: the case of Pamphylian

This final chapter investigates the possible relationship between the dialect of Pamphylia, which has traditionally been considered aberrant from the other Greek dialects for its mixture of archaisms and specific innovations, and the indigenous Indo-European languages of the southern coast of the Anatolian peninsula, namely Luwian, Lycian and Sidetic. After a survey of the origins of this people (and of their ethnonym) from the Greek and Anatolian literary and epigraphic sources, and a brief summary of the main scholarly work on the position of Pamphylian among the Greek dialects of the first millennium, I shall analyse some selected case studies, trying to understand how much of an isolated Greek dialect whose speakers were in close contact with speakers of one or more Anatolian languages can be attributed to adstrate or substrate influence.

5.1 Pamphylians and Pamphylia

The origins of the Πάμφυλοι (or Παμφύλιοι) are obscured by myth, and we do not find any trace of their presence either in Homer or in early hexametric poetry. The first occurrence of the name, referring to this people, is found in the seventh book of Herodotus's *Ἱστορίαι*, where the Pamphylians are mentioned in the catalogue of Persian forces before Xerxes's invasion of Greece.¹ Four centuries later, Strabo quoted Herodotus, adding some details to the legend and implicitly referring to the etymology that – with a good degree of probability – the Pamphylians themselves acknowledged as true.² There are in fact three possible

¹ Hdt. VII, 91: Πάμφυλοι δὲ τριήκοντα παρείχοντο νέας Ἑλληνικοῖσι ὅπλοισι ἐσκευασμένοι. οἱ δὲ Πάμφυλοι οὗτοι εἰσὶ τῶν ἐκ Τροίης ἀποσκεδασθέντων ἅμα Ἀμφιλόχῳ καὶ Κάλχαντι «Pamphylians furnished thirty ships: they were armed like Greeks. These Pamphylians are descended from the Trojans of the dispersal who followed Amphilocus and Calchas» (transl. Godley).

² Strab. XIV, 4, 3: φησὶ δ' Ἡρόδοτος τοὺς Παμφύλους τῶν μετὰ Ἀμφιλόχου καὶ Κάλχαντος εἶναι λαῶν μιγάδων τινῶν ἐκ Τροίας συνακολουθησάντων: τοὺς μὲν δὴ πολλοὺς ἐνθάδε καταμεῖναι, τινὰς δὲ σκεδασθῆναι πολλαχοῦ τῆς γῆς. Καλλίνος δὲ τὸν μὲν Κάλχαντα ἐν Κλάρῳ τελευτῆσαι τὸν βίον φησὶ, τοὺς δὲ λαοὺς μετὰ Μόψου τὸν Ταῦρον ὑπερθέοντας

explanations which could account for the origin of this name: 1) it derives from the name of a Dorian tribe, the Πάμφυλοι;³ 2) it is the substantivised adjective πάμφυλος “of mingled tribes or races” (*LSJ*, s.v.) which later became an ethnonym; 3) it comes from Πάμφυλος, the daughter (Theopomp. *FGrH* 115 F 103,15), sister (Steph. Byz. s.v. Π.) or wife (schol. Dionys. Per. 850) of Mopsus, the mythical seer (POxy. 53,3698 and Pind. *Pyth.* 189-192).⁴ All three options are possible, and it is impossible to find any stringent validation for any of them.

It might be worth noting that the name Mopsus (Gk. Μόψος) is quite relevant in the area at the time, since it also appears in documents that are crucial for our understanding not only of Hieroglyphic Luwian, but also of the dynastic and political situation of some Neo-Hittite kingdoms in the first quarter of the first millennium.⁵ This anthroponym is also found in the form *mo-qo-so-* /mók^wso/ in Mycenaean (KN De 1381.B, PY Sa 774, see GARCÍA RAMÓN 2005: 29), and in the form ^m*Mu-ku-šú-us* in the *Indictment of Madduwatta*, a text of the 15th century which – among other things – bears the first mention of *Aḫḫiyawa* (cf. 1.3.1 *supra*). The passage is unfortunately extremely fragmentary, and we cannot learn much more from that text, but the mention of Attarisiya’s expedition against Alašiya (Cyprus) a few lines later strengthens the connection of Mopsos’ name with the Mycenaean world. But there is more:

τοὺς μὲν ἐν Παμφυλίᾳ μέναι τοὺς δ’ ἐν Κιλικίᾳ μερισθῆναι καὶ Συρίᾳ μέχρι καὶ Φοινίκης «Herodotus says that the Pamphylians are the descendants of the peoples led by Amphilocus and Calchas, a miscellaneous throng who accompanied them from Troy; and that most of them remained here, but that some of them were scattered to numerous places on earth. Callinus says that Calchas died in Clarus, but that the peoples led by Mopsus passed over the Taurus, and that, though some remained in Pamphylia, the others were dispersed in Cilicia, and also in Syria as far as even in Phoenicia» (transl. Jones).

³ One of the three components of the Dorian *ethnos*, according to Tyrtaeus (fr. 19 West): ἡμεῖς οὖν πάρνοψιν ἐοικότες ἢ γεράνοισιν / στείχωμεν κοίλης ἀσπίσι φραζόμενοι, / χωρὶς Πάμφυλοί τε καὶ Ὑλλεῖς ἠδὲ Δυμᾶνες / ἀνδροφόνους μελίας χερσὶν ἀνασχόμενοι «Let us, then, go forward behind our hollow shields like a flight of locusts or of cranes, Pamphyli, Hylleis, Dymanes, each tribe brandishing its man-slaying ashen spears» (transl. Edmonds). The advocates of this derivation obviously put a stress on the Dorian ethnicity of the people of Pamphylia and – consequently – on the Doric influence in the Pamphylian dialect, cf. 5.2 *infra*.

⁴ See *DGP*: 145 and MARTINI 2000: 216.

⁵ In a way, this name brings together several much debated issues: the *Aḫḫiyawa Frage* (cf. 1.2.1 and 1.3.1 *supra*), the etymology of the *DNNYM* (cf. *Δαναοί?*) of the Çineköy bilingual (cf. TEKOĞLU – LEMAIRE 2000) and – of course – the relationships between the Greek and Anatolian populations. On the famous Karatepe bilingual inscription, see HAWKINS – MORPURGO DAVIES 1978.

a very similar name is found in two bilingual Phoenico-Luwian inscriptions (the translations offered here are from YAKUBOVICH 2010: 155):

KARATEPE 1, § 57 (CHLI I: 56)

(Luw.) *ma-pa-wa/i* (CRUX) *pa+ra/i-na-wa/i-tu-u* (LITUUS) *á-za-ti-wa/i-tà-ia mu-ka-sa-sá-há* DOMUS-*ní-i* (DEUS) TONITRUS-*hu-ta-[ti]* DEUS-*na-ti-há*

«And let them build much for Azatiwada and for the house of **Muksa** by (the grace of) Tarhunt and the gods»

(Phoen.) *w-brbm y'bd l-'ztd w-l-bt mpš b-'br b'l w-'lm*

«And by many they will serve Azatiwada and the house of Mopsus by the grace of Baal and the gods»

ÇINEKÖY, §1 (TEKOĞLU – LEMAIRE 2000: 968, 994)

(Luw.) [EGO-*mí*] *wa/i+ra/i-i-[ka-sá x-x-x-x(-x)* (“INFANS”) *ní-*] *mu-wa/i-za-sa [mu-ka]-sa-sa* || [INFANS.NEPOS-*sí-sà* |*hi-ia-wa/i[-ní]-sá*[(URBS)] |REX-*ti-sa*|(DEUS) TONIT[*RUS*]-*hu-t[a-sa SERVUS-la/i-sa]*

«[I am] Wr(a)ika, son of [X], grandson of **Muksa**, Hiyawan king, [servant] of Tarhunt»

(Phoen.) *'nk w[ryk bn...] 'šph, mpš [mlk dnny] hbrk b'l*

« I am Wr(a)ika, [son of X], descendant of **Mopsus**, [Hiyawan king], steward of Baal»

Not only is Mopsus an elusive character in our eyes, but – according to Pliny – the whole region was named after him before historical times: *Pamphylia ante Mopsopia appellata est* (V, 96).

It is generally thought (after OETTINGER 2008), that the name Μόψος should be traced back to Greek. If this PN had originally been Anatolian, it would have been written **Mukussa-* or **Mukussu-* (and not *Muksa-* or *Muksus* – equivalent of HLUw. *mu-ka-sa-sá* and Hitt. ^m*Mu-uk-šú-uš*), as the regular outcome of **k^w* is <*ku*> (and we know that the name must have had a labiovelar thanks to Mycenaean *mo-go-so-*); if it were originally Greek, instead, the phonological explanations would be more simple, as it would just involve -*k^w*s- > -*ks-* in the transmission from Greek to Anatolian; the Phoenician form could then be a later borrowing, whose *terminus post quem* would be the sound change **k^w* > *p*. This view has

recently been challenged by Simon (*forthcoming*), who argued that the Greek and Anatolian forms are irreconcilable, and that they are to be considered separately: Pre-Greek **mok^wso-* > Myc. *mo-qo-so-* > alphabetic Gk. Μόψος and (Pre-)Lydian *Mukšu* / *Moxos*, cognate to Luwian *Muksa* (whence Phrygian *Muksos*). Re-evaluating this issue would lead us too far from our main goal, so for the moment it seems safe to assume with Yakubovich (2010: 156) «that **Mok^wso-* constituted a common dynastic name in Asia Minor in the Late Bronze Age and the Early Iron Age, and that the Greek legends conflated several homonymous rulers into a single founding figure».

Whatever the real etymology of the name of the Pamphylians or of their founder might be, it was quite clear to the Greeks that the people of that region were mixed, and their ethnicity was somehow perceived as “barbarian”: Ephorus (*apud* Strabo, XIV, 5, 23) wrote that τὴν χερρόνησον κατοικεῖ ταύτην ἑκαταίδεκα γένη, τρία μὲν Ἑλληνικά τὰ δὲ λοιπὰ βάρβαρα χωρὶς τῶν μιγάδων, ἐπὶ θαλάττῃ μὲν Κίλικες καὶ Πάμφυλοι καὶ Λύκιοι καὶ Βιθυνοὶ καὶ Παφλαγόνες καὶ Μαριανδυνοὶ καὶ Τρώες καὶ Κάρες [...] «sixteen tribes inhabit this peninsula, three Greek and the rest barbarian, with the exception of the mixed ones; on the sea Cilicians, Pamphylians, Lycians, Bithynians, Paphlagonians, Mariandyni, Troes, and Carians», and we have an account of Arrian (*Anabasis*, 1, 26, 4) testifying to the mixture of their language and mentioning colonisers from Aeolic Cyme:

εἰσὶ δὲ οἱ Σιδηταὶ Κυμαῖοι ἐκ Κύμης τῆς Αἰολίδος· καὶ οὗτοι λέγουσιν ὑπὲρ σφῶν τόνδε τὸν λόγον, ὅτι, ὡς κατήραν τε ἐς τὴν γῆν ἐκείνην οἱ πρῶτοι ἐκ Κύμης σταλέντες καὶ ἐπὶ οἰκισμῷ ἐξέβησαν, αὐτίκα τὴν μὲν Ἑλλάδα γλώσσαν ἐξελάθοντο, εὐθὺς δὲ βάρβαρον φωνὴν ἔεσαν, οὐδὲ τῶν προσχώρων βαρβάρων, ἀλλὰ ἰδίαν σφῶν οὕτω πρόσθεν οὔσαν τὴν φωνήν· καὶ ἔκτοτε οὐ κατὰ τοὺς ἄλλους προσχώρους Σιδηταὶ ἐβαρβαρίζον

«The inhabitants of Side are Cymaeans from Aeolian Cyme; according to their own account of themselves, when the first emigrants from Cyme put into land and disembarked to found a colony, they at once forgot their native tongue and talked a foreign language straight away, and not that of the neighbouring barbarians, but their own idiom, in fact a new dialect; and from that time the

people of Side spoke like barbarians but not like the other peoples of the neighbourhood» (transl. Brunt).

We know from Hittite sources that the area that would later be called Pamphylia was by and large located in the second-millennium region of Tarḫuntašša, which was part of the Hittite empire. This is best known from the treaty between the Hittite king Tudḫaliya IV and his cousin and vassal Kuruntiya, lord of Tarḫuntašša, inscribed on the only Hittite bronze tablet we possess (Bo 86/299; reference to Tarḫuntašša at *e.g.* Vs ii 67-8 *zi-la-ti-ya-ma A-NA*^m ^dLAMMA LUGAL KUR ^{URU}dU-ta-aš-ša *ki-i iš-ḫi-ú-ul e-eš-du* «but for all time shall this agreement be valid for Kuruntiya, king of the land of Tarḫuntašša»).

The main archaeological sites of the area are the cities of Perge, Sillyon, Aspendos, and Side. Aspendos and Perge probably had also Anatolian names, *Azatiwada* and *Parḫa* respectively. Side is the finding spot of ten inscriptions in an indigenous language, Sidetic, from the 3rd c. BCE (cf. 1.1.2.7 *supra*), and this testifies to the fact that Greek must have coexisted with at least one Anatolian language for quite some time.

5.2 The dialectal position of Pamphylian

Pamphylian is the language of almost 300 inscriptions (mostly funerary, consisting almost exclusively of PNs) found in the region of Pamphylia and dating to the second half of 4th c. BCE onwards, coin legends, and ca. 30 glosses.⁶

Pamphylian is an isolated dialect with a variety of peculiar features, but there is no agreement on its dialectal position, even though most features that Pamphylian shares with other varieties of Greek have been identified (see a full list of dialectal isoglosses in *Appendix*

⁶ The 291 inscriptions on stone are edited in *DGP* and in the following supplements (BRIXHE 1976, 1988a, 1991, 1996b, 1997 BRIXHE – TEKOĞLU 2000 and BRIXHE – TEKOĞLU – VOTTÉRO 2007) and are reproduced (without diacritics and accents) in *Appendix* 5. One should also consult BRIXHE 2011 for further onomastic material.

4). Even in recent accounts Pamphylian is still labelled as “unclassified” (COLVIN 2010: 203), and incidentally there is no agreement on the classification and origin of its alphabet either. According to Kirchhoff, it is derived from the alphabet of Argos or from the Ionian, and could thus be grouped among the *dunkelblau* ones;⁷ others, instead, argue for a more complex system, derived from the alphabets of Megara, Argos and Corinth. Its main peculiarities are: (1) Two signs for the /w/ sound: the traditional *digamma* F, and U (similar to a Carian sign); (2) a sign U^\dagger , perhaps initially used to indicate the phoneme resulting from $*k(h) + y$ and later for the voiceless fricative σ (cf. $\text{U}\alpha\nu\alpha^\dagger\alpha\varsigma$). Brixhe rejects any major Cyprian or epichoric influence on the alphabet, stating that «nous sommes, dans les premiers documents, en présence d’un abécédaire relativement archaïque, mais authentiquement grec et apparenté à ceux de type oriental» (DGP: 9).

On a linguistic level, early studies agreed on the similarities of Pamphylian with the Eastern/Southern dialects⁸ (in particular with those belonging to the “Achaean” group, *i.e.* Mycenaean in the second millennium and Arcadian and Cyprian in the first), but there has been a lively debate on the amount and importance of “Doric” features, especially in the first part of the twentieth century. While acknowledging the coexistence of “Achaean” features with “Dorisms” (already KRETSCHMER 1895), some scholars postulated a stronger relationship

⁷ Following Adolf Kirchhoff’s seminal work (KIRCHHOFF 1887), Greek alphabets are traditionally classified into four major systems, according to the treatment of the letters for the aspirated consonants /p^h/, /k^h/ and the clusters /ks/ and /ps/: the “green” (*grün*) type is the most archaic, since it uses only the Phoenician set and lacks dedicated signs for /ks/, /ps/, /p^h/ and /k^h/, and is found in Crete, Thera, Melos and Anaphe; the “red” (*rot*) type introduces the signs for /ks/, /p^h/ and /k^h/, but X = /ks/ (as in the Latin alphabet, which ultimately derives from this type) and ≠ /k^h/, and is found in Thessaly, Boeotia, the greatest part of Peloponnese, Euboea and most colonies in *Magna Graecia*; the “light blue” (*hellblau*) type still lacks any sign for /ks/ and /ps/, but introduces signs for /p^h/, /k^h/, and is found in Athens (before the reform of 403 BCE), in Hermione in the Peloponnese, in Lemnos, Keos, Paros, Naxos, Amorgos and other islands of the Aegean; finally, the “dark blue” (*dunkelblau*) system, characterised by all the signs that are present in the modern alphabet, includes those alphabets from Argos, Corinth, Megara, Chalcidice, Acharnania and Asia Minor. See WOODARD 2010 and 2014 for further discussion.

⁸ Respectively in Porzig’s (1954b) and Risch’s (1955) terminology.

with the Doric dialects, especially with the dialect of Crete (BECHTEL 1921-4). Others (*e.g.* MEILLET 1908), by contrast, assigned more prominence to the “Achaean” isoglosses and even attempted to demonstrate that the genetic connections with the Doric group are only apparent, arguing that such similarities might be due to historical contact instead of inheritance (RONCONI, 1930: 20). In order to resolve the stalemate between the “Achaean” and the “Doric” theories, still others have argued for a more stratified situation, which includes an original Aeolic nucleus (composed of “northern” and “southern” features)⁹ overlaid by Doric (in particular Cretan) and also influenced by the contact with Anatolian languages. Finally, some developments which are either independent or shared with neighbouring dialects were identified as anticipating κοινῇ Greek (METRI 1954: 112).¹⁰

It was only with Claude Brixhe’s *opus magnum* (*DGP*) and the subsequent *supplementa* with the edition and commentary of epigraphic material that a wider consensus concerning the dialectal position of Pamphylian has been reached. The isoglosses we have are now seen as the result of linguistic layering: Achaean colonisers might have arrived to the region in the 13th century, mixing with speakers of Anatolian languages (presumably Luwian or Luwic); a second wave of Hellenic people speaking Doric dialects came in the 8th and 7th centuries and Doric became a linguistic superstrate. According to Brixhe, the colonisation of Side by inhabitants of Aeolic Cyme referred to by Arrian (*cf. supra*) does not seem to have had significant effects, as the isoglosses with Eastern Aeolic can be explained away. Finally, since Pamphylian coexisted for quite a long time with the Anatolian languages spoken in the

⁹ The adjective “Aeolic” is here used as a label for all those varieties of Greek that are neither Attic-Ionic, nor Doric/North-Western: Metri distinguishes between “northern Aeolic” (*e.g.* Lesbian) and “southern Aeolic” (*e.g.* Cyprian) dialects.

¹⁰ This is reminiscent, on a more general level, of Sapir’s “drift”; on the application of this concept to ancient Greek dialectology, see MORPURGO DAVIES 2012.

southern part of the peninsula, these should be considered as both substrate and as adstrate languages (*DGP*: 147-8).

Independently from Brixhe, other scholars have tried to define the position of Pamphylian within the dialectal geography of ancient Greece: they have taken into consideration a set of relevant linguistic phenomena, recording the variation in each dialect, and then they have mapped the isoglosses in order to define both the reciprocal relationships between dialectal units (and single dialects) and their position in a dialectal map of the Greek-speaking world.

In a much-cited 1963 article, Robert Coleman attempted a sketch of the relationships among the Greek dialects through a factorial analysis. He adopted statistical methods, selecting fifty-one items that showed a pattern of variations and plotting them in a chart against twenty-four dialectal units; he set a three-value system (positive-, negative- and zero-occurrence) for every dialect, and a variable-value system depending on the number of different forms included in the isogloss for every item. He concluded that «Pamphylian must be regarded with Boeotian as forming a bridge between East and West Greek» and «must be placed towards the West Greek side of the bridge» (COLEMAN 1963: 123-4).

More recently, Margalit Finkelberg has adopted a similar method, using 21 isoglosses, and placed Pamphylian between Cretan, Ionic, Lesbian and Thessalian (FINKELBERG 2005: 125). Leaving aside the controversial points in Finkelberg's book, this method is susceptible of yielding very different results, despite its alleged mathematical bases. The dialectal panorama will depend on the number and "weight" of the isoglosses taken into consideration, and it is unsafe to give the same value to each isogloss (for instance, it is

common knowledge that a morphological agreement “weighs” more than a lexical or a phonological one), as Finkelberg seems to do.

The last few decades have seen a surge in the number of documents in our corpus (six supplements were published between 1976 and 2007), but only one relatively long (and very damaged) inscription (n°276) was added to the only other longer document we possessed (n°3). This did not radically improve our understanding, except perhaps for the case of the Aeolic component in Pamphylian. As briefly mentioned above, Brixhe was quite sceptical about isoglosses with the Aeolic dialects in 1976, but he appears to have changed his mind after more recent findings showed that the isoglosses with the Aeolic branch are incontrovertible (BRIXHE 2013).¹¹ We may then attempt a definition of Pamphylian that takes into account all that has been said above: its second millennium ancestor probably belonged to the Eastern/Southern group, but in the first millennium some innovations might have spread from the northern Aeolic dialects. Some influence from the neighbouring Anatolian languages is detectable, because – as we will see in the next section – there are quite a few similarities with Luwian, Lycian and Sidetic that can be traced back to a period of bilingualism (or any other form of deep language contact) in the region. This is particularly evident in the onomastic material and in some phonetic developments. The isoglosses with

¹¹ For the imperative, in particular, he tentatively posits an influence of the neighbouring Anatolian languages that would have favoured the generalisation of the Eastern Aeolic form: since *-i* and *-u* are in functional opposition in the verbal system, and they denote respectively reality and possibility (meaning that the indicative is associated with the “actualizing” *-i*, while the “modal” imperative is associated with *-u*), it is possible that «non seulement par le jeu normal de l’évolution la troisième personne du pluriel lesbienne devenait identique à l’anatolienne, mais le *-tō* du singulier pouvait être perçu et reproduit [*-tu*] par un louvitophone.» (BRIXHE 2006: 35). In other words, the similarity of the Luwian imperative endings (*-t/du* and *-ntu*), to the Aeolic ones could have contributed to a change of the final *-o* into *-u*. However, despite his change of mind about the Aeolic component in Pamphylian, he still does not believe that Arrian’s account of the colonisation of Side can help us in these regards. Instead of taking it for granted (as GARCÍA RAMÓN 2006b does), he questions the ancient historians’ testimonies on Side as the centre of diffusion of Aeolic features, postulating a penetration of Aeolic people from the West (BRIXHE 2013). In this case, though, we do not see why we should not trust an ancient source, especially after finding out that Eastern Aeolian features are actually present in Pamphylian.

Doric may well be archaisms or typologically common features, the only exception being the frequency of metathesis, which is shared with Cretan. In any case, it has to be born in mind that the Pamphylian we read on the inscriptions «ne vient pas de quelque part: il s'est formé là où on le trouve, c'est à dire en Pamphylie, par osmoses successives. Dans ces cas extrêmes, la notion de parenté dialectale n'a plus guère de sens [...] Le pamphylien n'est pas "un dialecte dorien qui [...]", ou "un dialecte achéen qui [...]", mais le parler des métis hellénophones de Pamphylie» (BILE – BRIXHE – HODOT 1984: 174).

5.3 A dialect in contact

In addition to the above features, which are Greek in their development and variation, it was soon noted that Pamphylian has a certain number of linguistic traits attributable to Anatolian influence. Brixhe highlighted the following in 1976 (*DGP*: 146):

- An intensive accent (cf. the frequency of aphaeresis and syncope).
- The frequency of metathesis (cf. Cretan) and aphaeresis.
- The presence of a glide after /ũ/ and /ĩ/ in hiatus.
- The neutralisation of the opposition between /ǒ/ and /ũ/ in final position (cf. Arcado-Cypriot).
- The weakening of the nasal element in the final part of the syllable, with eventual nasalised vowels (cf. Arcado-Cypriot).
- The fricativisation of /g/ and /d/ between vowels (cf. Late Greek/modern developments).

While some scholars believe that rhotacism, the neutralisation of the opposition between /e/ and /a/ in certain contexts, and the oscillation between ε/ι and ο/ου/υ are also

due to a substrate and/or an adstrate, according to others most of the features that have been attributed to Anatolian influence can be explained without resorting to substrate (LÓPEZ EIRE – LILLO ALCARAZ 1983b: 21).

Christina Skelton has recently published an article on language contact in Pamphylia, taking into consideration some of the features listed by Brixhe and trying to give an account of the type of language contact that occurred in the area. She argues that the Anatolian languages influenced Pamphylian on a structural level: in particular, she claims that phonology and syntax were massively affected, whereas one could detect almost no contact-induced morphological and lexical change, and that this would point to a situation of imperfect second-language learning (cf. 1.4.2.2 *supra*).¹² Before discussing this hypothesis, we shall turn to the analysis of some relevant linguistic features, in order to assess the impact of language contact between Pamphylian and the Anatolian languages. In the following sections, I will offer five case studies of a phonological and morphological nature.

5.3.1 Lowering of the open-mid front unrounded vowel

The preposition $\upsilon\pi\alpha\rho$ and several anthroponyms show a peculiar opening of the open-mid front unrounded vowel / ϵ / into / \check{a} /. While the / a / in $\upsilon\pi\alpha\rho$ might well not be due to

¹² Since I was able to read Skelton's article only when the present chapter had been substantially written, I shall refrain from discussing it thoroughly, and I shall not make further reference to it in the rest of the chapter; I will only evaluate her overall argument in the conclusion, checking it against the results of my analysis. It is perhaps fair to say that I find Skelton's contribution quite controversial: linguistic features are treated hastily, important pieces of scholarship are omitted which treat some of the specific points mentioned by the author (e.g. DARDANO 2006, 2007, 2012), and there are significant mistakes, both in the evaluation of the corpus (Skelton states that «there are just under 200 inscriptions», p. 111; our corpus actually consists of almost 300 inscriptions, and she seems to be unaware of the six supplements to *DGP* published between 1976 and 2007, which are not listed in her bibliography) and in simple linguistic facts («there is some evidence that Pamphylian may have had syllabic liquids», p. 113; it is widely known that syllabic r and l did not survive as such in first-millennium Greek; cf. VAN BEEK 2013). Her overall argument could be plausible, in theory, but the supporting evidence is much weaker than the author would want it to be. All in all, in my opinion, Skelton's contribution does not substantially advance our knowledge in the field, and this is another reason not to discuss it point by point.

contact (cf. DARDANO 2006), and a name such as Σεραπίω might go back to Σαραπίω(ν), which is quite common in the Greek onomastic panorama,¹³ vocalic variation such as that in the name of Aspendos (Ἀσπέδιος in n°171 vs. Εσπτεδιος in n°8) requires a more specific account.

Paola Dardano (2006: 99) suggested that the sporadic confusion between /ǣ/ and /ě/ in some Pamphylian contexts could be attributed to Lycian influence. She argued that this phenomenon might have originated in the indigenous personal and geographical names, and later spread to other parts of the lexicon.

Greek transcriptions of Lycian names show the correspondences Lyc. <e> ~ Gk. <α> and Lyc. <e> ~ Gk. <ε> (exx. from DARDANO 2006: 98):

	Lycian	Greek
(1)	<i>Hl̥nidewe</i> (dat.?, TL 139.5)	Ἑλμιδαυαι
(2)	<i>Mahanepijemi</i> (gen., N 302.2)	Μαναπιμιος
(3)	<i>Mlejeusi</i> (dat., TL 139.5):	Μλααυσει
(4)	<i>Pubieleje</i> (dat., TL 117.4- 5)	Πυβιαληι
(5)	<i>Purihimetehe</i> (gen., TL 6.1-2):	Πυριματιος
(6)	<i>Ssepije</i> (N 302.2):	Σαπια
(7)	<i>Siderija</i> (TL 117.2)	Σιδαριος

This leads us to think that Lycian <e> was realised as a non-rounded mid-low or low vowel ([æ] or [a]), which was therefore in opposition with the vowel written as <a>, probably a low back vowel (= [ɑ]), cf. MELCHERT 1994: 291.

Lycian also has regressive assimilation, called *Umlaut*:¹⁴

¹³ See DARDANO 2006: 96 with bibliography.

- I. /e/ > /a/ / _C(C)a
- II. /e/ > /a/ / _C(C)u
- III. /a/ > /e/ / _C(C)e
- IV. /a/ > /e/ / _C(C)i

The sound changes in I and II (those involving /e/) are consistent, whereas those in III and IV (which involve /a/) are not:¹⁵ this could be due either to matters of relative chronology (with I and II being more ancient) or to analogy (HAJNAL 1995: 83-87). A unitary formulation was V [- high] > V [α back] / _C, V [α BACK] (MELCHERT 2008c: 50), but Hajnal's objections showed that, while /e/ > /a/ before a back vowel is almost exceptionless, the fronting of /a/ > /e/ before a front vowel has several exceptions. This would, once more, suggest that Lycian /e/ was uttered as a low vowel, certainly lower than Greek /ε(:)/.

Lycian transcriptions of Greek names, on the other hand, present a rather more chaotic situation (exx. from DARDANO 2006: 97):

	Greek	Lycian
(1)	Μελήσανδρος	<i>Milasãñtra</i> (TL 44 a.45)
(2)	Καλλιάναξ	<i>Xelijaãnaxssah</i> (gen., TL 116.2)
(3)	Ἀθηναγώρας	<i>Tēnegure</i> (M 217a) / <i>Tēnagure</i> (M 217a)
(4)	Ἀλέξανδρος	<i>Alaxssa[ñ]tra</i> (TL 29.9),
(5)	Ξανθίας	<i>Xssẽñzija</i> (TL 91.1, 150.1, 150.8)
(6)	Ἀρτεμηλιν	<i>Erttimeli</i> (acc., N 320.5)

¹⁴ This feature is quite heavily discussed, and not all the types are accepted; here we refer to the formulation proposed in HAJNAL 1995: 77ff.

¹⁵ The number of attestations of forms without the *Umlaut* is even higher.

It looks as if Lycian <a> was used to transcribe Gk. <α>, <ε>, and <η>, whereas Lyc. <e> was used to transcribe Gk. <α>. Even if one takes into account that some of these PNs might have undergone *Umlaut*, and that the PN Ἀλέξανδρος is also found as *Alixssā[ñtra]* (N 307b) (*i.e.* the <a> might be due to assimilation), these correspondences seem to suggest that the Greek /ε(:)/ sounded like an /a/ to the Lycian ear, while the Greek phoneme /a/ could be interpreted both as /a/ and /e/. This is a confirmation of the very open pronunciation of Lycian /e/, which was probably [æ].

Dardano's argument is certainly plausible, but there is a possible alternative, which could provide a reasonable explanation for this Pamphylian peculiarity: keeping in mind that there was no phonemic contrast between [e] and [a] in Luwian,¹⁶ it is also possible to suppose some influence on Pamphylian from a late form of Luwian (in the narrow sense); this would be compatible with the geographical position and find other parallels (*cf. infra*).

5.3.2 Aphaeresis

Our Pamphylian corpus mostly consists of onomastic material, and several PNs are formed on the basis of the names of Apollo, Aphrodite and Athena. Most of these anthroponyms and patronymics show an uncommon feature as far as Greek is concerned: aphaeresis of initial /a/. Out of the 35 attestations of names derived from Ἀπόλλων, 26 show aphaeresis and 9 do not; as for Ἀφροδίτη and Ἀθήνη, the ratio is respectively 22/4 and 5/4. There does not seem to be any vowel other than /ä/ susceptible to aphaeresis.¹⁷

¹⁶ PANat. /e:/ merged with /i:/ and /e/ > /a/ in certain positions and /i/ in others (see MELCHERT 1994: 262-3).

¹⁷ The only attestation of a vowel other than *a* undergoing aphaeresis, Πιαλφειτς (n°95), is very uncertain: this name is, in fact, the genitive of a *Πιαλφεις that would have undergone aphaeresis only if it actually came from a form **Επιαλφεις (as proposed in *DGP*: 253), connected to the verb ἐπιαλέ(φ)ομαι. This is not the easiest solution, since not only would we have to postulate a ἄπαξ (explaining, therefore *obscurum per obscurius*), but we would then be forced to find a Greek equivalent for the second part of the compound. Here, it looks as if the Anatolian explanation is preferable (also according to *DGP, loc. cit.*): the first part could, in fact, be compared to

This phenomenon is not consistent, and we find forms with and without aphaeresis even in the same inscription (e.g. Φορδίσις Ἀφροδίστῳ, n°20; cf. DARDANO 2006: 99-100 for more examples). On the other hand, aphaeresis of the initial vowel of a content word is generally rare in Greek: «en syllabe initiale, l'*aphérèse* appartient à la langue orale familière, où les mots usuels subissent une usure qui échappe aux lois phonétiques normales. A peine les textes anciens nous en font-ils connaître un ou deux exemples: ainsi att. σκορακίζω, qui suppose ᾽σκόρακας (pour ἐς κόρακας). – En grec moderne, en revanche, l'*aphérèse* d'une voyelle initiale inaccentuée (donc brève) est fréquente : δόντι « dent » (de ὀδ-), μέρα (de ἡμέρα), δέν (de οὐδέν), etc.» (LEJEUNE 1987: 223).

As noted by Dardano (2006: 99-102), we find the same inconsistent pattern in some Anatolian languages. In Lycian, aphaeresis is mainly found in originally Greek compound names, such as *Tēnegure* (cf. Gk. Ἀθηναγόρας), *Pulenjdah* (cf. Gk. Ἀπολλωνίδου), *Pedrite* (< Ἀφροδίτη) and *Pinike* (< Gk. Ἐπίνικος). It is also found in indigenous names, simple and compound (*Katamlā/Ekatamlā* and *Sedelpm̃ni/Esedep̃lme*); cf. MELCHERT 1994: 321, DARDANO 2006: 101. Sidetic also offers some examples, both with simple and compound names: the names *φorz* (S4, gen.; = Gk. Ἐφορος), *Poloniw* (S2; = Gk. Ἀπολλώνιος), *Pordorz* (S2, gen.; = Gk. Ἀπολλόδωρος), *ṡandor* (S4, S9; = Gk. Ἀθανόδωρος) and *ṡanpiw* (S1, S8, S9; = Gk. Ἀθανόβιος). In Hittite there are doublets such as *Apalla-/Palla-* (NH: 96 and 906) and *Anani-/Nani-* (NH: 63 and 127). In addition, initial *a-* is unstable in a number of foreign words, such as (*a*)*impa-* 'burden', (*aš*)*šuraššrura-* (name of a bird), ^D(*Am*)*mamma-* (personal name) and (*aḫ*)*ḫuwa(n)tra-* '?' (MELCHERT 1994: 173). The difficulty of their etymology does not allow us to determine whether it is aphaeresis or prothesis (KRONASSER 1966: 33ff.; *contra* OETTINGER

the verbal root found in Hitt. *pai-* and CLuw. *pi(ya)-*, which is found in Anatolian names of the type of Hitt. *Arma-piya* (cf. NH: 317-9). The problem of the second member of the compound (if it actually is a compound) remains, for the time being, open.

1979: 456 for the case of *allappahh-* ‘to spit’). However, if the name *Tawagalawa* is the transcription of the Greek *Ἐτεφοκλέφης (as some have thought, cf. 1.2.1 *supra*), the hypothesis of aphaeresis would be reinforced; and the occurrence of this phenomenon in several other Anatolian languages further speaks in favour of its presence also in Hittite.

Aphaeresis was thought to be particularly frequent in Hieroglyphic Luwian,¹⁸ but the discovery of ‘initial-*a*-final’¹⁹ showed that native Luwian words did not go undergo aphaeresis at any time. This phenomenon is however found in non-native names and loanwords.²⁰

Kretschmer (1930a) traced these oscillations back to a Hattic substrate, while Meister suggested that this could be a typologically common affective shortening of familiar names (*DGP*: 43). However, a Hattic substrate is to be ruled out for a number of reasons,²¹ and the latter hypothesis is not falsifiable, therefore not acceptable as conclusive for the time being. It goes without saying that the coexistence of similar names coming from the same root (but with different developments, often due to influence from other languages) is not uncommon across languages: compare It. *Emanuela* vs. *Manola* or ModEngl./ModGerm. *Robert* vs. *Robin*. However, the exceptionality of Pamphylian in the Greek dialects and its frequency in Pamphylian seem something more than a coincidence, given that the neighbouring languages, especially Sidetic, showed the same phenomenon.

¹⁸ For example, in the first (unaccented) syllables of the first person personal pronoun *a-mu* /a'mu/ and of the demonstrative *a-pa* /a'ba/; besides, aphaeresis was postulated for the problematic form *sta* (spelled *sa-ta*) for expected *āšta*, the 3rd p. singular for of the verb «to be» (MELCHERT 1994: 276).

¹⁹ This means that the sign *450 = 𐀀, indicating /a-/, is sometimes written after the other signs of the word. This is a purely aesthetic practice, which has no linguistic implication; cf. HAWKINS 2003, MELCHERT 2010.

²⁰ See e.g. the PNs starting with the signs *416 = 𐀀 and *172 = 𐀁 (which probably had a value /IV-/ and corresponding to PNs in /ali-/ attested in cuneiform spelling (416-LEO ~ *Ali*-UR.MAH, 416-mu-tá ~ *Alimutta*, 416-SARMA ~ *Ali-Sarruma*, 416-VIR.ZI/A ~ *Aliziti*, 172-tara/i-ma ~ *Alatarma*, 172-zu(wa) ~ *Allanzu*; cf. RIEKEN – YAKUBOVICH 2010: 200) and the loanword ^{NINDA}(a)*lattari*- a type of bread (or ‘fruit-cake’) attested in CLuw. (cf. *HED* I: 32).

²¹ Not only is the actual existence of a Hattic article far from clear («l’existence de cet article est loin d’être établie, sur le seul témoignage de *a-šah* “le méchant”, de *šah* “mauvais”» LAROCHE 1966: 242), but there is also no evidence that Hattians ever inhabited the south-western part of the Anatolian peninsula; even if one assumes so, Hattic would have disappeared long before the arrival of Greek-speaking people.

Summing up, aphaeresis is somewhat widespread in the Anatolian languages, but there are no reasons to think that it is inherited or it independently developed in Pamphylian, as it is extremely rare in the other Greek dialects. The hypothesis of familiar diminutives is not directly demonstrable, and aphaeresis is confined only to certain names that must have been quite common in Pamphylian. For these reasons, the most appealing solution – according to Brixhe and Dardano – is to attribute the feature to substrate or adstrate influence (*i.e.* to language contact), from Lycian and/or Sidetic, which consistently show it. This influence, though, was not generalised in the dialect (otherwise it would be consistent and more widespread in other parts of the lexicon), and it probably affected only a limited set of forms, mainly belonging to onomastics (DARDANO 2006: 102). It is perfectly plausible that in a mixed community with a certain degree of bilingualism the names that were given to children could better reflect the “incorrect” pronunciation of Greek, while the longer documents we have do not display such phenomena because of their official nature and the lower pressure of the non-standard language on this kind of texts.

5.3.3 Pamphylian Rhotacism

In Pamphylian, /d/ > /r/ / V_V: some examples are Φιραραυ (< *Φηράδαν, n°99, 113), Ἐπιτιμιραυ (< *Ἐπιτιμίδαυ, n°125), Δριμαραυ (< *Δριμάδαν, n°154), Τρεσσαρας (< *Τρεσάδας, n°165), Λυκομιτιρας (< *Λυκομητίδας, n°178) and μῆρεμια (< μηδεμία, n°276, l. 23); less sure is Μιρατος (< *Μιδάτος, genitive of the well-known Phrygian name Μιδάς, n° 67).

An oscillation between <δ> and <ρ> is found both in Ορουφατερας (n° 111), Ορωφατερα[ς] (n°201) Οροφατεραυ (n°121) and Οροφατιραΐ (n°21) vs. Οροφατιδας (n°25) and – later, in Roman times – in Παραμουριανός and Παραμουριανή vs. Παδαμουριανός and Παδαμουριανή (DGP: 83).

The preservation of /d/ in forms such as περτεδῶκε (n°17), Θαναδωρυς (n° 26), Διφιδωρυς (n°143), *etc.* is generally thought to be due to the presence of a morpheme boundary.²² We also find intervocalic *delta* in forms such as Τρεκουδας (n°127), αρχοδες (n°276, ll. 21 and 37), εξαγοδι (n°3, 276, *etc.*) and πεδε (n°3, l. 5), whose /d/ etymologically comes from */nt/.

I have counted thirty-three apparent exceptions to rhotacism, and arranged them in the following chart, according to the probable origin of the intervocalic *delta*:

Κεδαιφίς	(n°27, 199)	Πεδωνίου	(n°42)	Ασκληπιάδας	(n°213)
Κεδαιφίου	(n°34, 68)	Πεδωνίς	(n°153)	Ασκληπιδάου	(n°213)
Κεδαιφιῦ	(n°90, 150)	Πεδάδωρου	(n°218)	Δαδ[α]	(n°151)
Κεδαιφίῡ	(n°124)			ενθαδε	(n°204b)
Κεδαιφιῦς	(n°162, 173)			Ηλιαδάῡ	(n°138)
Κεδειφατύς	(n°178)			Κνιδωνού[ς]	(n° 200)
Κεδαιφείου	(n°184)			Λεωνιδας	(n°25)
Κεδαιφείς	(n°192)			Λεονιδας	(n°156)
Κεδίφας	(n°289)			Λεονιδάῤ	(n°194)
Κεδας	(n°100, 147)			Μενοδύς	(n°97)
Κεδάτυς	(n°204a)			πεδιοίς	(n°204b)
				Τριαδά	(n°204b)
				φιλαδελφαι	(n°154)
				φιλαδελφοι	(n°146)

All three columns feature a more or less unexpected presence of an intervocalic <δ>.

The names in the left-hand column can all be traced back to the same family as Lycian Κενδηθής, Κενθηθής, Κενδαιθής and Cilician Κενδεθής (Brixhe 1966: 658),²³ so intervocalic <δ> actually comes from (or stands for?; cf. *infra*) an *-nd-* cluster. With the data available in 1976, Brixhe (following Robert's suggestion) tried to explain the PNs in the central column and Πεδδατος (n°91) as derived from πέδαι 'fetter', 'shackles': «cf. d'ailleurs le mot πέδων («celui à qui on met souvent les entraves») livré par Eustathe et peut-être Hésychius» (*DGP*: 222). It

²² It is not surprising that morpheme boundary prevents certain phonological developments. On the concept of phonological sensitivity to morphological structure, cf. TROMMER 2011.

²³ In the same article, Brixhe also specifies that the *beta* here is probably equivalent to Pamphylian β (probably [v] < /w/); κοινή Greek, unlike Pamphylian, did not have the *digamma* sign, and used β, ο, υ, or ου.

was not very clear, however, why rhotacism did not take place. At this time, Πελδας, Πελδωνεις and Πελδονιου were considered alternatives of Πελλας, Πελλωνεις and Πελλωνιου, all of them derived from the name of Apollo with a dissimilation of the liquid resonant (/ll/ > /ld/). However, the name Πεδαδωρου (n°218), which appeared in an inscription published twelve years after *DGP*, cannot be traced back to anything but Πελλαδωρου (n°182; cf. BRIXHE 1988a), and allows a unitary account of all these names (BRIXHE 2013: 82). The process is relatively easy to explain, as the geminate liquid first dissimilated into [ld], probably followed by a secondary assimilation: /ll/ > [ld] (πελδας) > [dd] (Πεδδατος), perhaps written also with the single *delta* (Πεδωνις) but still pronounced as a geminate; cf. (BRIXHE 1988a: 212).

The forms in the third column are very probably influenced by κοινή Greek, as we will see in a moment.

There are reasons to believe that the set of voiceless stops /p/ /t/ /k/ became voiced in clusters involving nasal consonants in Pamphylian: this is shown by forms such as αρχοδες (n°276; = Att. ἄρχοντες), εξαγοδι (n°3; = Att. ἐξάγωντι), πεδε (n°3; = Att. πέντε). We do not have examples of other voiceless stops, but we do find εγαιος written with a single *gamma*: this <γ> probably represents [ɣg], since otherwise it would have become /y/ or Ø (cf. 5.2.4 *infra*).²⁴

This shows that both *-nt-* and *-nd-* sequences were written with the sign for the voiced stop (<δ>), and seems to suggest that Pamphylian merged clusters composed of [NASAL] + [STOP], at least on a graphic level. Since <δ> is found in place of older /nt/, we may infer that:

1. at a certain stage /nt/ > /nd/;
2. a further development /nd/ > /d/ may have taken place.

²⁴ We do not have much evidence for clusters of [NASAL] + [VOICED STOP] in inherited Greek words: we do not find intervocalic *delta* deriving from /nd/ not only because of the limits of our corpus, but also because the sequences [NASAL] + [VOICED STOP] (μβ, νδ, γγ = [mb], [nd], [ɣg]) are quite uncommon lexeme-internally in Greek (epenthesis and *sandhi* phenomena aside).

This raises two problems: why would the Pamphylians write δ for /nt/? And why do forms like $\alpha\rho\chi\omicron\delta\epsilon\varsigma$ never undergo rhotacism?

In order to answer these questions, we need to consider the development of [NASAL] + [STOP] clusters in diachrony, and evaluate the relative chronology of these clusters in comparison to that of rhotacism. If we assume that both /d/ > /r/ / V_V and /nd/ > /d/ (more generally, [NASAL] > \emptyset _[STOP]) were phonological rules operating in Pamphylian, as the most recent accounts seem to suggest, the following scenario seems the most plausible one:

- (1) /d/ > /r/ / V_V
- (2) (/nt/ >) /nd/ > /d/

In the first phase, intervocalic voiced dentals would undergo rhotacism. Secondly, the cluster /nt/ would first merge with /nd/, and then the nasal would drop (hence, $\alpha\rho\chi\omicron\delta\epsilon\varsigma$). Later on, $\kappa\omicron\iota\nu\eta$ would re-introduce the nasal element before stop. The forms in the third column of our chart are simply extra-dialectal forms, either influenced by the $\kappa\omicron\iota\nu\eta$ (e.g. Ἡλιάδαν should have appeared as *Ἀφελιάραν , if it were “authentic” Pamphylian), or occurring in inscriptions entirely written in $\kappa\omicron\iota\nu\eta$ (e.g. n°204b). Alternatively, one could perhaps assume that the dropping of <ν> before the dental stop was a merely *graphic* usage that was adopted in Pamphylia until Hellenistic times, when the <ν> was reinstated under the pressure of $\kappa\omicron\iota\nu\eta$. In this case, we could simply say that the actual pronunciation of /nd/ has always been the same throughout, and this would both account for the fact that rhotacism did not affect intervocalic <δ> = /nd/ and would allow a good degree of continuity

with later developments (Late Greek offers a parallel for the fact that clusters of nasals and dentals can be preserved).²⁵

Whichever explanation we choose, it seems that the effect of rhotacism was over by the time our inscriptions were written. For instance, it did not have any effect whatsoever on the series of PNs in our second column which, as noted above, ultimately come from Ἀπέλλων: if some of these variants appear in the form /pedV°/ and do not show rhotacism, this can be attributable either to a geminate pronunciation or to the fact that the rhotacism was no longer in action.

Finally, it is possible that /n/ ended up nasalising the preceding vowel, and that this new nasal vowel (or whatever “nasal appendix” there might have been) was strong enough to prevent rhotacism. In any case, caution is needed, and saying that the nasal simply dropped before the dental stop seems unsupported by the data.

5.3.3.1 *‘Rhotacism’ in the Anatolian Languages*

Hoping to have defined the situation on the Greek side, let us now turn to Anatolian. This section will take a further look at some phonetic developments – especially regarding nasals, dental stops and clusters of nasal + dental stop – in Luwian, Lycian and, to a lesser extent, Lydian. It would be interesting to see in particular whether Luwian shares the same constraints for rhotacism (*i.e.* if rhotacism does not occur next to a morpheme boundary and does not affect /d/ < /nt/), and whether Luwian and Lycian have undergone any developments of [NASAL] + [DENTAL STOP] clusters at any point in their history.

²⁵ Whereas the voiced stops /b/, /d/ and /g/ shifted to fricatives in spoken Greek by the 4th century CE, a plosive pronunciation was retained only after a nasal (HORROCKS 2010: 170); this means that the preceding nasal element prevented a shift of the voiced stop to a continuant.

Hieroglyphic Luwian is the Anatolian language in which a phenomenon comparable to Pamphylian rhotacism is best attested. Here, several first-millennium documents have the *ra/i* and *ru* signs instead of the expected *ta*, *ti* and *tu* in an inconsistent fashion both in the corpus and within individual texts: *e.g.* KARATEPE á-[*mi*]-*ia-ti* and á-*mi-ia-ra/i* for the ablative of the first person possessive pronoun *amis* ‘my’ (for further details and examples, see MORPURGO DAVIES 1982-3). This seems to happen only in intervocalic contexts, so it has been called “rhotacism” (since MERIGGI 1951) and considered a late feature of Hieroglyphic Luwian; however, two instances found in early inscriptions²⁶ show that the phenomenon took place already in the early first millennium²⁷ (MELCHERT 2003b: 172).

Anna Morpurgo Davies (1982-3: 249-50) listed four groups of items that undergo rhotacism: (1) the ablative endings in *-ati* (> *-Ca-ri+i/-Ca-ra/i*), (2) the 3rd p. sg. verbal endings of the present indicative in *-ti*, (> *-ri+i/-ra/i*), preterite indicative in *-ta* (> *-ra/i*) and imperative in *-tu* (> *-ru*), (3) the reflexive and pronominal enclitic particle *-ti* (> *ri+i-ra/i*), the pronominal particles *-tu* (> *-ru*) and *-ata* (> *-a-ra/i*), (4) lexical items such as (EDERE)á-*ru-na* ‘to eat’ (< **h₁ed-*), (PES)*pa-ra/i-za* ‘feet’ (> **pe/od-*) and the word for ‘sun’ attested in compounds in the form *-ti-wa/i-ra* (alternating with *-ti-wa/i-ta*). Besides, «the name of the founder of Karatepe, Azatiwatas [...] is sometimes written *Azatiwaras*. The Phoenician spelling *ZTWD* has a *-d-* where the Hieroglyphic Luwian forms have either a *-t-* or an *-r-*».

While it is undisputed that all examples of rhotacism are found in intervocalic contexts, it may be more complicated to find out whether the phenomenon also avoids morpheme boundaries. Verbal endings by definition follow a morpheme boundary, so there seems to be

²⁶ *tu-pi-ra/i* /*tubiri*/ ‘he will smite’ (BURUNKAYA, §2) and the PN á-*sa-tu-^rwa/i¹+ra/i-ma-za-* /*Astuwaramantsa*/ (MARAŞ 8, §, 1); cf. *CHLI*: 253, 442.

²⁷ An isolated instance is found in Cuneiform Luwian: *tiwari(ya)-* ‘of the Sun-(god)’ (Popko and Starke *apud* MELCHERT 1994: 237). The possibility of such a change beginning already in the second millennium and then spreading more in later 1st millennium text remains therefore open (*contra* MORPURGO DAVIES 1982-3).

little doubt in this case. However, it might be worth noting how – among the onomastic items we have – we never find it in this position. This may well be due to the limits of our corpus, and it would be interesting to know whether rhotacism takes place at the beginning of the second element of a compound name.

But there is more. In three instances, the (PAnat.) phonemes */l/ and */n/ become /r/ under the same conditions and with the same inconsistency: *wa/i+ra/i* ‘to die’ for regular *wa/i-la-* (< PAnat. **wel-* or **gʷel-*); *ma-ru-ha* ‘ever’, ‘at all’ (SULTANHAN, §36) for regular *ma-nu-ha* (< PAnat. **mām?*); and *ta+ra/i-ma-za* for /*tanimants*/ ‘all’ (AKSARAY, §5); cf. MELCHERT 2003b: 180)²⁸. It has recently been suggested that the phonetic realisation of the phoneme that has undergone rhotacism is more likely to be an alveolar flap [ɾ] (cf. Am.Engl. *better* [ˈberə]) rather than the correspondent trill [r] (RIEKEN – YAKUBOVICH 2010) and that the collision of the sounds /d/, /l/ and (rarely) /n/ into [ɾ] should bear the more descriptive denomination of “flapping” rather than the more traditional “rhotacism”. What is more crucial, though, is the fact that rhotacism is never consistent in Hieroglyphic Luwian. For every example spelled with <r>, there are other cases spelled with the <tà> sign (or <ta/i₄> and <ta/i₅>, which are probably to be read as /lV/). In other words, we are dealing with intervocalic *d (as well as *l and occasionally *n) becoming something that merged phonetically, but not phonemically, with /r/. It is difficult to determine what kind of sound it could be: one may tentatively advance the idea that Pamphylian intervocalic -ρ- was also pronounced as [ɾ], but there is no way to prove it for the moment.

²⁸ Another, less certain, instance of /l/ > /r/ could be Sidetic *Pordorz*; of course, its validity depends on the original form: does *Pordorz* come directly from Gk. Ἀπολλόδωρος or was one of the Pamphylian variants the actual model?

The instability of /n/ before a following stop, affricate (/ts/) or laryngeal (/h/) is a well-known characteristic of Hittite (already STURTEVANT 1933a: 69 and KRONASSER 1956: 71). The nasal is also frequently omitted before stop and affricate in CLuw. (e.g. <ḫu-u-up-pa-ra-za> = /hūpparanza/ «belts», acc. pl.), so the development $VN > \tilde{V} / _C \text{ [AFFRICATE]}$ is not to be excluded. This would also provide a parallel with Lycian, which has nasal vowels (YAKUBOVICH 2015b).²⁹ If this is the case, the beginnings of a sporadic omission of pre-consonantal /n/ (and eventual vowel nasalisation) could be traced back to the second millennium, and the phenomenon could have carried into the first millennium, the process becoming complete in the most recent phase of 1st-millennium Anatolian languages.

The sets of stops in Lycian and Lydian are composed of voiceless elements that regularly become voiced after nasals consonants and nasalised vowels: e.g. Lyc. *miñti* (= Gk. μινδης) and *Tikeukēpre-* (= Gk. Τισευσεμβραν) Lyd. *Alīksāntru* (= Gk. Ἀλέξανδρος) and *ēt-* (< *éndo), etc. (MELCHERT 1994: 282, 329). As for the clusters *nt and *nd, we know that in Lycian and Lydian they developed into nasalised vowel plus voiced stop.³⁰ There seems to be a similar feature in Sidetic: *maljadaz* (or *malwadaz*, according to the reading in NOLLÉ 2001) may go back to **Maliyant* (PÉREZ OROZCO 2007: 132) In other words, /t/ and /d/ probably merged into /d/ after nasals and the preceding vowel was nasalised ($Vnt/d > \tilde{V}d$).³¹

For the time being, our data do not allow us to be more precise on the status of the [NASAL] + [DENTAL STOP] clusters, and we cannot do more than speculate on possible Anatolian-internal developments; however, what has been said may be useful in the comparison with the Greek (Pamphylian) facts. One does not see why similar developments

²⁹ The same possibilities apply to HLuw., although we cannot have direct proof because of the script, which consistently omits pre-consonantal <n>.

³⁰ Lycian also shows fricativisation of intervocalic stops and loss of final nasals with nasalisation of the preceding vowel (MELCHERT 1994: 301, 307).

³¹ Cf. the analysis of Sidetic names in MELCHERT 2013.

could not have happened in whatever Luwic (or Luwian) dialect was spoken in Pamphylia, and perhaps in Pamphylian Greek itself.³²

5.3.3.2 *Contact-induced or independent developments?*

Pamphylian and Hieroglyphic Luwian show “rhotacism” of original intervocalic voiced dental stops in similar environments, the only relevant difference being the frequency of the phenomenon in Luwian and the involvement of phonemes other than /d/.

Nasals are omitted before stops in both scripts, and the nasalisation of the preceding vowel cannot be excluded (cf. *DGP*: 66: «il est certain qu’il n’y a pas eu disparition pure et simple de la nasale appuyante, sans quoi on expliquerait malaisément que le /d/ issu de *nt/nd* ait maintenu son occlusion»), also in view of the parallel with Lycian.³³ Furthermore, the assumption of Pamphylian /p/ /t/ /k/ becoming voiced in clusters with nasal consonants seems somewhat corroborated by very similar developments in neighbouring Lycian and Lydian.

This resembles later Greek developments, and there are two possible explanations: one internal (a Greek independent development), and the other external (Luwian substrate). The most economic option seems to consider Pamphylian rhotacism as a contact-induced phenomenon, whether or not some shifts – such as the merger of /t/ and /d/ after nasal – are attributed to structural reasons (as per Dressler *apud* Brixhe). The fact that in Luwian and Lycian also /nt/ and /nd/ clusters underwent similar developments rules out the option of completely independent phenomena with a reasonable degree of probability. Finally, if we

³² Sidetic *ῥandor*, which probably comes from the same source as Pamph. Θανάδωρος (if not directly from the Pamphylian form), speaks against the phenomenon only if we include Greek loanwords in the process. Besides, the preservation of the -n- here could be due to the fact that the cluster develops only after syncope in the borrowed name.

³³ The idea that the nasal element of the intervocalic clusters */nt/ and */nd/ has left a trace only in the nasalisation of the preceding vowel is not new (already MERIGGI 1966: 11).

are right in identifying – from an internal point of view – Pamphylian rhotacism as an archaic development, its parallelism with rhotacism in the Anatolian languages acquires new strength. The inconsistency we find both in Pamphylian and in Luwian could hint at specular phenomena: while the oscillation of some forms suggests that rhotacism took place sporadically but increasingly during the history of Luwian,³⁴ the attestations in Pamphylian hint at – or at least do not exclude – an early occurrence. The oscillations we find might mean that rhotacism was either on its way out (or over, already) and was just kept in some very conservative personal names (otherwise, we probably would have found some traces in later Greek developments). Hence, nothing stands against the hypothesis that rhotacism could have taken place at an early stage of Pamphylian, when the influence of Luwian (either as adstrate or as substrate) was still strong.

Anna Morpurgo Davies observed that the shift of intervocalic /d/ to /r/ is not typologically frequent: «a remote parallel is the change from retroflex *d* or *dd* to *r* in some Indian languages (Hindi, Marathi, Gujarati, Nepali, etc). In the Mediterranean area the Umbrian intervocalic *d* is replaced by a sound written *rs* in the Latin alphabet. In Latin itself we have some late instances of *d* > *r* (*peres* for *pedes*) and classical examples of dissimilation such as *meridies* < **medidies*» (MORPURGO DAVIES 1982-3: 248). What we generally call “rhotacism” (meant as the transformation of a given sound into [r]) is not an unknown phenomenon in the Mediterranean basin (*e.g.* /s/ > /r/ / V_V in OLat., Umbr. and Fal.), although in Greek the rare instances of rhotacism do not involve dental sounds.³⁵ On the other hand, “flapping” of intervocalic /d/ and eventual transformation into /r/ is quite

³⁴ Although, as noted above, it does not seem to be dialectally characterised and cannot be defined a specifically late phenomenon; nor was it inherited from Proto-Anatolian.

³⁵ «In Eretria and Oropus the voiceless [s] becomes voiced in an intervocalic position, and then became [r] (rhotacization); this is a relatively late feature (after the mid-fifth century BC): ὄπωρ ἄν/Att. > ὄπως ἄν, Ἀρτεμίρια/Att. Ἀρτεμισία. This feature is referred to also by Plato (*Cratylus* 434c).» PANAYOTOU 2007: 412

common (cf. the examples in KÜMMEL 2007: 77-9, to which one may add Sardinian and Italian dialects such as Neapolitan and Sicilian).³⁶ So, if Luwian (and perhaps Pamphylian) rhotacism were to be defined as “flapping”, its occurrence would be typologically much more regular. At the same time, it would remain somewhat isolated in the Ancient Near Eastern area, and the fact that a group of languages that are found in one area show pretty much the same pattern involving this sound and other sound changes (such as the voicing of dental stops after nasals just seen) can hardly be considered coincidental.

5.3.4 Weakening of voiced velars

In a short article of almost fifty years ago, Oswald Szemerényi made the case for Luwian substrate influence on Pamphylian. The development /g/ > /y/ (and later > Ø) «between ε and a following vowel, generally α» (SZEMERÉNYI 1968: 128) is one of the widely recognized and peculiar features of Pamphylian (THUMB – KIECKERS – SCHERER 1932-1959 II: 185) and would in his opinion be attributable to a similar process taking place in Luwian.

Cases such as μηε[ι]ῶλα, Μηεῖῶλετι, Μηεῖῶ[λε]τυς, Μηεῖῶλε (n°3, ll. 5, 9, 10, 23) show, indeed, that there must have been a process of fronting, spirantisation and widening of γ in a *e_a* context. The only forms which do not belong to the family of Μεγα- are Πρεῖας (n°1) and Πρεῖαι (n°225), which according to Szemerényi would derive from **pergayā*-.

This is relatively similar to the well-known Late Greek development /g/ > [y] / _V [+ FRONT] and /g/ > /y/ / _V [- FRONT], although the two have traditionally been kept apart.³⁷ The differences between the two developments lie in the quality of the following vowel (/e/

³⁶ Cf. CATFORD 2001: 178-83 for the types of rhotacism and for further examples.

³⁷ «Die neugriechische Regelung braucht nicht schon im Altertum oder doch nicht überall gegolten zu haben» (GG I, 209).

and /i/ in Late Greek and /a/ in Pamphylian) and in the fact that the Pamphylian development probably depends on the quality of the preceding vowel.

Luwian, on the other hand, shows palatalization of velars before front vowel and – according to Szemerényi – between /e/ and /a/; this change would affect not all velars, but only those velars going back to **g^h*, as shown by Luw. *issari-* ~ Hitt. *kessar-* ‘hand’ (< **g^h*), against Luw. *kisa-* ~ Hitt. *kisai-* ‘comb’ (< **k*).

On the basis of these data, Szemerényi observed that the first kind of Luwian palatalisation is very similar to the one found in Late Greek, and that the latter is identical to the one operating in Pamphylian, even though he himself admitted that it is difficult to connect the two phenomena from a historical point of view. However, if one wants to find a link between them, he argued, «we can only assume that the autochthonous speech-habits admitted only of the sequence *eya*, not *ega*, and that under their influence the Greek *εγα* was also replaced by *εια*» (SZEMERÉNYI 1968:131)

Rex Wallace (1983) highlighted these difficulties, arguing that the environments in which voiced velars were weakened are completely different in Pamphylian and Luwian, and that the similarity cannot be due to language contact. Specifically, he pointed out that the Pamphylian weakening was not restricted to the context *e_a* (as per Szemerényi), but took place more generally after front vowels, as shown by the forms *πρεῖφς* (n°87) < **pregēwos* and *πρεεως* (n°141), equivalent to *πρεῖφς*, but with non-dialectal inflection. He also argued that in Luwian the weakening of /g/ does not only occur intervocalically after front vowels (*g* > *y* / *V* [+ FRONT] *_V*) – as in Pamphylian – but also in *#_V*, *C_V* and *V_V* [– FRONT] environments (cf. CLuw. *parri-/parrai* ‘high’ < PAnat **bergi-/bargeḫi-* < PIE **b^hérǵ^hi-/b^hǵ^héi-* and HLuw. ^{FILIA} *tuwatara* [duwatra-] ~ Lycian *kbatra* ‘daughter’ < PIE **dhugātr*; WALLACE 1983:

10). This shows that Luwian has an unconditioned change and, consequently, that the influence of a Luwian substrate on Pamphylian must be excluded. One must then raise a theoretical point: «one must explain why Luwians learning Pamphylian only failed to pronounce voiced velars intervocalically between *e* and *a* and not in word initial position since all the evidence points to the initial gamma remaining in Pamphylian, e.g. γέρας» (WALLACE 1983: 10).

Brixhe (*DGP*: 87-8) also opposed Szemerényi's interpretation, arguing that there is a fundamental chronological discrepancy: since Cuneiform Luwian, Hieroglyphic Luwian and Lycian all show the same development, this sound change must have taken place quite early, *i.e.* in the second millennium, within the common phase of Luwian. The development in Pamphylian was much more recent, as the names of Perge and Selge would suggest: the local form of Perge must have been *Prega/Perga*, not *Preya*, when the toponym was adapted as (Πέργα >) Πέργη by non-Pamphylian Greek; besides, the Στλεγιυς found on the staterae of the 4th century could represent an obsolete form, but not a very ancient one.

I shall evaluate these claims against the data from the entire Pamphylian corpus.

The sequence -εγα-³⁸ is found 8 times in our corpus, always in the form Μεγα-, and intervocalic /g/ appears in ΕΓΕΝΟΜΑ (n°5), Επιγενεις (n°37, 121, 123, 128, 218, 283), Επειγενεις (n°123), Επιγενις (n°177g), Επιγενες (n°276, l. 37), Δφιγενις (n°129, 291), Δφιγενιτυς (n°28), Δφιγενεις (n°70), Δφιγενεις (n°221); and in εξαγοδι (n°3, ll. 16, 20, n°276, l. 32), αγεθλα (n°3, l. 24), Αγαθεις (n°37), Οψαγενεις (n°49, 94), Μαγασι^{††}αυ (n°65), Αγαθεις (n°75), Γουγους (n°88?, 272), Μιγινυς (n°161), ΣΤΑΓΕΓΕΙΥΣ, ΕΣΤΑΓΕΓΕΙΥΣ, ΣΤΑΓΕΓΙΟΣ, ΣΤΑΓΕΓΙΟΝ, ΣΤΑΓΕΓΕΥΣ (n°170), Κορραγυς (n°171), Αγερονιυ (n°276, l. 36), Αγαθο (n°287).

³⁸ We are considering -εγα- = /ega/, so cases such as εγαίος, are treated separately.

It is quite clear that morpheme boundary prevents weakening, and it looks as if the voiced velar is consistently preserved between $\alpha_ \alpha$, $\alpha_ \varepsilon$, $\alpha_ \omicron$, $\alpha_ \upsilon$, $\varepsilon_ \iota$, $\varepsilon_ \varepsilon$, $\varepsilon_ \varepsilon \iota$, $\iota_ \iota$, $\omicron \upsilon_ \omicron \upsilon$.

The graphic sequence <εια> (<*/ega/) is found in $\mu\eta\epsilon[\iota]\alpha\lambda\alpha$ (n°3, l. 5) $M\eta\epsilon\iota\alpha\lambda\epsilon\tau\iota$ (n°3, l. 9), $M\eta\epsilon\iota\alpha[\lambda\epsilon]\tau\upsilon\varsigma$ (n°3, l. 10), $M\eta\epsilon\iota\alpha\lambda\epsilon$ (n°3, l. 23), $M\epsilon\iota\alpha\kappa\lambda\epsilon\tau\upsilon\varsigma$ (n°55), $M\epsilon\iota\alpha\lambda\epsilon[\varsigma]$ (n°92) and $E\iota\alpha$ (n°214); -εα- (< /eya/ <*/ega/) is found in $M\epsilon\alpha\lambda\iota\nu\alpha$ (n°44), $M\epsilon\alpha\varsigma$ (n°48), $M\epsilon\alpha\kappa\lambda\iota\varsigma$ (n°63), $M\epsilon\alpha\tau\upsilon\varsigma$ (n°82), $[M]\epsilon\alpha\lambda\iota\varsigma$ (n°119), $M\epsilon\alpha\lambda\epsilon\iota\tau\upsilon\varsigma$ (n°158), $M\epsilon\alpha\lambda\epsilon\iota\nu\alpha$ (n°203), $M\epsilon\alpha\lambda\epsilon\iota\tau[?]\upsilon\varsigma$ (n°226), $M\epsilon\alpha\lambda\epsilon\iota\tau\upsilon\varsigma$ (n°227), $M\epsilon\alpha\lambda\iota\tau\upsilon\varsigma$ (n°242), $M\epsilon\alpha\lambda\epsilon\iota\varsigma$ (n°272). The same base gave probably origin to $M\iota\alpha\lambda\iota\nu\alpha$ (n°45), $M\iota\alpha\kappa\lambda\iota[\varsigma]$ (n°63) and $M\iota\alpha\lambda\epsilon\iota\tau\upsilon\varsigma$ (n°109).

Aside from forms of the lexeme $\mu\epsilon\gamma\alpha$ -, the sequence <εγα> is actually found in some forms of another word present in our second longest inscription, n°276, published in 2000: $\epsilon\gamma\alpha\iota\omicron\varsigma$ (l. 9), $\epsilon\gamma\alpha\iota\omicron$ (l. 22, 30-31), $\epsilon\gamma\alpha\iota\upsilon$ (ll. 21, 23), $\epsilon\gamma\alpha\iota\omicron\upsilon$ (l. 19, 32). However, as I have suggested (5.4.1 *supra*), <γ> might be the graphic rendering of a sequence /ηγ/ (or /ẽg/), and the nasal element probably prevented the sound change from taking place.

Finally, there are two attestations of the adjective from the name of Perge, $\Pi\rho\epsilon\iota\alpha\varsigma$ (n°1) and $\Pi\rho\epsilon\iota\alpha\iota$ (n°225). While, according to Szemerényi, these come from a **pergayā*- which underwent metathesis and where -*ayā*- > -*ā*-, Brixhe and Wallace trace them back to **pregiya*- < **pergiya*-, adding that also $\Pi\rho\epsilon\iota\upsilon\varsigma$ (n°87), $\Pi\rho\epsilon\epsilon\omega\varsigma$ (n°141) and $\Pi\rho\epsilon\epsilon\upsilon\varsigma$ (n°219) provide examples of *gamma*-weakening.

At this stage, a closer look at Luwian and Lycian, together with a general assessment of the outcome of original **/g/* and **/ǵ/* in the Anatolian languages, will complement the Pamphylian data and show that Wallace's objections are not particularly compelling.

In the first place, it is necessary to take into account the behaviour of Luwian and Lycian concerning the outcome of the voiced elements in the velar series, **/g/* and **/ġ/*.³⁹ In Luwian, both PANat. **/g/* and **/ġ/* > /y/ / *_V* [+FRONT], while > Ø / *_*[i]: e.g. PANat. **ġesr-* «hand» > *ĩš(ša)r(i)-* = *i-sá-tara/i-* (/istr(i)-/), PANat. **ġemro-* «open country» > **im(ma)ra/i-* in *im(ma)rašša/i-*⁴⁰ or PANat. **g(e)ib-* «left» > *ip-* in CLuw. *ipala/i-* «left-(hand)» and HLuw. *i-pa-ma/i-* «west» (MELCHERT 1994: 254). As for *tiyammi-*, the original form is quite debated: Melchert, following Sarah Kimball, maintained in 1994 that PANat. **dġém-*, which corresponds to the stem of the locative, became first **dyém(V)-* and then *t(i)yamm-*, and that the raising of /e/ to /i/ is somehow blocked by the previous action of “Čop’s Law”;⁴¹ Oettinger (1976b: 101) and Starke (1987: 248ff.), instead, derived it from **d^(h)éġ^(h)ōm*.

In Lycian, we need to make a distinction between **/g/* and **/ġ/*. Whereas **/ġ/* > **[y]* / *_V* [+FRONT] (e.g. PANat. **ġesr-* > **yesr* > **yisr-* > *izr-*, PANat. **ġemro-* > **(y)imre-* > **impre* > **ipre-* in the name **Ipre-side*, or PANat. **Ha/olġi-* ‘grain’, ‘barley’ > **Qeli-* in *Qelehi-* ‘of the grain-god’), **/g/* > Ø medially (the only example in this case is PANat. **dug(a)tr-* ‘daughter’ > **duwatr-* > **dwatr* > *kbatra*-⁴²; MELCHERT 1994: 303). It is, finally, possible that **/g/* > /k/ / *_V* [+BACK] but, again, there is only one unsure example: PANat. **ġúpā-* ‘cave’, ‘hole’ > *xupa-* ‘tomb’, whose similarity to Gk. γυπή ‘hole’, ‘lair’ is quite suggestive, provided that the borrowing took place before Lycian initial devoicing.

³⁹ It might be worth recalling that the distinction of the voiced aspirated series of PIE was probably lost already in Proto-Anatolian (MELCHERT 1994: 53-4).

⁴⁰ In these two cases, PANat. **/ġ/* < PIE **ġ^h* (cf. also the Lycian examples, *infra*); besides, «the new /y/ raises the following /e/ to /i/ [...] and the /y/ is then probably deleted» (MELCHERT 1994: 254).

⁴¹ According to which /é.C_i/ > /aC_iC_i/ (where C_i = PANat. voiced stop, /s/ or sonorant, and the period denotes syllable boundary). The occurrence of this law in Luwian is, according to Melchert, nothing but the generalization of a Common Anatolian process occurring only in absolute initial position; this would be the only way to explain the geminate /mm/; see MELCHERT 94: 74-5, ČOP 1970 and KIMBALL 1983: 427.

⁴² The etymology of this lexical item is very much debated in Anatolian: while the other IE languages (Gk. θυγάτηρ, Skt. *duhitār-*, Av. *dugādar-*, Goth. *dauhtar*, TochB. *tkācer*, Arm. *dustr*, Lith. *duktė*, etc.) point to a proto-form **d^hugh₂ter-*, the precise set of sound changes that yield Lyc. *kbatra-* and HLuw. *tuwatra/i-* is still unclear. See different hypotheses and discussion in EDHIL: 902-4.

It looks as if there is enough evidence to say that inherited */g/ consistently yields [y] before front vowel both in Luwian and in Lycian. While this, however, holds for initial position, it is possible that all intervocalic *g^(h) were lost in Luwian and Lycian (HLuw. *takami* can be explained as reflecting the generalised strong stem *dʰégʰom-, which by Čop's Law would have had a Luwian geminate stop; cf. MELCHERT 2012b: 212-15). In any case, the counter-argument according to which «in Luwian the weakening of voiced velars is [...] a context-free process» (WALLACE 1983: 11) must be regarded with extreme caution.

One may perhaps compare the compound PN *mejaPaz* that we find on a Sidetic inscription (S3, l. 3 Nollé). Its meaning is obscure, but the first part could in theory belong with Gk. μεγα-, and show once more a palatal glide instead of a voiced velar. However, this is only valid if: 1. we accept the reading by NOLLÉ 2001 (PÉREZ OROZCO 2007 reads, instead, *mewakaś*); 2. the form is not due to Greek influence, *i.e.* the weakening of the velar stop had already taken place in Greek; but this entirely depends on the relative chronology of the development in Pamphylian Greek and in the neighbouring languages.

Summing up, we have considered a phenomenon – the weakening of voiced velar stops – that takes place in different contexts in the following languages or dialects:

Pamphylian	/g/ > [y] > Ø / V[+FRONT] _V[–BACK]
Late Greek	/g/ > [y] / _V[+FRONT] and /g/ > /ɣ/ / _V[–FRONT]
Luwian	*/g/ and */gʰ/ > /y/ / #_V[+FRONT], while > Ø / V_
Lycian	*/gʰ/ > *[y] / _V[+FRONT] and */g/ > Ø medially (less sure!)
Sidetic (?)	g > /y/ / e_a (but perhaps /g/ > [y] already from a different source)

The weakening of the voiced velar is conditioned (therefore, not a context-free process, as Wallace claimed) both in the Anatolian languages and in Pamphylian. The phenomenon is not restricted uniquely to Pamphylian (cf. the examples in *GG* I: 209),⁴³ so we may safely assume that this is a typologically common trait (at least among the Greek dialects), which in Pamphylia might have been triggered by neighbouring languages undergoing analogous changes.

Leaving the possibility of independent developments theoretically open (since it is not possible to rule it out or to prove it, at this stage), two explanations in the sphere of language contact are possible: substrate (as per Szemerényi) and adstrate. The choice between the two very much depends on the relative chronology of the change, and the available data do not allow us to go further down either route.

Brixhe refutes the hypothesis of a contact phenomenon, stating that «le /g/ est naturellement instable et comme les autres occlusive sonores [...] il a eu tendance à perdre son occlusion entre voyelles. Le phénomène n'a donc pas la même signification dans les deux domaines : en anatolien méridional il concerne l'ordre dorsal (à l'exception des labiovélares), en pamphylien il touche la série sonore. C'est une raison supplémentaire pour refuser de subordonner le faits grecs aux faits « micrasiatiques » » (*DGP*: 88).

From our data and from the less frequent occurrence in later inscriptions, it is perhaps possible to suggest that the phenomenon was not productive at the time when our Pamphylian inscriptions were written; in theory, the weakening of voiced velars could have

⁴³ There is also a fragment by Plato Comicus (F 183 K-A): ὁ δ' οὐ γὰρ ἡττίκιζεν, ὦ Μοῖραι φίλαι, / ἀλλ' ὁπότε μὲν χρεῖη "δηιτώμην" λέγειν, / ἔφασκε "δηιτώμην", ὁπότε δ' εἰπεῖν δέοι / "ὀλίγον", <"ὀλίον"> ἔλεγεν. Unfortunately, we cannot take this as a probative example, as ὀλίον is actually a conjecture by Bloch. It has to be said, though, that the form ὀλίον for ὀλίγον is documented in Attic inscriptions from the second half of the 4th century (cf. *THREATTE* 1980: 440).

been an archaic feature that was disappearing in post-Classical times. Similarities with Late Greek and the uncertain situation on the Anatolian side (especially in controversial forms such as Luw. *tiyammi-*), together with the possibility of independent phenomena, may give the impression that a direct influence of Anatolian on Greek is rather unlikely. However, the fact that the Anatolian languages feature developments involving the whole series of velars while in Pamphylian the same development affects a more restricted category (that of voiced velars) does not – *pace* Brixhe – speak against any kind of language contact.

5.3.5 The linking vowel in compounds

The vast majority of the epigraphic material from Pamphylia consists of personal names (for a general survey, see DARDANO 2012). Here we shall follow Dardano (2007) in her analysis of a sub-group of compound names showing a feature that is quite uncommon among the dialects of Greece: a compounding vowel *-a-* instead of *-o-*, which is the common form in the other dialects.⁴⁴ We can then group the compound names in our corpus into four sub-categories, according to their origin and the composition vowel:

- I) Names formed with Greek elements and composition vowel *o* (24 items)
- II) Names formed with indigenous elements and composition vowel *o* (1 item)
- III) Names formed with Greek elements and composition vowel *a* (32 items)
- IV) Names formed with indigenous elements and composition vowel *a* (14 items)

Group III is composed of:

- Ἀπελάϊρυνις (n°55, 135, 160), Ἀπελαϊρύ[Ι]ις (gen.; n°56), ἈπελαυρύΙ[ις] (gen.; n°63), Πελλαυρύις (gen.; n°31), Πελαδώρου (gen.; n°59), Πελάδορυς (n°102, l.1),

⁴⁴ As a compositional vowel, *-a-* is not attested in the Achaean group, nor is it in Attic-Ionic. As for the other hellenophone regions, the only notable exceptions are Ἀθηνάδωρος in Thessaly (IG IX/2, 276°, 13) and Ἀπολλάθεος on the Tauric Chersonese; cf. FRASER – MATTHEWS 2000:10 and FRASER – MATTHEWS 2005:34.

- Πελάδωρος (n°117), Ἀπελάδορος (n°129), Ἀπολάδορος (n°174), Πελλαδώρου (gen.; n°182), Πεδαδώρου (gen.; n°218), Πελαδόρου (gen.; n°102, l. 2), Ἀπελάδορος (n°129); “standard” (non-Pamphylian) form: Ἀπολλόδωρος⁴⁵;
- Εἰρα[δ][ό]ρυ (gen.; n°33), Εἰράδορος (n°136); “standard” (non-Pamphylian) form: Ἡρόδωρος;
 - Ἑλλαφίλου (gen.; n°134); “standard” (non-Pamphylian) form: Ἑλλόφιλος;
 - Θανάδωρος (n°26), Ἀθαναδώρα (n°47), Θαναδώρου (gen.; n°49), Θαναδόρυ (gen.; n°155), Θανάδορος (n°264); “standard” (non-Pamphylian) form: Ἀθηνόδωρος;
 - Μειακλετυς (gen.; n°55), Μιακλι[ς] (n°63); < *Μεγακλήτος, “standard” (non-Pamphylian) form: Μεγακλέους;
 - Μινάδορος (n°82), Μειναδώρα (n°154), Μειναδώρας (gen.; n°164), Μειναδόρας (gen.; n°191, 268), Μιναδώρα (n°201), Μιναδόρα (n°209, l. 3), Μιναδώρα (n°271); “standard” (non-Pamphylian) form: Μηνόδωρος
 - Ὀψαγένεις (n°49, 94); “standard” (non-Pamphylian) form: Ὀψιγένης

Before postulating language contact, we must exclude every possibility of a Greek-internal origin. The first scholars who tried to explain this vowel (KRETSCHMER 1895: 262, followed by METRI 1954: 106-7) suggested that *-a-* is nothing but the preservation of the original *a*-stem vowel (while the forms with *-o-* would be a widespread innovation), *i.e.* an archaism of Pamphylian. Brixhe, instead, rejected the archaism hypothesis in favour of the replacement of the innovated form (*-o-*) under the pressure of the basic one: *Θανόδωρος > Θανάδωρος because of Ἀθάνα (*DGP*: 135). Others, instead, have argued for an assimilation of the short vowel of an unstressed syllable to the vowel of a neighbouring syllable (Ἀθανο° >

⁴⁵ On the Greek origin of the name Ἀπελάδωρος, see HEUBECK 1956.

Ἀθανα^ο)⁴⁶ or for a zero-grade in the first member of the compound name and the subsequent outcome $*/n/ > /a/$.⁴⁷

Each of these hypotheses has its strengths and weaknesses:⁴⁸ the assimilation of the vowel of an unstressed syllable to the vowel of the neighbouring syllable could be postulated for Ἀθαναδώρα *vel. sim.*, but it would not account for any of the other names (unless we resort to analogy, as does HEUBECK 1956: 11, fn. 13). In addition, the vowel itself is sometimes stressed and sometimes not, even when preceded by a syllable with /a/. Finally, vowel change due to nearby phonemes (in this case, vowel harmony) is quite rare in Greek (LEJEUNE 1987: 238). The archaism or reintroduction of the -a- of the stem could hold for Εἰραδόρυ, Ἑλλάφιλος and Θανάδωρυς, but would not explain Ἀπολάδορυς, Πελάδορυς and Μειναδόρας (whose stem originally ended in -o) or Ὀψαγένεις (whose stem originally ended in -i-). The zero-grade of *Ablaut* in the first part of the compound and the outcome $*/n/ > /a/$ could be valid, again, only for the name of Apollo,⁴⁹ but not for *e.g.* Θανάδωρυς or Ὀψαγένεις.

Since none of these explanations is valid for the whole group of names, Dardano offered a different account, noting that the vowel -a- is quite common in Anatolian (especially Hittite and Luwian) onomastic composition. The -a- in consonant stems could be due to

⁴⁶ Friedrich Bechtel, referring to an observation made by J. Schmidt in 1893, according to which a vowel of an unstressed syllable can be assimilated to the vowel of the neighbouring syllable, thinks that «lassen sich zwei Gruppen von Namen bringen. 1) Ἀθανα- für Ἀθανο- in [Ἀ]θανάδωρυς, Θαναδώρα, Ἀθαναδώρα [...] 2) Ἀρτιμι- für Ἀρτεμι- in Ἀρτιμιδόρυς, Ἀρτιμιδωρίς, Ἀρτιμιδορίς» BECHTEL 1921-4: 810.

⁴⁷ «in Ἀπελα-ῶρυς und Πελα-δώρα liegt vielleicht die Tiefstufe -n- des Stammlautes vor» THUMB-SCHERER – KIECKERS – SCHERER 1932-59 II: 191; Brixhe (*DGP*: 136) accepts this explanation only for those compound forms that include the name of Apollo; cf. also LÓPEZ EIRE – LILLO ALCARAZ 1983b: 16.

⁴⁸ In this discussion, I am mainly following DARDANO 2007: 25-7.

⁴⁹ «En indo-européen, quand le terme initial du composé était un thème à sonante, celui-ci comportait le degré \emptyset de sa syllabe terminale : *r, n...* devant voyelle, *r, n...* devant consonne [...] on attend donc pour le nom d'Apollon un thème terminé par *n* : la sonante voyelle a été réalisée *o* dans tous les dialectes sauf en pamphylien» *DGP*: 136.

cuneiform writing,⁵⁰ but it could be a real composition vowel in *i*- and *u*-stems, as in the following examples given by Dardano (2007: 40; numbers refer to *NH*): Hitt. (and Luw.) ^d*Tarhunt*:- ^m*Tarhunda-piya* (1267), ^m*Tarhunda-ziti* (1271); CLuw. *massan(i)*- «god»: ^m*Mašna-piya* (780), ^m*Maššana-ura* (774), ^f*Maššana-ARAD-i* (775); ^{URU}*Mitanni*:- ^m*Mitanna-muwa* (809); ^{URU}*Mizri*:- ^m*Mizra-muwa* (811); ^d*Yarri*:- ^m*Iyara-piya* (431); *duwaddu-/duddu*- ‘mercy’: ^m*Duwadda-nani* (1404).

In the Pamphylian corpus, *-a*- consistently appears as a compositional vowel (with only one exception) when the names are formed with Anatolian material.⁵¹ Dardano then argues that Anatolian influenced some Greek names. The phenomenon is admittedly sporadic and there is no complementary distribution of the Greek forms with *-a*- (we find Ἑλλάφιλου and Ἑλλοθέμεις, Μιναδόρα and Μινοφίλα), but this explanation would offer a unitary account (DARDANO 2007: 43). There has been a partial replacement of an element of the system through an analogous element belonging to the neighbouring language that was probably perceived as functionally identical, and this seems to point to a significant degree of language contact.

Influence from Anatolian on Greek onomastics is a possibility, but one should be careful with the Anatolian material, especially when attempting to give a unitary account: in the examples above, the PN ^m*Maššana-ura* is attested in an Akkadian text from Ugarit, the relationship between Hitt. *duwaddu*- and the PN *duwadda-nani* is unclear, and the name for Egypt, *Mizr*⁽ⁱ⁾-, is also found inflected as an *o*-stem (nom.sg. ^{URU}*Mizras* at *KBo* XIV, 12 iv 36 and *Mizran* at *KBo* VIII, 37 Rs 9). It is true, on the other hand, that *a*-stems (< IE *o*-stems) are the

⁵⁰ It might be worth recalling that cuneiform writing does not admit sequences of three consonants, so the insertion of a purely graphic vowel is necessary in some instances (e.g. ^d*Tar-hu-un-za* for /tarhunts/).

⁵¹ For a general survey of names in Western Anatolia in the second and first millennia see MELCHERT 2013.

most common inflectional class in Luwian (but not in Lycian!), so the possibility that Greek adapted *-o-* to native *-a-* is open, but it should not perhaps be interpreted as a systematic replacement.

5.4 Pamphylian: conclusion

In this chapter, we have looked at the dialectal position of Pamphylian and its relationship with the neighbouring Anatolian languages. In particular, we have taken into account some Pamphylian peculiarities which have been thought to have originated in language contact.

Brixhe is correct in defining Pamphylian a “mixed dialect”: it is probably “Achaean” in origin, *i.e.* belonging to the Eastern/Southern group and close to Arcado-Cyprian (one of the most relevant isoglosses with Arcado-Cyprian is the infinitive of the athematic conjugation in $-(\varepsilon)\nu\alpha\iota$), but it might also have had a later Aeolic influence;⁵² the isoglosses with Doric are weaker, (h)όχα being the only positive example,⁵³ and most of the items that were previously considered as Doric are probably archaisms. This *dialecte mêlé* also shows some developments which partially resemble later Greek.

As for the kind of contacts which have taken place between Pamphylian and the neighbouring languages, our five case studies offer a panorama of possibilities that range from substrate to adstrate influence, and it is often difficult to distinguish between one or the other option (and sometimes more than one explanation is possible), and to categorically exclude independent developments. Also, our corpus does not allow in-depth

⁵² This is visible, for example in the outcome of the labiovelar $*k^we > pe-$ in *πετράκις*; the imperative 3rd p. pl. endings and the dative plural endings may be independent developments as well.

⁵³ As is widely known, Eastern Aeolic has *ῥτα* or *ῥτε* (HODOT 1990: 140).

research outside the domains of onomastics and phonology.⁵⁴ It is quite likely that some sound changes (*e.g.* rhotacism) occurred at a very early stage of Pamphylian, that they were triggered by contact with Anatolian languages, and that they were disappearing under the influence of κοινή Greek. We have also seen that the nature of some sound changes undergone by Pamphylian (*e.g.* $e > a$) seems to point to contact with some varieties of Luwian; an eventual influence of Lycian, instead, is much more difficult to prove.

Linguistic data confirm what textual and archaeological findings point to: in this region, there has been a prolonged and intense mix of cultures and people that eventually led, on the Greek side, to what has been considered by some ancient writers a population contaminated by βάρβαροι. This contact probably began already in the second millennium, but what we can see from our evidence (which, it is always worth recalling, starts in the 4th-3rd c. BCE) is sometimes difficult to classify as an archaism, a contact-induced or an independent innovation. We must stress, though, that the long isolation of Pamphylian from the other varieties of Greek may in principle point to the first two options: as per Bartoli's geolinguistic principles (cf. 1.4.1.2 *supra*), an isolated area is more likely to conserve archaisms, and the coexistence with speakers of indigenous languages (mostly belonging to the Luwic group), which probably led to bilingualism, favoured the introduction of several features (for what we know, mainly at the phonological level) from Anatolian into Greek.

As noted above (5.3), Skelton has argued for a situation of imperfect second language acquisition. This means that the local population learnt Greek from a small group of colonists, but this L2 was influenced by their own native language. This “imperfect” variety was then passed on to a new generation, which in turn spoke a variety of Greek with

⁵⁴ There may be one, uncertain, possibility of influence on an imperative ending, but it may be a fact of morphophonology; cf. fn. 11 *supra*.

Anatolian elements as L1 (or still as L2). This situation is compatible with what we reconstruct from historic sources, but Skelton's hypothesis, as formulated, does not find sufficient support in the linguistic data. For instance, the syntactic parallels between Pamphylian and the Luwic languages are extremely weak,⁵⁵ and the claim that the lexicon has not been affected by language contact is contradicted by the onomastic data (which ought to be considered part of the lexicon, notwithstanding the "special" status of PNs). This does not mean that the idea of imperfect learning is not plausible; as we have seen, research on the extant material is possible and may produce some results, but we will only be able to really advance our knowledge of language contact in the area with the fortunate addition of some meaningful epigraphic material.

In any case, it will be clear to the reader from the conclusions reached that the Pamphylian situation markedly differs from what we have seen in previous chapters. It is in fact possible to picture a more specific (though admittedly tentative) situation of actual language contact, not least because of the presence of independent extra-linguistic evidence pointing to contact between different populations and because of the availability of *some* epigraphic evidence.

⁵⁵ The near-absence of the article, attributed by Skelton to the influence of Luwian and Lycian, could be due to the fact that we only have *two* longer texts in which it is more likely to occur. In any case, the only instance in our corpus (υ βολῆμενυς, n°3, l. 13) was already identified as a possible borrowing by GARCÍA TEJEIRO 1978. The usage of εἰξ and αἴνυ + dat. instead of gen. find parallels in Arcadian and Cypriot (as admitted by Skelton herself). This, on its own, could be enough to point against (or, at least, raise doubts about) a contact-induced development; if we then consider that Pamphylian shares a good number of isoglosses with Arcadian and Cypriot, Skelton's argument loses almost any validity. The construction καὶ νῖν + impv. would require further study, and a foreign origin is not to be ruled out, but stating that «it is clear that the full construction καὶ νῖν + impv represents a contact feature» (p. 116) is, in my opinion, too forward.

6. Conclusions

The aim of this study was to make a substantial step towards producing the first comprehensive assessment of the relationships and early contacts between pre-Classical Greek and the Indo-European languages of the Anatolian branch. I have analysed the interactions between Greek and Anatolian – two genetically different but geographically adjacent Indo-European branches – between the second and first millennium before our era, and in particular how much Anatolian might have influenced early Greek.

The task undertaken was not easy, because of the range of different fields which need to be covered and the competences one needs to acquire in studying them, the amount of secondary literature, and – most importantly – because of the nature of the material itself. This gives a partial answer to those who might wonder why this topic, which has been studied for decades, has never been treated in a systematic way. Through the analysis of several case studies, I have tried to offer a stratigraphy of possible contacts between Greek and the Anatolian languages, but the extent of the time period under analysis (from the second millennium down to the mid-1st millennium) has often made it difficult to draw sharp distinctions or to reach firm conclusions.

Also, the keen interest in the subject, which can be observed from both the scholarship of the 1960s and 1970s, and from very recent works, has made it a challenge in itself to gather what has been said on individual topics, especially in light of the recent and fast-paced developments in the philology of the ‘minor’ Anatolian languages. Recent times have also seen attempts at a synthesis, on the basis of part of the evidence, but these are not always satisfactory, as has been pointed out. I have obviously considered them, but particular care has been taken lest they guide the present work. The obvious risk of navigating in a sea of

hypotheses and secondary literature is to lose sight of the primary focus, and never to set foot on land. At the same time, in our case the land itself is extremely perilous, because the often-insufficient data make any new hypothesis provisional – at times even speculative. It has sometimes proved arduous to find hard proofs for specific arguments, and in those cases I have contented myself with laying out the problem as thoroughly as possible and weighing the different possibilities. It is not an overstatement that the material is often seriously intractable, because we only have, and understand, part of it. Just to give an absurd parallel (which may apply to historical linguistics in general, but is particularly fitting in cases in which much of the evidence is missing), how could a linguist of the 5th millennium CE who lacks all the necessary intermediate steps, understand that Puadhi (a Punjabi dialect) is ultimately related to the dialect of Ripatransone (Italy)?

Unsurprisingly, many presumptive cases of language contact have failed to withstand close scrutiny: we have seen throughout this study that several of the alleged similarities between Greek and the Anatolian languages were either attributable to factors unrelated to contact, or they were simply to be rejected. A first conclusion is, then, that one cannot be as confident as some scholars have been in postulating a very deep degree of language contact between these two branches before the classical era. It is however important to raise a *caveat* against the hyper-sceptical approach that seems to have come into fashion in very recent scholarship. This approach is fully understandable, especially as it seems to be a reaction to decades of scholarship which tried to explain several problematic Greek traits through foreign influence (not least because of the difference in how PIE was reconstructed).¹ However, given the provisional nature of many claims on both sides of the

¹ This is almost reminiscent of the early 20th century, when everything that did not square with the then-known (Proto-)Indo-European was given a substrate explanation.

debate, even the tiniest piece of new information may change the picture in the future. It is now time to draw some general conclusions referring to what we have discussed throughout this work.

As we have seen at the outset of this study, soon after the decipherment of Hittite at the beginning of the 20th century, scholars started looking for possible connections between the Greek civilisations of the Mediterranean and those of the Ancient Near East by detecting traces of 2nd-millennium Greeks in Hittite texts. Only in the following decades did the concept of an “Aegean-Micrasiatic *Sprachbund*” develop, which has then developed into (and partially merged with) the concept of ancient Anatolia as a linguistic area. The main question has been to what extent Greek was part of this area. In the *Introduction*, I have offered a full account of the *Forschungsgeschichte*, together with a source-based outline of the historical context and a methodological section which takes into account the most recent theories on language phylogenetics (with special focus to the IE family) and contact.

The second chapter has shown that some sound changes allegedly shared by Greek and one or more Anatolian languages which had been explained through language contact are typologically common ($m > n / _ \#$, cf. 2.1) or simply not restricted to the varieties of these two branches (assibilation in some Greek dialects and in Hittite, cf. 2.3). At the same time, the prohibition of initial /r/, which in my opinion cannot be traced back to PIE times, is probably an areal phenomenon shared by IE and non-IE languages of the Aegean-Anatolian area. The extension of this restriction is such that one can only envisage the presence of a common substrate or prehistoric contacts. These are however impossible to define with the data we have (2.2). Unlike the *Auslaut* phonotactic restrictions shared by Greek and Luwian (2.1), which *may* point to exclusive contacts (or common substrate), the absence of initial /r/

(which should not be hypothesised for reconstructed PIE) only tells us that Greek *might* have been affected by an areally-diffused phenomenon in prehistoric times. Moving on to historic times, a study of Greek psilosis, in relation to the hypothesis of its origin in the Greek regions of Asia Minor inhabited by speakers of Lydian, has revealed that the genesis of this phenomenon may well have been independent. This has been one of the chief examples of well-established and accepted theories being dependent upon very little data which may be drastically revised after the reconsideration of apparently insignificant details.

When one enters the domain of morphosyntax, the ground becomes less firm, because – as we have seen (1.4.2.2) – grammatical interference often requires a substantial degree of language contact. In the first case study (3.1), which included a comprehensive re-evaluation of the Homeric, Hesiodic, and Herodotean evidence, I have argued that the basic value of the ‘Tonic Preterites’ is similar to that of their Hittite counterparts: contrary to the traditional interpretation, which regarded Greek $-\sigma\chi-$ as an ‘iterative’ suffix, the unitary function of the IPs is that of an aspectual (namely imperfective) marker. Similarly to the Hittite $\check{s}k$ -verbs, the IPs occur in strings and seem peculiar to narration. On these grounds I have re-evaluated (and proposed modifications to) the hypothesis of influence from Hittite first put forward by Pisani and famously re-adopted, in more recent times, by Puhvel and Watkins. I contend that the idea of diffused bilingualism is difficult to uphold, suggesting instead that an eventual transmission might have taken place at the literary level. As in other cases (*e.g.* that of psilosis), it is rather difficult to sketch a realistic contact scenario, but if one regards the phenomenon as something peculiar to the language of narration (which clearly was not the case for psilosis), there is no need to postulate a condition of thorough bilingualism. We still lack the details, but the historical sources point quite clearly to a very early Greek presence

(even if temporary) in *some* parts of the Anatolian peninsula (Miletus and its surroundings are the most important locations; an early presence of Greek in Cilicia is possible, but not yet proved). The second case study analysed (3.2) has shown that the differences in the usages of Relational Adjectives in Greek and in the Luwic languages, together with the impossibility in proving actual contact between Luwian and Proto-Aeolic in a prehistoric phase, make the hypothesis of a contact-acquired feature very difficult and the idea of independent developments preferable. At the same time, I have pointed out a (certainly less far-reaching, but perhaps better defensible) possible contact-induced feature in Eastern Aeolic.

Lexicon is by far the most studied part of Graeco-Anatolian contact, and in the fourth chapter I have gathered a representative sample of possible exclusive isoglosses and loanwords. My approach has not been as nihilistic as that of some contemporary scholars, but nonetheless I have tried to apply a rigorous methodology, arguing that a good part of the Graeco-Anatolian isoglosses should not be regarded as such, and that the most likely origin of most (though not all!) Greek presumptive loanwords is not from Anatolian. A further point should be stressed: the disparity and variability of the material we are working with (from mid-2nd-millennium inscriptions to late antique glosses) is often a crucial factor, and this applies especially to lexicon. Just to give an absurd example, as rigorous as one's method can be, if – because of an accident of history – the entirety of pre-Byzantine Greek was lost, how could our linguist from 4000 CE exclude Mod Gk. *πάει* [pai] '(s)he goes' being related to (or even coming from) Hitt. *pai-* 'to go'?

The case of Pamphylian, analysed in the final chapter, revealed that in a situation in which Greek and one or more Anatolian dialects were certainly in close contact for a few centuries, the most affected domains were the lexicon (in particular its onomastic

component) and the phonology, whereas the morphology and the syntax were left relatively untouched. One may *perhaps* postulate a specific scenario of language contact, that of imperfect L2 acquisition, but it is difficult to draw final conclusions from the Pamphylian data alone.

We can therefore say that each piece of Graeco-Anatolian contact that we are able to isolate lies within a series of layers which are often hard to distinguish. If one looks at Greek and Anatolian from a purely genealogical perspective, the two branches are quite distant in the *Stammbaum*, and this is confirmed by the grammatical structure and the few lexical isoglosses of PIE date. While their genealogical closeness is insignificant, secondary contacts are a much more complex matter, as they are stratified over centuries: as we have seen, these were often overrated in older scholarship (especially from the 1960s), but at the same time the plain rebuttal one finds in recent scholarship is often based on the wrong premises or insufficient grounds.

We have also seen how important it is to specify (and verify) which Anatolian language we are talking about when it comes to alleged contact phenomena.² This is very often impossible to state, given our incomplete knowledge of the linguistic landscape of second-millennium western Anatolia. However, some long-standing questions could now be phrased differently in light of our better understating of history, philology and sociolinguistics. Let us take as an example the question of the language of the Trojans. It makes little sense to ask “what language was spoken in Troy?” because Troy might well have been a multilingual city. What language(s) were the ruling élite conversant in? Perhaps Hittite (cf. the correspondence between *Alakšanduš* king of Wiluša and the Hittite king),

² As Calvert Watkins used to say, «The first law of comparative grammar is that you’ve got to know what to compare».

perhaps Luwian or a Luwic dialect, perhaps even Greek (if the name *Alakšanduš* reflects some linguistic reality and if the testimony of Homer is valuable in any way). As we have seen in the treatment of possible loanwords, we cannot exclude the presence of some (still unattested) western Anatolian dialects, which were somehow already in contact with Greek at the beginning of the first millennium, or even before then. In this case, we are entering the realm of pure speculation, but in the case studies analysed I have assessed the different hypotheses according to their falsifiability and their explanatory power, using Occam's razor, trying to avoid *obscurum per obscurius* explanations, and keeping in mind that absence of evidence is not evidence of absence.

There is a good amount of work still to be done. Other features that I have left to future discussion because of constraints of time and space are: the origin of the suffixes -ιδης, -ηνη, and -ιδα; the ending of the first person plural active (Gk. -μεν vs. -μες) and other alleged similarities in the Greek and Hittite verbal paradigms; the usage of the particle ταρ in Homeric Greek and that of -tar in Luwian; the so-called *Schema Pindaricum*; the accusative of respect and the use of conditional particles (for the existing literature, cf. 1.2.5). In addition to this, one should expand the lexical section to cover every Greek item which has proposed by scholars in the last century (ideally including onomastics). All items, even the slightest or the most doubtful, would deserve a case-by-case analysis with no aprioristic assumption.

With this thesis, I hope to have started bridging a gap in scholarship by providing an up-to-date reference work for those scholars who are interested in early Greek language and in the linguistic (and cultural) landscape of the Graeco-Anatolian area. A fuller understanding of the relationships between Greek and the Anatolian languages between the second and

first millennium BCE would complement much of the recent and on-going research on Near-Eastern models of Greek literature, and could expand into (at least) two possible directions.

Firstly, it would be worth gathering all presumptive instances of Anatolian phraseology in the Homeric language to see if and to what extent Homer shares motifs with the (specifically Indo-European) cultures of ancient Anatolia.

One could also study the state of the Anatolian languages in the late 1st millennium BCE and early first millennium CE, when κοινή Greek was assimilating all local languages, while observing the influence that they might have had on the Greek spoken (and written) in the Anatolian peninsula. Understanding the relationship between Greek and the indigenous languages of Asia Minor in this period is important both for the history of Greek and for that of Anatolian. Some scholars have argued that specific developments which became characteristic of Late and then Byzantine Greek (*e.g.* the fricativisation of the intervocalic voiced stops [b], [d] > [β], [ð] / V_V, or the voicing of /t/ after a nasal consonant [t] > [d] / N_) originated in the Greek spoken in this region, and these are – interestingly enough – very similar to analogous phenomena in some first-millennium Anatolian languages. The Greek evidence could then aid our reconstruction of the unattested stages of the Anatolian languages spoken in the region, as well as giving a better idea of the process of assimilation and “language death”. New questions would then arise: for how long did Greek actually coexist with the indigenous languages/dialects? What degree and what kind of bilingualism – if at all – are we able to postulate? Which parts of the language have been affected the most by language contact? Can our Greek evidence help us understand the phases of the decline (and eventual disappearance) of the Anatolian languages in the first millennium?

These questions are certainly intriguing, but they belong to a different story.

Appendices

Appendix 1: Greek, Hittite and PIE evidence for initial /r/, initial laryngeals, and PVs.

TABLE 1: Greek ῥρ- sequences going back to initial *h₂r*- (according to EDG)

ῥρ- < * <i>h₂r</i> -	PIE root or formation	Cognates
ῥρήγω 'to help'	* <i>h₂reh₂g</i> - 'to help', 'to support'	OHG <i>geruohhen</i> , OS <i>rōkjan</i> , ON <i>rókja</i>
ῥριθμός 'number'	* <i>h₂rei</i> - 'count'	OIr. <i>rím</i> 'number', ON <i>rím</i> 'account', possibly Lat. <i>rītus</i>
ῥρκτος 'bear'	* <i>h₂rtko</i> - 'bear'	Skt. <i>ṛkṣa</i> -, Av. <i>arša</i> -, Lat. <i>ursus</i> , Hitt. <i>hartagga</i> -
ῥρνέομαι 'to deny', 'to refuse'	* <i>h₂res</i> - 'to refuse', 'to deny'	Av. <i>rah</i> - 'to be disloyal, unfaithful'
ῥρχω 'to be the first', 'to begin'	* <i>h₂r-ske/o</i> - 'to start', 'to rule';	Arm. <i>ark'ay</i> 'king', Lith <i>regėti</i> 'to watch', MHG <i>ragen</i> , <i>regen</i> 'to rise', 'to stir'

TABLE 2: Greek ῑρ- sequences going back to initial *h₁r*- (according to EDG)

ῑρ- < * <i>h₁r</i> -	PIE root or formation	Cognates
ῑρα 'earth'	* <i>h₁(e)r</i> - 'earth'	Possible: OHG <i>ero</i> 'earth', ON <i>jorvi</i> 'sand(bank)', MW <i>erw</i> 'field' (with a suffix <i>-t</i> -), Goth. <i>airþa</i> , ON <i>jorð</i> , Mir <i>ert</i> 'earth'
ῑρεβος 'the dark of the underworld'	* <i>h₁reg</i> ^w -os- 'darkness'	Skt. <i>rājas</i> - 'dark air', 'dust', Arm. <i>erek</i> 'evening', Goth. <i>riqiz</i> , <i>rōkkr</i> 'dark'
ῑρείω 'to break'	* <i>h₁reiḱ</i> - 'break'	Skt. <i>rikhāti</i> 'scratch', Lith <i>riekiù</i> 'cut loaf, perhaps OHG <i>rīgs</i> 'row', Lat. <i>rixa</i> 'quarrel'
ῑρείπω 'to ruin'	* <i>h₁reip</i> - 'to throw down'	ON <i>rīfa</i> 'to tear down', Lat. <i>rīpa</i> 'shore'
ῑρέπτομαι 'to devour'	* <i>h₁rep</i> - 'to catch', 'to snatch away'	Lith. <i>ap-rėpti</i> 'to take', 'to catch', Alb. <i>rjep</i> 'to tear off', 'rob'.
ῑρεύγομαι 'belch'	* <i>h₁reug</i> - 'to belch'	Lat. <i>ē-rūgō</i> , Lith <i>riáugeti</i> , Ru. <i>rygát</i> 'to have belches'; Arm. <i>orcam</i> , OHG <i>ita-ruchjan</i> 'to ruminate' (zero-grade forms)
ῑρευνάω 'to search for', 'to inquire'	* <i>h₁reu</i> - 'to search'	ON <i>raun</i> 'attempt', 'test', enquiry'
ῑρέφω 'to cover'	* <i>h₁reb</i> ^h - 'to cover'	OHG <i>hirni-reba</i> 'skull' (lit. 'brain-cover'), OE <i>ribb</i> , Ru. <i>rebró</i> 'rib' (as 'cover of the breast')
ῑρήμος 'lonely'	* <i>h₁r(e)h₁</i> - 'loose', 'separate'	Lith. <i>irti</i> 'to disintegrate', perhaps Lat. <i>rārus</i>
ῑρυθρός 'red'	* <i>h₁rudr-ro</i> - 'red'	Lat. <i>ruber</i> , Skt. <i>rudhirá</i> , TochB <i>ratrei</i> 'red', ON <i>roðra</i> 'blood', Goth.

		<i>raups, etc.</i>
ἐρχομαι 'to come'	* <i>h₃rg^h</i> - 'to move', 'to go'	according to some, OIr. <i>eirg</i> 'go!' (imperative) and Skt. <i>ṛghāyāti</i> 'to tremble', 'to rage'; according to others, Skt. <i>ṛcchāti</i> 'to reach', Hitt. <i>arske/a^{-zi}</i> 'to reach' (in this case, ἐρχομαι < * <i>h₃r-sk-e/o-</i>)
ἐρώ 'impulse'	* <i>h₃reh₂s-</i> 'impulse', * <i>h₃reh₂-(u)-</i> 'rest'	PGmc. * <i>rōsā</i> (ON <i>rás</i> , OE <i>ræs</i> 'run') < * <i>h₃rh₂s-</i> PGmc. * <i>rōwō</i> (OHG <i>ruowa</i> , OE <i>row</i> , ON <i>ró</i> 'rest') < * <i>h₃roh₂-u-eh₂</i>

TABLE 3: Greek ῥ- sequences going back to initial *h₃r-* (according to *EDG*)

ῥ- < * <i>h₃r-</i>	PIE root or formation	Cognates
ῥέγω 'to reach out (one's hand)', 'to stretch'	* <i>h₃reǵ-</i> 'to stretch', 'to direct'	Lat. <i>regō</i> 'to direct' 'to lead', OIr. <i>rigim</i> 'to stretch out', Goth. <i>raihts</i> 'right' and Av. <i>rāšta-</i> 'directed', 'straight'
ῥθός 'upright', 'straight'	* <i>h₃rdhuo-</i> 'high', 'upright'	Skt. <i>ūrdhvá-</i> 'raised', 'high', Lat. <i>arduus</i> 'steep', OIr. <i>ard</i> 'high', 'great', and Av. <i>ərəduua-</i> 'high'
ῥθρός 'time before daybreak', 'first dawn'	* <i>h₃r-dhro-</i> 'sunrise'	Lat. <i>ortus</i> 'rising (of a star)' (from the full grade * <i>h₃er-</i> 'to rise') etc.
ῥύσσω 'to dig (up, in, out)', 'to scrape', 'to bury'	* <i>h₃reu-k-</i> 'to dig up', 'to grub'	Lat. <i>runcō</i> , 'to weed out', 'to root up', Latv. <i>rūkēt</i> 'to dig', 'to scrape', Skt. <i>luñcati</i> 'to pluck off' (the Greek - <i>g^h</i> - must be analogical).
ῥχίς 'testicles'	* <i>h₃rg^h-i-</i> 'testicle'	Hitt. <i>arki-</i> , Arm. <i>orjik</i> (pl.), Lith. <i>eřžilas</i>

TABLE 4: pre-forms of Hittite *ar-* sequences (as listed in *EDHIL*)

Sound change	Examples
<i>ar-</i> < * <i>h₃r-</i>	<i>ar^{-tta(ri)}</i> 'to stand by' and its derivative <i>arnu^{-zi}</i> , <i>arai⁻ⁱ</i> / <i>ari-</i> 'to (a)rise', perhaps <i>arnu^{-zi}</i> 'to make go', <i>aršanē^{-zi}</i> / <i>aršan-</i> 'to be envious, to be angry', <i>aru-</i> / <i>arau-</i> 'high?', <i>aruna-</i> 'sea'; Ablaut variant (reduced grade) in <i>ark^{-a(ri)}</i> / <i>ār⁻ⁱ</i> , <i>ark-</i> 'to mount'.
<i>ar-</i> < * <i>h₃r-</i>	<i>ariye/a^{-zi}</i> 'to consult an oracle', perhaps <i>arma-</i> 'moon(god)', 'month', <i>armae^{-zi}</i> 'to be pregnant', <i>arnu^{-zi}</i> 'to make go', <i>aršanē^{-zi}</i> / <i>aršan-</i> 'to be envious, to be angry'; Ablaut variant (reduced grade) in <i>ār⁻ⁱ</i> / <i>ar-</i> 'to come', <i>ār⁻ⁱ</i> / <i>arr-</i> 'to wash', <i>ār⁻ⁱ</i> / <i>ark-</i> 'to cut off', <i>ārku^{-zi}</i> / <i>arku-</i> 'to chant', <i>ārš^{-zi}</i> / <i>arš-</i> 'to flow', <i>erḫ-</i> / <i>arah-</i> / <i>arḫ-</i> , <i>erḫa-</i> , <i>arḫa-</i> 'boundary', and <i>erman</i> / <i>armn-</i> 'illness'.
<i>ar-</i> < * <i>h₃er-</i>	Ablaut variant (full grade) in <i>ārku^{-zi}</i> / <i>arku-</i> 'to chant', <i>ārš^{-zi}</i> / <i>arš-</i> 'to flow'
<i>ar-</i> < * <i>h₃or-</i>	perhaps ^(uzl) <i>arra-</i> 'arse', <i>arma-</i> 'moon(god)', 'month' and <i>armae^{-zi}</i> 'to be pregnant'; Ablaut variant (full grade) in <i>ār⁻ⁱ</i> / <i>ar-</i> 'to come', <i>ār⁻ⁱ</i> / <i>arr-</i> 'to wash', <i>ār⁻ⁱ</i> / <i>ark-</i> 'to cut off'
<i>ar-</i> < * <i>h₂or-</i>	<i>āra-</i> 'rightly', perhaps <i>arkuwae^{-zi}</i> 'to make a plea', <i>aruwae^{-zi}</i> 'to prostrate oneself'

<i>ar-</i> < <i>*h₃or-</i>	<i>arae</i> ^{-zi} ‘to stop’, ‘to overpower’, perhaps <i>aru-</i> / <i>arau-</i> ‘high?’; <i>Ablaut</i> variant (full <i>o</i> -grade) in <i>ark</i> ^{-a(rī)} / <i>ār</i> <i>k</i> ⁻ⁱ , <i>ark-</i> ‘to mount’)
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TABLE 5: roots with initial **h₁r-* (as listed in *LIV*²: 251-3)

Root	Meaning	Branches with attestations	Greek, Armenian, or Anatolian forms
1. <i>*h₁reh₁-</i>	‘to ask’	Gk., Anat.	Gk. ἐρέω ‘to ask’ < <i>*h₁rh₁-yé-</i> (pres.) Hitt. <i>ariyezzi</i> ‘to research’ < <i>*h₁rh₁-yé-</i> (pres.)
2. <i>*h₁reh₁-</i>	‘to row’	Gk., Balt., Celt., Germ.	Myc. Gk. <i>e-re-e</i> / <i>erehen</i> / ‘to row’ < <i>*h₁rh₁-yé-</i> (pres.) ¹
<i>*h₁rej-</i>	‘rise’	Arm., Anat., Germ.	Hitt. <i>araizzi</i> , <i>arānzi</i> ‘to rise’ < <i>*h₁roj-éyē</i> (caus.) ‘ Hitt. <i>arāi</i> , <i>ariyanzi</i> ‘to rise’ < <i>*h₁re-h₁roj/h₁ri-</i> (perf.) Arm. <i>ari</i> (impv. 2.sg.) < <i>*h₁rej/h₁ri-</i> (?) (aor.)
<i>*h₁rem-</i>	‘to be quiet’	Ilr., Celt., Toch., Gk., Balt.	Gk. ἡρέμα ‘quietly’ (adv.)

TABLE 6: roots with initial **h₂r-* (as listed in *LIV*²: 284)

Root	Meaning	Branches with attestations	Greek, Armenian, or Anatolian forms
<i>*h₂reh₁(ĝ)-</i>	‘to help’	Gk., Germ.	Gk. ἀρήγω < <i>*h₂reh₁(ĝ)-e-</i> (pres.)
<i>*h₂res-</i>	‘to refuse’, ‘to deny’	Gk., Ilr.	Gk. ἀρνέομαι < <i>*h₂r-né/n-s-</i> (pres.)

TABLE 7: roots with initial **h₃r-* (as listed in *LIV*²: 304-7)

Root	Meaning	Branches with attestations	Greek, Armenian, or Anatolian forms
<i>*h₃reĝ-</i>	‘to stretch’, ‘to spread out’	Ilr., Gk., It., Celt., Germ., Toch., Balt.	Gk. ὀρέγω < <i>*h₃rég-</i> (pres.)
<i>*h₃rejH-</i>	‘to stir’	Ilr., Gk., Slav., Germ.	Gk. ὀρίνω < <i>*h₃ri-né/n-H-</i> (pres.) Gk. ὀρώρεται < (?) <i>*h₃e-h₃rojH/h₃riH-</i> (perf.)
<i>*h₃reuH-</i>	‘to howl’	Ilr., Gk (?), Slav. (?)	Gk. ὠρύομαι < (?) <i>*h₃é-h₃rojH/h₃ruH-</i> (pres.)
<i>*h₃reuk-</i>	‘to dig up’	Gk., Ilr., It.,	Gk. ὀρύσσω < (?) <i>*h₃ruk-yé-</i> (pres.)

¹ This could also come from a thematic **h₁érh₁-e-*, as mentioned in *LIV*² 251, fn. 2.

TABLE 8: roots in which initial **h₁r-* is postulated on the basis of Greek alone (as listed in *LIV*²).

Root	Meaning	Branches with attestations	Greek form
?*(<i>h₁</i>) <i>reb^h-</i>	‘to cover’	Gk.	ἐρέφω
*(<i>h₁</i>) <i>reh_s-</i>	‘to hurl oneself’	Alb., Gk.	ἐρωή
*(<i>h₁</i>) <i>reǵd-</i>	‘to lean’	Gk.	ἐρείδω
*(<i>h₁</i>) <i>reǵk-</i>	‘to tear’ (intr.)	Iir., Gk., Celt.	ἐρείκω
*(<i>h₁</i>) <i>reǵp-</i>	‘to pull/break down’	Gk., Germ., Slav. (?)	ἐρείπω
*(<i>h₁</i>) <i>reks-</i>	‘to damage’	Iir., Gk.	ἐρέχθω
*(<i>h₁</i>) <i>rep-</i>	‘to catch’, ‘to pick’	Gk., Balt., Alb., It.	ἐρέπτομαι
1. *(<i>h₁</i>) <i>reud^h</i>	‘to make red’	Celt., Gk., Germ., It., Balt., Slav.	ἐρεύθω
*(<i>h₁</i>) <i>reug-</i>	‘to belch’	Gk., It., Germ., Balt. (?)	ἐρεύγομαι

TABLE 9: roots with initial *r-* (as listed in *LIV*²: 496-511)

Reconstructed root	Meaning	Branches with attestations
* <i>rasd-</i>	kratzen	Lat, Celt.
* <i>reb^h-</i>	sich (heftig) bewegen	Iir, Germ, (Lat)
?* <i>Red-</i>	schürfen, kratzen	Iir.
?* <i>red^h-</i>	erscheinen, entstehen	Balt, Slav.
?* <i>reǵ-</i>	fließen, tropfen (?)	Alb.
* <i>reg^h-</i>	sich aufrichten	Gk, Germ, Lith.
1. * <i>reh₁-</i>	geben, schenken	Iir.
2. * <i>reh₁-</i>	zählen, rechnen	It.
* <i>reh₁d^h-</i>	erfolgreich durchführen	Iir, Slav., Germ., Celt.
?* <i>reh_p-</i>	kriechen	It., Balt.
?* <i>reh_t-</i>	treffen, finden	Slav.
?* <i>reh₂(i)-</i>	schreien, brüllen	Balt., Slav.
?* <i>Reǵb^h-</i>	singen	Ved.
* <i>reǵd^h-</i>	sich schwankend bewegen	Celt, Germ, Balt.
* <i>reǵǵ-</i>	(sich) stricken, recken	Celt, Germ, Balt.
* <i>reǵ(ǵ)-</i>	binden	It., Celt., Germ. (?)
* <i>reǵk^(w)h₂-</i>	ritzen, kratzen (tr.)	Iir., Balt.
* <i>reis-</i>	Schaden nehmen	Iir.
* <i>rek-</i>	ordnen, festlegen, bestimmen	Celt., Slav., Iir., Balt. (?)
* <i>renk-</i>	auflesen, sammeln	Balt.

<i>*resg-</i>	flechten	Balt.
<i>*ret-</i>	‘laufen’	Celt.
<i>*reud^h-</i>	schreien, weinen	Ilr., It., Germ., Balt., Slav.
?2. <i>reud^h-</i>	roden	Germ., Ilr.
<i>*reuh-</i>	aufreißen	Ilr., It., Slav., Toch., Germ., Balt.
<i>*reuh_i-</i>	‘öffnen	Toch.
<i>*reup-</i>	(zer)reißen (intr.)	Ilr., It., Germ.
<i>*reus-</i>	wühlen	Slav., Balt.

Appendix 2: IPs in Homer, Hesiod, and Herodotus

The following tables list all the occurrences of the the IPs in the *Iliad* and the *Odyssey*. I have highlighted ambiguous forms in bold.

Iliad (165 occurrences = 141 excluding ἔσκ-, (ἔ)φασκ- and παρέβαρκε; cf. *infra*)

πωλέσκετο	A 490	εἶπεσκεν	H 178	ρίπτασκον	O 23	θέεσκον	Y 229
φθινύθεσκε	A 491	εἶπεσκεν	H 201	ἔσκε	O 334	εἶασκε	Y 408
ποθέεσκε	A 492	ἔσκε	Θ 223	καλέσκετο	O 338	ἔσκε	Y 409
ἐρητύσασκε	B 189	ῥέζεσκον	Θ 250	οἴχνεσκε	O 640	ἔσκε	Y 410
ἐλάσασκεν	B 199	δύσκειν	Θ 271	φορέεσκε	O 646	φορέεσκον	Φ 31
ὁμοκλήσασκε	B 199	κρύπτασκε	Θ 272	ἰσχανάσκειν	O 723	βουκολέεσκες	Φ 448
νεικείεσκε	B 221	σώεσκον	Θ 363	οὔτασκε	O 745	πλύνεσκον	X 155
εἵπεσκεν	B 271	κλαίεσκε	Θ 364	ἔσκε	Π 147	ἀποστρέψασκε	X 197
ναιετάσκειν	B 539	δόσκειν	I 331	ἔσκε	Π 225	εἵπεσκεν	X 372
ναίεσκον	B 758	δασάσκετο	I 333	πίνεσκειν	Π 226	εἵπεσκε	X 375
φορέεσκον	B 770	ἔχεσκειν	I 333	σπένδεσκε	Π 227	οὔτήσασκε	X 375
ἔασκε	B 832	ἐθέλεσκε	I 353	ἀριστεύεσκε	Π 292	πελέσκεο	X 433
ναιετάσκειν	B 841	φιλέεσκειν	I 450	ἔσκε	Π 550	ἔχεσκ'	X 458
ἔσκε	Γ 180	ἀτιμάζεσκε	I 450	ἀριστεύεσκε	Π 551	προθέεσκε	X 459
στάσκειν	Γ 217	λίσσέσκετο	I 451	ναίεσκε	Π 719	ἔδεσκε	X 501
ἴδεσκε	Γ 217	ἐθέλεσκες	I 486	ναιετάασκε	P 308	εὐδεσκ'	X 503
ἔχεσκειν	Γ 219	ἔρδεσκειν	I 540	ἀριστεύεσκε	P 351	κλύζεσκον	Ψ 61
εἵπεσκεν	Γ 297	καλέεσκον	I 562	ἀπαγγέλλεσκε	P 409	ἀΐξασκε	Ψ 369
εἵπεσκειν	Γ 319	ἐξερύσασκε	K 490	εἵπεσκειν	P 414	ρίπτασκε	Ψ 827
φιλέεσκε	Γ 388	ἔσκε	Λ 6	αὐδήσασκε	P 420	δινεύεσκ'	Ω 12
τιέσκετο	Δ 46	φάνεσκειν	Λ 64	εἵπεσκε	P 423	λήθεσκειν	Ω 13
εἵπεσκειν	Δ 81	παρέβασκε	Λ 104	ὀρσασκειν	P 423	δησάσκετο	Ω 15
εἵπεσκειν	Δ 85	εἶασχ'	Λ 125	φεύγεσκειν	P 461	παυέσκετο	Ω 17
θαρσύνεσκε	Δ 233	ἔασκε	Λ 330	ἐπαΐξασκε	P 462	ἔασκειν	Ω 17
νεικείεσκε	Δ 241	μνησάσκετο	Λ 566	ἔσκε	P 575	ἐλαίρεσκον	Ω 23
ἔχεσκε	E 126	ἐρητύσασκε	Λ 567	ἔσκειν	P 584	ὀτρύνεσκον	Ω 24
ἔχεσκες	E 472	τρωπάσκετο	Λ 568	ἔσκε	Σ 118	ἔσκε	Ω 67
ἔσκε	E 536	ἀριστεύεσκειν	Λ 627	ἐπαΐξασκε	Σ 159	ἔσκε	Ω 258
ναίεσκε	E 708	ἀποκινήσασκε	Λ 636	στάσκε	Σ 160	κτείνεσκε	Ω 393
αὐδήσασχ'	E 786	ἔσκειν	Λ 669	χαίρεσκον	Σ 259	ἐπιρρήσσεσκον	Ω 454
πωλέσκετο	E 788	ναιετάασκε	Λ 673	μυθέσκοντο	Σ 289	ἀναοίγεσκον	Ω 455
οἴχνεσκον	E 790	ἀριστεύεσκε	Λ 746	δόσκειν	Σ 546	ἐπιρρήσσεσκε	Ω 456
εἶασκον	E 802	ἔφασκον	N 100	στρέψασκον	Σ 546	ἴζεσκε	Ω 472
ζωννύσκετο	E 857	ἐθέλεσκον	N 106	θρέξασκον	Σ 599	ἰσάσκετο	Ω 607
φιλέεσκειν	Z 15	ἔχεσκειν	N 257	θρέξασκον	Σ 602	ρύσκειν	Ω 730
ἔσκειν	Z 19	φορέεσκε	N 372	μένεσκον	T 42	ἔσκε	Ω 739
ἔσκειν	Z 153	φορέεσκε	N 398	νεικείεσκον	T 86	πέρνασχ'	Ω 752
καλέεσκε	Z 402	φορέεσκε	N 407	στενάχεσχ'	T 132	ἔλεσκε	Ω 752
ἀριστεύεσκε	Z 460	τίεσκειν	N 461	ὀλέεσκειν	T 135	ρύστάζεσκειν	Ω 755
μαχέσκετο	H 140	ἔσκε	N 695	ἔασκες	T 295		
ρήγνυσκε	H 141	ἔσκε	Ξ 124	ἔφασκες	T 297		
ἔσκειν	H 153	δόσκειν	Ξ 382	ὑποτρομέεσκον	Y 28		

Odyssey (148 occurrences = 111 excluding ἔσκ- and (ἔ)φασκ-)

φιλέεσκε	α 264	μεθέλεσκε	θ 376	μινύθεσκον	ξ 17	διαρρίπτασκειν	τ 575
φιλέεσκε	α 435	ἔφασκε	θ 565	ἔλεσκον	ξ 220	ἱρεύεσκον	υ 3
ἔσκειν	β 59	ἰαύεσκον	ι 184	ἔσκειν	ξ 222	ἑμισγέσκοντο	υ 7
ύφαίνεσκειν	β 104	ποιμαίνεσκειν	ι 188	ἔσκε	ξ 227	ἔσκε	υ 288
ἀλλύεσκειν	β 105	φέρεισκε	ι 429	ἔφασκε	ξ 321	μνάσκειτ'	υ 290
εἵπεσκε	β 324	ἔσκε	ι 508	παρακέσκειτ'	ξ 521	εἵπεσκε	υ 375
εἵπεσκε	β 331	εἵπεσκειν	κ 37	ἔσκε	ο 362	κέσκειτ'	φ 41
ἔσχ'	β 346	φέρεισκον	κ 108	ναιετάσκει	ο 385	ἔσκειν	φ 94
θέλγεσκειν	γ 264	ἔσκε	κ 304	ἔσκε	ο 417	ἔσκειν	φ 145
ἴζεσκειν	γ 409	φάσκειν	κ 331	ἐποπτεύεσκε	π 140	ἔσκειν	φ 283
φάσχ	δ 191	ἔσκε	κ 552	ἔφασκε	ρ 114	εἵπεσκε	φ 361
ἔσκε	δ 270	γενέσκειτο	λ 208	ἐπιρρέζεσκον	ρ 211	εἵπεσκειν	φ 396
ἰχθυάσκειν	δ 368	πωλέσκειτο	λ 240	φιλέεσκε	ρ 257	εἵπεσκε	φ 401
ἔσκε	δ 689	φάσκε	λ 306	ἀγίνεσκον	ρ 294	ἐφάσκειθ'	χ 35
εἵπεσκε	δ 769	ἔσκειν	λ 394	ἔσκε	ρ 308	ῥέζεσκον	χ 46
εἵπεσκε	δ 772	νικάσκομεν	λ 512	φύγεσκε	ρ 316	ἔσκειν	χ 126
δερκέσκειτο	ε 84	προθέεσκε	λ 515	ἐφίζεσκε	ρ 331	φορέεσκε	χ 185
ἔφασκον	ε 135	ἀπολέσκειτ'	λ 586	δόσκον	ρ 420	ῥέζεσκον	χ 209
ἰαύεσκειν	ε 154	φάνεσκε	λ 587	εἵπεσκε	ρ 482	παύεσκον	χ 315
δερκέσκειτο	ε 158	καταζήγασκε	λ 587	ἔσκειν	ρ 538	κηδέσκειτο	χ 358
προβάλεσκε	ε 331	ρίπτασκε	λ 592	πτωχεύεσκ'	σ 2	τίεσκον	χ 414
εἴξασκε	ε 332	ῶθεσκε	λ 596	ἔσκε	σ 5	εἴασκειν	χ 427
περάσκει	ε 480	ἀποστρέψασκε	λ 597	ἀπαγγέλλεσκε	σ 7	κήδεσκον	ψ 9
σινέσκοντο	ζ 6	ῶσασκε	λ 599	εἵπεσκειν	σ 72	τίεσκον	ψ 65
ἀποπτύεσκε	ζ 95	ὀχέεσκον	λ 619	μισγέσκειτο	σ 325	ἐσίδεσκειν	ψ 94
ἔχεσκον	η 99	ἀναμορμύρεσκε	μ 238	φιλέεσκειν	σ 325	ἀγνώσασκε	ψ 95
σπένδεσκον	η 138	φάνεσκε	μ 241	εἵπεσκειν	σ 400	εἵπεσκε	ψ 148
φιλέεσκε	η 171	φάνεσκε	μ 242	δόσκον	τ 76	εἵπεσκε	ψ 152
ἔφασκε	η 256	ἔφασκειν	μ 275	ύφαίνεσκον	τ 149	ἔφασκειν	ψ 335
δεύεσκον	η 260	ἐφέπεσκον	μ 330	ἀλλύεσκον	τ 150	πεδάσκειν	ψ 353
ἔλεσκε	θ 88	βοσκέσκονθ'	μ 355	ἔφασκε	τ 191	φάσκ'	ω 75
σπείσασκε	θ 89	χαίρεσκον	μ 380	θαυμάζεσκον	τ 229	ύφαίνεσκειν	ω 139
γοάσκειν	θ 92	εἵπεσκειν	ν 167	ἔσκε	τ 240	ἀλλύεσκειν	ω 140
ἐρίζεσκον	θ 225	εἵπεσκε	ν 170	ἔσκε	τ 247	σιτέσκοντο	ω 209
πρήσσεσκον	θ 259	ἔφασκε	ν 173	ἔσκε	τ 315	κομέεσκειν	ω 212
εἵπεσκειν	θ 328	φαινέσκειτο	ν 194	περάσκει	τ 442	ἔφασκε	ω 269
ρίπτασκε	θ 374	ἔρδεσκες	ν 350	ἴστασχ'	τ 574	κομέεσκειν	ω 390

The following table gives more detailed information on the IPs, which are ordered alphabetically. For the sake of clarity, when a verb is found in more than one form, the different forms are listed separately.

Verb	Form	Person / Number	Diathesis	Number of occurrences	'Vocabulary form'	Textual references
ἀγίνεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	ἀγινέω	ρ 294
ἀγνώσασκε	Σ-AORIST	3 SINGULAR	ACTIVE	1	ἀγνοέω	ψ 95
ἀΐξασκε	Σ-AORIST	3 SINGULAR	ACTIVE	1	ἀΐσσω	Υ 369
ἀλλύεσκον	IMPERFECT	3 SINGULAR	ACTIVE	2	ἀναλύω	β 105, ω 140
ἀλλύεσκον	IMPERFECT	1 SINGULAR	ACTIVE	1	ἀναλύω	τ 150
ἀναμορμύρεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	ἀναμορμύρω	μ 238
ἀναοίγεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	ἀνοίγνυμι	Ω 455
ἀπαγγέλλεσκε	IMPERFECT	3 SINGULAR	ACTIVE	2	ἀπαγγέλλω	Ρ 409, σ 7
ἀποκινήσασκε	IMPERFECT	3 SINGULAR	ACTIVE	1	ἀποκινέω	Λ 636
ἀπολέσκειτ'	THEM-AOR.	3 SINGULAR	MEDIOPASSIVE	1	ἀπόλλυμι	λ 586
*ἀποπτύεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	ἀποπτύω	ζ 95
ἀποστρέψασκε	Σ-AORIST	3 SINGULAR	ACTIVE	2	ἀποστρέφω	Χ 197, λ 597
ἀριστεύεσκε	IMPERFECT	3 SINGULAR	ACTIVE	5	ἀριστεύω	Ζ 460, Λ 746, Π 292, Π 551, Ρ 351
ἀριστεύεσκον	IMPERFECT	3 SINGULAR	ACTIVE	1	ἀριστεύω	Λ 627
ἀτιμάζεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	ἀτιμάζω	Ι 450
αὐδήσασκε	Σ-AORIST	3 SINGULAR	ACTIVE	1	αὐδάω	Ρ 420
βοσκέσκειν	IMPERFECT	3 PLURAL	MEDIOPASSIVE	1	βόσκω	μ 355
βουκολέεσκες	IMPERFECT	2 SINGULAR	ACTIVE	1	βουκολέω	Φ 448
γενέσκειτο	THEM-AOR.	3 SINGULAR	MEDIOPASSIVE	1	γίγνομαι	λ 208
γοάσκειν	IMPERFECT	3 SINGULAR	ACTIVE	1	γοάω	θ 92
δασάσκειτο	Σ-AORIST	3 SINGULAR	MEDIOPASSIVE	1	δατέομαι	Ι 333
δερκέσκειτο	IMPERFECT	3 SINGULAR	MEDIOPASSIVE	2	δέρκομαι	ε 84, ε 158
δεύεσκον	IMPERFECT	1 SINGULAR	ACTIVE	1	δεύω	η 260
δησάσκειτο	Σ-AORIST	3 SINGULAR	MEDIOPASSIVE	1	δέω	Ω 15
διαρρίπτασκειν	IMPERFECT	3 SINGULAR	ACTIVE	1	διαρρίπτω	τ 575
δινεύεσκ'	IMPERFECT	3 SINGULAR	ACTIVE	1	δινέω	Ω 12
δόσκειν	IMPERFECT	3 SINGULAR	ACTIVE	2	δίδωμι	Ξ 382, Σ 546
δόσκειν	IMPERFECT	1 SINGULAR	ACTIVE	3	δίδωμι	Ι 331, ρ 420, τ 76
δύσκειν	ROOT-AOR.	3 SINGULAR	ACTIVE	1	δύω	Θ 271
ἔασκε	IMPERFECT	3 SINGULAR	ACTIVE	2	εάω	Β 832, Λ 330
ἔασκειν	IMPERFECT	3 SINGULAR	ACTIVE	1	εάω	Ω 17
ἔασκες	IMPERFECT	2 SINGULAR	ACTIVE	1	εάω	Τ 295
ἔδεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	έδω	Χ 501
ἐθέλεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	ἐθέλω	Ι 353
ἐθέλεσκες	IMPERFECT	2 SINGULAR	ACTIVE	1	ἐθέλω	Ι 486
ἐθέλεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	ἐθέλω	Ν 106
εἶασκε	IMPERFECT	3 SINGULAR	ACTIVE	1	εάω	Υ 408
εἶασκειν	IMPERFECT	3 SINGULAR	ACTIVE	1	εάω	Χ 427
εἶασκον	IMPERFECT	1 SINGULAR	ACTIVE	1	εάω	Ε 802
εἶξασκε	Σ-AORIST	3 SINGULAR	ACTIVE	1	εἶχω	ε 332
εἶπεσκε	THEM-AOR.	3 SINGULAR	ACTIVE	13	λέγω (suppl.)	Ρ 423, Χ 375, β 324, β 331, δ 769, δ 772, ν 170, ρ 482, υ 375, φ 361, φ 401, ψ 148, ψ

						152
εἵπεσκεν	THEM-AOR.	3 SINGULAR	ACTIVE	15	λέγω (suppl.)	B 271, Γ 297, Γ 319, Δ 81, Δ 85, H 178, H 201, P 414, X 372, θ 328, κ 37, ν 167, σ 72, σ 400, φ 396
ἐλάσασκεν	Σ-AORIST	3 SINGULAR	ACTIVE	1	ἐλαύνω	B 199
ἐλεαίρεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	ἐλεαίρω	Ω 23
ἔλεσκε	THEM-AOR.	3 SINGULAR	ACTIVE	2	αἰρέω	Ω 752, θ 88
ἔλεσκον	THEM-AOR.	1 SINGULAR	ACTIVE	1	αἰρέω	ξ 220
ἐμισγέσκοντο	IMPERFECT	3 PLURAL	MEDIOPASSIVE	1	μ(ε)ἵγνυμι	υ 7
ἐξερύσασκε	IMPERFECT	3 SINGULAR	ACTIVE	1	ἐξερύω	K 490
ἐπαΐξασκε	Σ-AORIST	3 SINGULAR	ACTIVE	2	ἐπαίσσω	P 462, Σ 159
ἐπιρρέζεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	ἐπιρρέζω	ρ 211
ἐπιρρήσσεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	*ἐπιρρήσσω	Ω 456
ἐπιρρήσσεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	*ἐπιρρήσσω	Ω 454
ἐποπτεύεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	ἐποπτεύω	π 140
ἔρδεσκεν	IMPERFECT	3 SINGULAR	ACTIVE	1	ἔρδω	I 540
ἔρδεσκες	IMPERFECT	2 SINGULAR	ACTIVE	1	ἔρδω	ν 350
ἐρητύσασκε	Σ-AORIST	3 SINGULAR	ACTIVE	2	ἐρητύω	B 189, Λ 567
ἐρίζεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	ἐρίζω	θ 225
ἐσίδεσκεν	THEM-AOR.	3 SINGULAR	ACTIVE	1	*εἰσοράω	ψ 94
ἔσκει	IMPERFECT	3 SINGULAR	ACTIVE	31	εἰμί	Γ 180, Ε 536, Θ 223, Λ 6, Ν 695, Ξ 124, Ο 334, Π 147, Π 225, Π 550, Ρ 575, Σ 118, Υ 409, Υ 410, Ω 67, Ω 258, Ω 739, δ 270, δ 689, ι 508, κ 304, κ 552, ξ 227, ο 362, ο 417, ρ 308, σ 5, τ 240, τ 247, τ 315, υ 288, φ 145
ἔσκειν	IMPERFECT	3 SINGULAR	ACTIVE	11	εἰμί	Z 19, Z 153, Λ 669, Ρ 584, β 59, λ 394, ξ 222, ρ 538, φ 94, φ 283, χ 126
ἔσκον	IMPERFECT	1 SINGULAR	ACTIVE	1	εἰμί	H 153
ἔσχ'	IMPERFECT	3 SINGULAR	ACTIVE	1	εἰμί	β 346
εὕδεσκέ	IMPERFECT	3 SINGULAR	ACTIVE	1	εὕδω	X 503
ἐφάσκει	IMPERFECT	3 SINGULAR	ACTIVE	7	φάσκω	η 256, θ 565, ν 173, ξ 321, ρ 114, τ 191, ω 269
ἐφάσκειθ'	IMPERFECT	2 PLURAL	ACTIVE	1	φάσκω	χ 35
ἐφάσκειν	IMPERFECT	3 SINGULAR	ACTIVE	2	φάσκω	μ 275, ψ 335

ἔφασκες	IMPERFECT	2 SINGULAR	ACTIVE	1	φάσκω	T 297
ἔφασκον	IMPERFECT	1 SINGULAR	ACTIVE	2	φάσκω	N 100, ε 135
ἐφέπεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	ἐφέπω	μ 330
ἐφίζεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	ἐφίζω	ρ 331
ἔχεσκ'	IMPERFECT	3 SINGULAR	ACTIVE	1	ἔχω	X 458
ἔχεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	ἔχω	E 126, I 333
ἔχεσκον	IMPERFECT	3 SINGULAR	ACTIVE	1	ἔχω	Γ 219
ἔχεσκες	IMPERFECT	2 SINGULAR	ACTIVE	1	ἔχω	E 472
ἔχεσκον	IMPERFECT	1 SINGULAR 3 PLURAL	ACTIVE	2	ἔχω	N 257, η 99
ζωννύσκετο	IMPERFECT	3 SINGULAR	MEDIOPASSIVE	1	ζώννυμι	E 857
θαρσύνεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	θαρσύνω	Δ 233
θαυμάζεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	θαυμάζω	τ 229
θέεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	θέω	Υ 229
θέλγεσκον	IMPERFECT	3 SINGULAR	ACTIVE	1	θέλγω	γ 264
θρέξασκον	Σ-AORIST	3 PLURAL	ACTIVE	2	τρέχω	Σ 599, Σ 602
ιαύεσκον	IMPERFECT	3 SINGULAR	ACTIVE	1	ιαύω	ε 154
ιαύεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	ιαύω	ι 184
ἴδεσκε	THEM-AOR.	3 SINGULAR	ACTIVE	1	οράω	Γ 217
ἴζεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	ἴζω	Ω 472
ἴζεσκον	IMPERFECT	3 SINGULAR	ACTIVE	1	ἴζω	γ 409
ἱρεύεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	ἰ(ε)ρεύω	υ 3
ἰσάσκετο	ROOT AOR?	3 SINGULAR	MEDIOPASSIVE	1	ισάζω	Ω 607
ἴστασχ'	IMPERFECT	3 SINGULAR	ACTIVE	1	ἴστημι	τ 574
ἰσχανάσκον	IMPERFECT	3 PLURAL	ACTIVE	1	ισχανάω	Ο 723
ἰχθυάσκον	IMPERFECT	3 PLURAL	ACTIVE	1	ἰχθυάω	δ 368
καλέεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	καλέω	Z 402
καλέεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	καλέω	I 562
καλέεσκετο	IMPERFECT	3 SINGULAR	MEDIOPASSIVE	1	καλέω	Ο 338
καταζήνασκε	(Σ)-AORIST	3 SINGULAR	ACTIVE	1	*καταζαίνω	λ 587
κέσκειτ'	IMPERFECT	3 SINGULAR	MEDIOPASSIVE	1	κείμαι	φ 41
κηδέεσκετο	IMPERFECT	3 SINGULAR	MEDIOPASSIVE	1	κήδω	χ 358
κήδεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	κήδω	ψ 9
κλαίεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	κλαίω	Θ 364
κλύζεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	κλύζω	Ψ 61
κομέεσκον	IMPERFECT	3 SINGULAR	ACTIVE	2	κομέω	ω 212, ω 390
κρύπτασκε	IMPERFECT	3 SINGULAR	ACTIVE	1	κρύπτω	Θ 272
κτείνεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	κτείνω	Ω 393
λήθεσκον	THEM-AOR.	3 SINGULAR	ACTIVE	1	λανθάνω	Ω 13
λίσσεσκετο	IMPERFECT	3 SINGULAR	MEDIOPASSIVE	1	λίσσομαι	I 451
μαχέεσκετο	IMPERFECT	3 SINGULAR	MEDIOPASSIVE	1	μάχομαι	H 140
μεθέλεσκε	THEM-AOR.	3 SINGULAR	ACTIVE	1	μεθαιρέω	θ 376
μένεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	μένω	T 42
μινύθεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	μινυθ(ε)ω	ξ 17
μισγέεσκετο	IMPERFECT	3 SINGULAR	MEDIOPASSIVE	1	μίγνυμι	σ 325
μνάσκειτ'	IMPERFECT	3 SINGULAR	MEDIOPASSIVE	1	μνάομαι	υ 290
μνησάσκετο	Σ-AORIST	3 SINGULAR	MEDIOPASSIVE	1	μιμνήσκω	Λ 566
μυθέεσκοντο	IMPERFECT	3 PLURAL	MEDIOPASSIVE	1	μυθέομαι	Σ 289
ναίεσκε	IMPERFECT	3 SINGULAR	ACTIVE	2	ναίω	E 708, Π 719
ναίεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	ναίω	B 758
ναιετάασκε	IMPERFECT	3 SINGULAR	ACTIVE	3	ναιετάω	Λ 673, P 308, ο 385
ναιετάασκον	IMPERFECT	3 PLURAL	ACTIVE	2	ναιετάω	B 539, B 841
νεικείεσκε	IMPERFECT	3 SINGULAR	ACTIVE	2	νεικέω	B 221, Δ 241

νεικίεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	νεικέω	T 86
νικάσκομεν	IMPERFECT	1 PLURAL	ACTIVE	1	νικάω	λ 512
οἴχνεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	οἴχνέω	O 640
οἴχνεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	οἴχνέω	E 790
ὀλέεσκεν	IMPERFECT	3 SINGULAR	ACTIVE	1	ὀλέκω	T 135
ὀμοκλήσασκε	Σ-AORIST	3 SINGULAR	ACTIVE	1	ὀμοκλάω	B 199
ὄρσασκεν	Σ-AORIST	3 SINGULAR	ACTIVE	1	ὄρνυμι	P 423
ὀτρύνεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	ὀτρύνω	Ω 24
οὔτασκε	IMPERFECT	3 SINGULAR	ACTIVE	1	οὔτάω	O 745
οὔτήσασκε	Σ-AORIST	3 SINGULAR	ACTIVE	1	οὔτάω	X 375
ὀχέεσκον	IMPERFECT	1 SINGULAR	ACTIVE	1	ὀχέω	λ 619
παρακέσκειτ'	IMPERFECT	3 SINGULAR	MEDIOPASSIVE	1	παρακεῖμαι	ξ 521
παρέβασκε	IMPERFECT	3 SINGULAR	ACTIVE	1	βαινω / βάσκω	Λ 104
παυέσκειτο	IMPERFECT	3 SINGULAR	ACTIVE	1	παύω	Ω 17
παύεσκον	IMPERFECT	1 SINGULAR	ACTIVE	1	παύω	χ 315
πεδάασκον	IMPERFECT	3 PLURAL	ACTIVE	1	πεδάω	ψ 353
πελέσκειο	IMPERFECT	2 SINGULAR	MEDIOPASSIVE	1	πέλω	X 433
περάσκει	IMPERFECT	3 SINGULAR	ACTIVE	2	περάω	ε 480, τ 442
πέρνασχ'	IMPERFECT	3 SINGULAR	ACTIVE	1	πέρνημι	Ω 752
πίνεσκεν	IMPERFECT	3 SINGULAR	ACTIVE	1	πίνω	Π 226
πλύνεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	πλύνω	X 155
ποθέεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	ποθέω	A 492
ποιμαίνεσκειν	IMPERFECT	3 SINGULAR	ACTIVE	1	ποιμαίνω	ι 188
πρήσσεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	πράσσω	θ 259
προβάλεσκε	THEM-AOR.	3 SINGULAR	ACTIVE	1	προβάλλω	ε 331
προθέεσκε	IMPERFECT	3 SINGULAR	ACTIVE	2	προθέω	X 459, λ 515
πτωχεύεσκ'	IMPERFECT	3 SINGULAR	ACTIVE	1	πτωχεύω	σ 2
πωλέσκειτο	IMPERFECT	3 SINGULAR	MEDIOPASSIVE	3	πωλέομαι	A 490, E 788, λ 240
ρέζεσκον	IMPERFECT	3 PLURAL	ACTIVE	3	ρέζω	Θ 250, χ 46, χ 209
ρήγνυσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	ρήγνυμι	H 141
ρίπτασκε	IMPERFECT	3 SINGULAR	ACTIVE	3	ρίπτω	Ψ 827, θ 374, λ 592,
ρίπτασκον	IMPERFECT	1 SINGULAR	ACTIVE	1	ρίπτω	O 23
ρύσκειν	ROOT AOR	2 SINGULAR	MEDIOPASSIVE	1	ἐρύω	Ω 730
ρύσταζεσκειν	IMPERFECT	3 SINGULAR	ACTIVE	1	ρύσταζω	Ω 755
σινέσκοντο	IMPERFECT	3 PLURAL	MEDIOPASSIVE	1	σίνομαι	ζ 6
σιτέσκοντο	IMPERFECT	3 PLURAL	MEDIOPASSIVE	1	σιτέομαι	ω 209
σπείσασκε	Σ-AORIST	3 SINGULAR	ACTIVE	1	σπένδω	θ 89
σπένδεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	σπένδω	Π 227
σπένδεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	σπένδω	η 138
στάσκε	ROOT AOR?	3 SINGULAR	ACTIVE	1	ἴστημι	Σ 160
στάσκειν	ROOT AOR?	3 SINGULAR	ACTIVE	1	ἴστημι	Γ 217
στενάχεσχ'	IMPERFECT	3 SINGULAR	ACTIVE	1	στενάχω	T 132
στρέψασκον	IMPERFECT	3 PLURAL	ACTIVE	1	στρέφω	Σ 546
σώεσκον	IMPERFECT	1 SINGULAR	ACTIVE	1	σώω	Θ 363
τίεσκειν	IMPERFECT	3 SINGULAR	ACTIVE	1	τίω	N 461
τίεσκειτο	IMPERFECT	3 SINGULAR	MEDIOPASSIVE	1	τίω	Δ 46
τίεσκον	IMPERFECT	3 PLURAL	ACTIVE	2	τίω	χ 414, ψ 65
τρωπάσκειτο	IMPERFECT	3 SINGULAR	MEDIOPASSIVE	1	τροπάω	Λ 568
ὑποτρομέεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	ὑποτρομέω	Υ 28
ὑφαίνεσκειν	IMPERFECT	3 SINGULAR	ACTIVE	2	ὑφαίνω	β 104, ω 139

ὕφαίνεσκον	IMPERFECT	1 SINGULAR	ACTIVE	1	ὕφαίνω	τ 149
φαινέσκετο	IMPERFECT	3 SINGULAR	MEDIOPASSIVE	1	φαίνω	ν 194
φάνεσκε	THEM-AOR.	3 SINGULAR	ACTIVE	3	φαίνω	λ 587, μ 241, μ 242
φάνεσκειν	THEM-AOR.	3 SINGULAR	ACTIVE	1	φαίνω	Λ 64
φάσκ'	IMPERFECT	3 SINGULAR	ACTIVE	1	φημί / φάσκω	ω 75
φάσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	φημί / φάσκω	λ 306
φάσκεν	IMPERFECT	3 SINGULAR	ACTIVE	1	φημί / φάσκω	κ 331
φάσχ'	IMPERFECT	3 SINGULAR	ACTIVE	1	φημί / φάσκω	δ 191
φέρεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	φέρω	ι 429
φέρεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	φέρω	κ 108
φεύγεσκειν	IMPERFECT	3 SINGULAR	ACTIVE	1	φεύγω	Ρ 461
φθινύθεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	φθινύθω	Α 491
φιλέεσκε	IMPERFECT	3 SINGULAR	ACTIVE	5	φιλέω	Γ 388, α 264, α 435, η 171, ρ 257
φιλέεσκειν	IMPERFECT	3 SINGULAR	ACTIVE	3	φιλέω	Ζ 15, Ι 450 σ 325
φορέεσκε	IMPERFECT	3 SINGULAR	ACTIVE	5	φορέω	Ν 372, Ν 398, Ν 407, Ο 646, χ 185
φορέεσκον	IMPERFECT	3 PLURAL	ACTIVE	2	φορέω	Β 770, Φ 31
φύγεσκε	THEM-AOR.	3 SINGULAR	ACTIVE	1	φεύγω	ρ 316
χαίρεσκον	IMPERFECT	3 PLURAL	ACTIVE	2	χαίρω	Σ 259, μ 380
ῶθεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	ῶθεω	λ 596
ῶσασκε	Σ-AORIST	3 SINGULAR	ACTIVE	1	ῶθεω	λ 599

Notes

Verbs with and without preverbs are counted as separate forms. Also forms with and without the *νephelkystikon* are listed separately.

Risch, in his list, only omitted the forms ἴδεσκε (Γ 217) and ἐσίδεσκειν (ψ 94), marked here in red.

Here follows a brief discussion of the more controversial forms:

- (ἔ)φασκ-

This could either be an IP from φημί or a 'regular' preterite from φάσκω (the latter is more likely: see BRUGMANN 1902-3 and GIACALONE RAMAT 1967:122)

- ἔσκ-

The ἔσκ- forms may be IPs from εἰμί 'be', but they might also be inherited forms (**h₂s-skē/o-*) with possible cognates in Old Latin (*escit*), Palaic (*iška*) and Tocharian.

- παρέβασκε (Λ 104)

This could either be an IP from παραβαίνω or a 'regular' preterite from βάσκω.

- ἀναοίγεσκον (Ω 455)

ἀναοίγεσκον is the form transmitted by the manuscripts; ἀνοείγεσκον is an emendation by Fick that has been accepted in West's recent edition. This correction is parallel to Ω 228, where Fick (and West) emends ἀνέω(ι)γεν into ἀνόειγε.

«Das Verb (ἀν)οίγω» 'öffne' dürfte auf älteres ὀ(ε)ίγ- zurückgehen; für das hier einhellig überlieferte ἀνέωγε lässt sich demnach ein prosodisch gleichwertiges (unaugmentiertes) Impf. restituieren: ἀνόειγεν, ebenso 455

ἀνοείγεσκον (SCHMIDT 1968, 81f.; WEST 1998, XXXIII; Vorbehalte bei FORSSMAN 2005, 108f. 112: restituierte Formen vorhomerisch; vgl. die Zusammenfassung in ChrinEG 10 s.v. οἴγνυμι)» (BIERL – LATACZ 2009: 93).

Since the transmitted form does not create particular problems, I have retained it in my count.

- ἀποπτύεσκε vs. ἀποπλύνεσκε (ζ 95)

I accept ἀποπτύεσκε with Van Thiel and Von Der Mühl (against Murray and West).

- ἰσάσκετο (Ω 607)

Chantraine says that this is one of those «itératifs constitués de façon particulièrement libre» (CHANTRAINE 1958: 323)

- παρακέσκειτ' (ξ 521)

The manuscripts have both παρα- and παρε-; I prefer the non-augmented form, adopted also by Von Der Mühl, not only because the IPs tend to be augmentless, but also in light of the non-preverbated form κέσκετ(ο) that we find in φ 41.

I have not included παρέβασκε in this count, because it seems to be an imperfect form of βάσκω rather than the IP of παραβαίνω. For the same reason, δειδίσκετο σ 121, υ 197 has been excluded (it is the regular imperfect of δειδίσκομαι)

In the following table, the complete evidence for the IPs in Hesiod is collected:

Verb	Form	Person / Number	Diathesis	Number of occurrences	'Vocabulary form'	Textual references
.]λεσκεν	?	3 SINGULAR	ACTIVE	1	?	F. 204.127 M-W
ἀλέγεσκ[..	IMPERFECT	?	?	1	ἀλέγω	F 116.4 M-W
γινέσκετο	IMPERFECT	3 SINGULAR	MEDIOPASSIVE	1	γίγνομαι	F 33a.15 M-W
δρομάσκει	IMPERFECT	3 SINGULAR	ACTIVE	1	δρομάω	F 62.2 M-W
εἶσκει	IMPERFECT	3 SINGULAR	ACTIVE	1	εἶω	F 30.27 M-W
ἐράσκει		3 SINGULAR	ACTIVE	1	ἐραμαι	F 30.32 M-W
ἔσκει	IMPERFECT	3 SINGULAR	ACTIVE	1	ἔχω	F 10a.70 M-W
ἔσκεν	IMPERFECT	3 SINGULAR	ACTIVE	1	ἔχω	<i>Theog.</i> 533
ζώεσκον	IMPERFECT	3 PLURAL	ACTIVE	2	ζώω	<i>Op.</i> 90 <i>Op.</i> 133
ιάσκει	IMPERFECT	3 SINGULAR	ACTIVE	1	ιάχω	<i>Sc.</i> 232
καλέσκει	IMPERFECT	3 SINGULAR	ACTIVE	1	καλέω	<i>Theog.</i> 207
κικλήσκεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	κικλήσκω	F 17a.11 M-W
λάβεσκεν**	THEM. AOR.	3 SINGULAR	ACTIVE	1	λαμβάνω	F 67b M-W
μινύσκει	IMPERFECT	3 SINGULAR	ACTIVE	1	μινύθω	F. 204.128 M-W
ναίεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	ναίω	F 215.2 M-W
ναιετάσκειν	IMPERFECT	3 SINGULAR	ACTIVE	1	ναιετάω	F 10a.38 M-W
νε]ικεῖσκει	IMPERFECT	3 SINGULAR	ACTIVE	1	νεικίω	F 30.26 M-W
νόσκει	IMPERFECT	3 SINGULAR	ACTIVE	1	νοέω	F 43a.72 M-W
πλωίζεσκ'	IMPERFECT	3 SINGULAR	ACTIVE	1	πλωίζω	<i>Op.</i> 634
πορσαίνεσκεν	IMPERFECT	3 SINGULAR	ACTIVE	1	πορσαίνω	F 43a.69 M-W
προὔχεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	προέχω	F 30.34 M-W F 43a.51 M-W
πωλέσκετο]	IMPERFECT	3 SINGULAR	MEDIOPASSIVE	1	πωλέομαι	F 30.35 M-W
ρέεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	ρέω	F. 204.125 M-W
ρίπτασκον	IMPERFECT	3 PLURAL	ACTIVE	1	ρίπτω	<i>Sc.</i> 256
σινέσκετο		3 SINGULAR	MEDIOPASSIVE	1	σίνομαι	F 62.3 M-W
σύλασκει	IMPERFECT	3 SINGULAR	ACTIVE	1	συλάω	<i>Sc.</i> 480
τίεσκεν	IMPERFECT	3 SINGULAR	ACTIVE	2	τίω	<i>Sc.</i> 9 F 195.9 M-W
τίθεσκεν**	IMPERFECT	3 SINGULAR	ACTIVE	1	τίθημι	F 67b M-W
τρόμ{ε}εσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	τρομέω	F. 204.127 M-W
τρύχεσκεν	IMPERFECT	3 SINGULAR	ACTIVE	1	τρύχω	F. 204.128 M-W
φάνεσκεν	IMPERFECT	3 SINGULAR	ACTIVE	1	φαίνομαι	F 33a.14 M-W
φάσκει	IMPERFECT	3 SINGULAR	ACTIVE	1	φημί	<i>Theog.</i> 209
φοβέεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	φοβέω	<i>Sc.</i> 162
φοίτασκει	IMPERFECT	3 SINGULAR	ACTIVE	1	φοιτάω	F 62.4 M-W

**attested in *variae lectiones* of the same verse (indirect tradition)

The occurrences for ἔσκει and the related forms are the following:

ἔσκει (*Op.* 151; F 199.9 M-W; F 372.9 M-W);

Distribution: *Theogonia* (3), *Opera et Dies* (3), *Scutum* (5), *Fragmenta* (26). Total: 37

The last table collects the entire evidence for the IPs in Herodotus:

Verb	Form	Person / Number	Diathesis	Number of occurrences	'Vocabulary form'	Textual references
ἄγεσκον	IMPERFECT	3 PLURAL	ACTIVE	2	ἄγω	1.148 2.174
ἀπαείρεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	ἀπαείρω	1.186
ἀπελαύνεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	ἀπελαύνω	7.120
ἄρδεσκε	IMPERFECT	3 SINGULAR	ACTIVE	2	ἄρδω	2.13 3.117
βαλ(λ)έσκετο	THEM. AOR.?	3 SINGULAR	MEDIOPASSIVE	1	βάλλω	9.74
διαφθείρεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	διαφθείρω	1.36
ἐθέλεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	θέλω	6.12
ἐκπέμπεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	ἐκπέμπω	1.100
ἐπιτείνεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	ἐπιτείνω	1.186
ἔρδεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	ἔρδω	7.34
ἐσάγεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	ἐσάγω	1.196
ἐσπέμπεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	ἐσπέμπω	1.100
ἔφασκε	IMPERFECT	3 SINGULAR	ACTIVE	1	φάσκω	2.33
ἔχεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	ἔχω	6.12
ἔχεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	ἔχω	7.119
ἡχέεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	ἡχέω	4.200
κατελίπεσκε	THEM. AOR.	3 SINGULAR	ACTIVE	1	καταλείπω	4.78
κλαίεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	κλαίω	3.119
κλέπτεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	κλέπτω	2.174
λάβεσκε	THEM. AOR.	3 SINGULAR	ACTIVE	1	λαμβάνω	4.78
(ἐ)λάβεσκον	THEM. AOR.	3 PLURAL	ACTIVE	1	λαμβάνω	4.130
μένεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	μένω	4.42
μετεκβαίνεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	μετεκβαίνω	7.41
ὀδυρέσκετο	IMPERFECT	3 SINGULAR	MEDIOPASSIVE	1	ὀδύρομαι	3.119
πέμπεσκε	IMPERFECT	3 SINGULAR	ACTIVE	2	πέμπω	7.106 7.106
ποιέεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	ποιέω	4.78
ποιεέσκετο	IMPERFECT	3 SINGULAR	MEDIOPASSIVE	2	ποιέω	7.5 7.119
ποιέεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	ποιέω	1.36
πωλέεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	πωλέομαι	1.196
σπείρεσκον	IMPERFECT	3 PLURAL	ACTIVE	1	σπείρω	4.42
τρέπεσκε	IMPERFECT	3 SINGULAR	ACTIVE	1	τρέπω	4.128
φεύγεσκον	IMPERFECT	3 PLURAL	ACTIVE	2	φεύγω	4.43 7.211

The occurrences for ἔσκε and the related forms are the following:

ἔσκε (1.196.10; 4.200.11; 6.133.13; 7.119.16);

ἔσκον (1.196.11; 1.196.13; 4.129.10; 9.40.)

The form βαλέσκετο is controversial, because some mss. (*DP* in Rosen's *stemma codicum*) have a spelling with -λλ-.

The manuscript *D* has the augmented form διαφθείρεσκε.

Number of occurrences in each book: I (9), II (4), III (3), IV (7), V (0), VI (2), VII (9), VIII (0), IX (1). Total: 35

Appendix 3 : Phonological systems and relevant sound changes¹

In what follows, the reader may find the reconstructed phonological systems of PIE, followed by an outline of the phonological inventories of Greek, Hittite and Luwian.²

PIE phonemic inventory

Following the *communis opinio*,³ I assume the following phonemes for Proto-Indo-European:

Consonants:	*/p/	*/t/	*/k̑/	*/k/	*/k ^w /
	*/b/	*/d/	*/g̑/	*/g/	*/g ^w /
	*/b ^h /	*/d ^h /	*/g̑ ^h /	*/g ^h /	*/g ^{wh} /
	*/m/	*/n/			
	*/r/	*/l/			
	*/w/	*/y/			
			*/s/		
			*/h ₁ /	*/h ₂ /	*/h ₃ /
Vowels:	*/i:/, */i/				*/u:/, */u:/
	*/e:/, */e/		*/o:/, */o:/		
			*/a:/, */a:/		

Greek phonemic inventory

Consonants:	/p/	/t/	/k/	(/k ^w /) ⁴	Vowels:	/i:/, /i/	/u:/, /u:/
	/b/	/d/	/g/	(/g ^w /) ³		/e:/ ⁵	/o:/ ⁴
	/p ^h /	/t ^h /	/k ^h /			/ε:/, /e/	/o/, /ɔ:/
						/a:/, /a:/	
	/m/	/n/					
		/r/	/l/				
			/s/	/h/			
	(/w/)	(/y/)					

¹ N.B.: what follows is *not* a complete list of Greek and Anatolian sound changes.

² Since for reasons of space it would be impossible to give an overview of all Greek dialects, the present synthesis is based on the phonological inventory of Classical Greek (on which see most recently PROBERT 2010 and BUBENIK 2017) with the addition of elements from the dialects, including Mycenaean. For reference works on Hittite and Luwian phonology, cf. 1.1.2.1 and 1.1.2.3 *supra*.

³ Cf. e.g. MAYRHOFFER 1986, FORTSON 2010, MEIER-BRÜGGER 2010.

⁴ Labiovelars are preserved as such only in second-millennium (Mycenaean) Greek.

⁵ In early Greek, the vowels of PIE are mostly preserved, but in Attic Greek we can observe some innovations: /e:/ can derive from: 1. the inherited PIE diphthong */e̯i/; 2. contraction of /e/ + /e/ (ε + ε); 3. compensatory lengthening of /e/. Similarly, /o:/ < 1. */ou/; 2. /o/ + /o/; 3. compensatory lengthening of /o/.

Hittite phonemic inventory

Consonants:	/p/	/t/	/k/	/k ^w /	Vowels:	/i:/, /i/	/u/, /u:/
	/b/	/d/	/g/	/g ^w /		/ɛ:/, /e/	{/o/, /o:/} ⁶
						/a/, /a:/	
			/H/	/H ^w /			
			/h/	/h ^w /			
	/t ^s /	/s/					
	/m/	/n/					
	/r/	/l/					
	/w/		/y/				

Luwian phonemic inventory

Consonants:	/p/	/t/	/k/	{/k ^w /} ⁸	Vowels:	/i:/, /i/	/u/, /u:/
	/b/	/d/	/g/			/o/, /o:/ ⁹	
						/a/, /a:/	
			/H/	/H ^w /			
			/h/	/h ^w /			
		/t ^s /	/s/				
	/m/	/n/					
	/r/	/l/					
	/w/		/y/				

Common Greek sound changes

Stops:	$*b^h > p^h$	$*d^h > t^h$	$*g^h > k^h$	
Resonants:	$*m > n / _ \#$			
Sibilants:	$*s > h / \# _ V, R$			
	$*s > h / V _ V$			
Laryngeals:	$*h_1 e > e$	$*eh_1 > \bar{e}$	$*h_1 C > eC$	$*Ch_1 C > CeC$
	$*h_2 e > a$	$*eh_2 > \bar{a}$	$*h_2 C > aC$	$*Ch_2 C > CaC$
	$*h_3 e > o$	$*eh_3 > \bar{o}$	$*h_3 C > oC$	$*Ch_3 C > CoC$
	$*Ho > o$			
	$*HRC > VRC$			

⁶ While a phoneme /*o*/ is generally reconstructed from Proto-Anatolian, its status in Hittite has been controversial for years: now several scholars believe that the signs U (𐎶) and Ú (𐎶𐎵) could reflect /*o*/ and /*u*/ (see the analysis in EDHIL 35ff., *contra* MELCHERT 1994: 26).

⁷ Cf. KLOEKHORST 2006: 97-101, 106.

⁸ The confusion between the sequences /*kwi*/ and /*Hwi*/ in Late Hieroglyphic Luwian may point to the fact that the PA phoneme **/k^w/* may have been reanalysed as a sequence /*kw*/; however, nothing speaks against the preservation of **/k^w/* as a unitary phoneme in earlier stages of Luwian (MELCHERT 2003b: 177-8).

⁹ MELCHERT 2012b: 211.

Dialectal sound changes

Labiovelars:	$*k^w > p / _o, a, C$
(Attic-Ionic)	$*k^w > t / _e, i$
	$*k^w > k / _u, _u^{10}$
	$*g^w > b / _V$ (except <i>e</i>), <i>C</i>
	$*g^w > d / _e$
Syllabic resonants:	$*l > la, a^R / ol, lo^{11}$ $*r > ra, ar^R / or, ro$
	$*m > a, am^{R12}, o$ $*n > a, an^R, o$
Palatalisations:	$*t + y > -ss- / -tt-$
Vowels:	$*ā > [æ]$ (Attic-Ionic)

Proto-Anatolian sound changes

Stops:	$*b^h > *b$	$*d^h > *d$	$*ḡ^h > *ḡ$	$*g^h > *g$	$*g^{wh} > *g^w$
	$*-k^w- > -g^w-$	$*ṼTV > ṼDV$	$*VTV > *VDV^{13}$		
Syllabic resonants:	$*m > *am$	$*n > *an$	$*l > *al$	$*r > *ar$	
Laryngeals:	$*h_1 > \emptyset$				
	$*h_2e- > *ha-$				
	$*h_2o- > *ho- \text{ or } *o^{14}$				
	$*h_2R- > *hR-$				
	$*h_3 > *h, \emptyset^{15}$				
	$(*h_2u > *h^w)^{16}$				
	$(*h_3u > *y^w)^{17}$				
	$*VRHV > *VRRV$				
Palatalisations:	$*t + *y > *t^s$				
Vowels:	$*\bar{V}$ (unaccented) $> *V$				
	$*ó > *ó'$				
(Limited) Cop's Law:	$*\#é.CV- > *\#áCCV^{18}$				

¹⁰ We already see this in Mycenaean, so it must be pre-Mycenaean. We do not know whether or not this was Proto-Greek.

¹¹ Outcomes with *o*-vocalism are typical of Aeolic and Mycenaean.

¹² Superscript R indicates that the given outcome occurs before resonants.

¹³ The lenition (= voicing) of *fortis* (= voiceless) stops and $*h_2$ after a long vowel and between unaccented vowels, usually called "Eichner's lenition rules" (EICHNER 1973: 79-83, 100; cf. also MORPURGO DAVIES 1982-3) were generally considered two different rules; ADIEGO 2001 has proposed a unitary explanation, arguing that the lenition took place between unaccented *morae*.

¹⁴ The outcomes of the second laryngeal in initial position before /o/ are debated in Anatolian as well: if one follows Kimball, in Hittite initial $*/h_2ó/$ has the same outcome as $*/h_3é/$, that is /hā/ (KIMBALL 1999: 141-143); on the other hand, Kloekhorst believes that PIE $*h_2o- > \text{Pan. } *ḡo > \text{Hitt. } a-$ and PIE $*h_3e- > \text{Pan. } *Ho > \text{Hitt. } ha-$ (KLOEKHORST 2006, *EDHIL*: 75).

¹⁵ The outcome of $*h_3$ in Anatolian is a long-debated issue: cf. KLOEKHORST 2006 with literature.

¹⁶ KLOEKHORST 2006: 106.

¹⁷ MELCHERT 2011.

Proto-Anatolian > Hittite sound changes

Stops:	$*\hat{k} > k$	PA $*\hat{g} > g$
	$*t > t^s / _i$	
Resonants:	$*m > n / _ \#$	
Laryngeals:	$*ho- > *ha-$ or $*a-$	
Vowels:	$*\check{V} > \bar{V} / _ \$$	
	$*\acute{e} > \acute{e} / _ C\$$ (in closed syllable)	
	$*\acute{o} > \acute{a}$	

Proto-Anatolian > Luwian sound changes

Stops:	$*\hat{k} > t^s$	$*\hat{g} > g$	$*g^w > w$
	$*T > \emptyset / _ \#$		
Resonants:	$*m > n / _ \#$		
Vowels:	$*\acute{o} > \acute{a}$		
‘Çop’s Law’:	$*-\acute{e}.CV- > -\acute{a}CCV-$		

¹⁸ This limited version of Çop’s Law, only operating in initial position (MELCHERT 1994: 74-5), is now being doubted by its proponent himself (cf. *e.g.* MELCHERT *forthcoming a*), so it must be regarded with caution.

Appendix 4: List of features that Pamphylian (supposedly) shares with other Greek dialectal groups¹

1. *Shared with the “Achaean” group* (Mycenaean, Arcadian and Cyprian)
 - a. Neutralisation of the opposition of \check{e}/\check{i} before $/m/$, cf. Arcadian and Cyprian
 - b. Neutralisation of the opposition of \check{o}/\check{u} in final position, cf. Arcadian and Cyprian
 - c. Insertion of a glide after $/i/$ and $/u/$ in hiatus, cf. Mycenaean and Cyprian
 - d. Weakening of the nasal at the end of the syllable, cf. Cyprian
 - e. Weakening and dropping of nasal before a plosive, either in internal position or across word-boundary; the preceding vowel may become nasalized, while the following plosive becomes voiced, cf. Cyprian.
 - f. Gen. sing. of the masculine *a*-stem nouns in $-\alpha\nu < *-\bar{a}(h)o < *-\bar{a}s(j)o$ (gen. Φιράραυ for $*\Phi\eta\rho\alpha\delta\alpha\nu = \Theta\epsilon\iota\rho\acute{\alpha}\delta\omicron\upsilon$), cf. Arcadian and Cyprian
 - g. $-(\epsilon)\nu\alpha\iota$ as the infinitive morpheme for the athematic conjugation, cf. Arcadian and Cyprian
 - h. Usage of dative for ablative function: $\acute{\epsilon}\xi$ + dative (rather than genitive), cf. Arcadian, Cyprian and maybe Mycenaean
 - i. Particle $\nu\iota$
 - j. Lexical elements such as Δίφιᾶ, Ίάνα[†] $\alpha/\phi\acute{\alpha}\nu\alpha\sigma\sigma\alpha$ and $\phi\acute{\epsilon}\chi\omega$ (Mycenaean, Arcadian and Cyprian)
2. *Shared with the Doric group*
 - a. Lack of assimilation ($ti \nrightarrow si$), e.g. $\phi\iota\kappa\alpha\tau\iota$ (n°17, 18), $\pi\epsilon\rho\tau(\iota)$ (n°3, 7, 17, 18), etc.
 - b. Particle $\chi\alpha$ with modal function (or, if we accept another reading, $\delta\chi\alpha$ as temporal conjunction)
 - c. $\check{\alpha}$ in $\eta\iota\alpha\rho\nu$ (n°3, 22, 31) and $\phi\iota\kappa\alpha\tau\iota$ ² (n°17, 18)
 - d. The opening of *e* to *a* before *r* in $\nu\pi\alpha\rho$
 - e. Metathesis in e.g. $\Phi\omicron\rho\delta\iota\sigma\iota\varsigma$, $\Phi\omicron\rho\delta\iota\sigma\iota\nu\varsigma$ (= Att-Ion. Ἀφροδίσιος)
 - f. $\iota\varsigma < *en-s$, cf. Cretan
3. *Shared with the Aeolic group*
 - a. Bilabial outcome of the labiovelars k^w and g^{wh} before $/\check{e}/$ in $\pi\epsilon\tau\rho\acute{\alpha}\chi\iota\varsigma$ (= $\tau\epsilon\tau\rho\acute{\alpha}\chi\iota\varsigma$; n°276, l. 34) and in some personal names: $\Pi\epsilon\lambda\acute{\omega}\rho\alpha\nu$ (n°23) $< *k^we\ell$, $\Phi\eta\rho\iota\acute{\alpha}\varsigma$ (n°84), $\Phi\epsilon\rho\iota\acute{\alpha}\tau\upsilon\varsigma$ (n°61) and $\Phi\iota\rho\acute{\alpha}\rho\alpha\nu$ (n°99 and n°113) $< *g^{hw}\bar{e}r$
 - b. Dative plural endings in $-\alpha\iota\sigma\iota$, $-\omicron\iota\sigma\iota$, and $-\epsilon\sigma\sigma\iota$ (e.g. $\alpha\tau\rho\omicron\pi\omicron\iota\sigma\iota$, $\delta\iota\chi\alpha\sigma\tau\epsilon\rho\epsilon\sigma\sigma\iota$ = Att. $\alpha\theta\rho\omega\pi\omicron\iota\varsigma$, $\delta\iota\chi\alpha\sigma\tau\eta\rho\sigma\iota$); only with Lesbian
 - c. Ending of the imperative 3rd pers. pl. $-\delta\upsilon$ [-ndu] in the active and $-\sigma\delta\upsilon$ [-zdu] in the middle, respectively from $*-nton$ and $*-(n)sthon$ (e.g. $\epsilon\phi\iota\epsilon\lambda\omicron\delta\upsilon$, $[\zeta]\alpha\mu\iota\epsilon\sigma\delta\upsilon$ = Att. $\epsilon\phi\epsilon\lambda\omicron\acute{\nu}\tau\omega\nu$, $\zeta\eta\mu\iota\acute{\omicron}\sigma\theta\omega\nu$).
4. *Anticipating κοινή and modern Greek*
 - a. Fricativisation of voiced stops in intervocalic position
 - b. Thematic nom. sg. $-\iota\upsilon(\varsigma/\nu) > -\iota(\varsigma/\nu)$ e.g. $\Phi\omicron\rho\delta\iota\sigma\iota\varsigma$ (= Att. Ἀφροδίσιος); cf. κοινή Greek $\kappa\acute{\upsilon}\rho\iota\varsigma < \kappa\acute{\upsilon}\rho\iota\omicron\varsigma$.
 - c. Deletion of final $/n/$

¹ The following list sums up the data from DGP: 145-6, LÓPEZ EIRE – LILLO ALCARAZ 1983a: 244-5, METRI 1954: 107-12, GARCÍA RAMÓN 2000, FILOS 2014, BUCK 1955: 147-8, MILLER 2014: 282-8.

² Here $\langle\phi\rangle = [\nu]$.

- παλα ις εισαρο(?) ΕΓΕΝΟΜΑ
- 6) ? ΙΑΡΑ..
? ΠΙΑΚΟ.
ΤΕΙΤΩΙΜΗ
ΙΣΕΙ[--]ΕΙΣ
- 7) ΕΣΤ, ΕΣΤΕ, ΕΣΤΕ
ΕΣΠ
- 8) ΕΣΤ, ΕΣΤΕΕ, ΕΣΤΕΑ, ΕΣΤΕΔΙΠΥΣ, [ΕΣ]ΤΕΔΙΠΥ, ΕΣΤΕΔΗΥ
- 9) ΕΣ
- 10) ΕΣΤ
- 11) ΕΣ, ΕΣΤ, ΕΣΤΕ (rev.), ΕΣΤΕ (rev.), ΕΣΤΕ, ΕΣΤΕΔΙΠΥΣ (rev.), ΕΣΤΕΔΙΠΥΣ, ΕΣΤΕΔΙΠΥ,
ΕΣΤΕΔΙΥ, ΕΣΤΕΔΙΠΥΣ
- 12) ΕΛΥΨΑΜΕΝΕΤΥΣ (rec.) ΕΣΤΕΔΙΠΥΣ (ver.)
FN, ΜΕΝΕΤΥΣ ΕΛΥΨΑ
FN, ΜΕΝΕΤΥΣ ΕΛΥΦΑ
- 13) ΕΣΤΕΔΙΠΥΣ
- 14) ΦΙΛΙΠΠΙΟΥ, Α|ΚΗΣ, FA
ΑΝΤΙΟΧΟΥ ΒΑΣΙΛΕΩΣ, ΓÊ, FA
- 15) ΠΕ-ΠΕ, Ε-Θ, Δ-Μ, Ο-Θ, Φ-Μ, Μ-Φ, Κ-Κ, Π-Η, F-A, Π-F
- 16) F-Δ, Ο-Σ
- 17) [N]εϝ[ο]πολις Αφροδισι[υ]
Νεφοπολεις δαμιοργισο-
σα περτεδοκε ις ερε-
μνι και πυλονα αργυ-
ρυ μνας φικατι
- 18) Κουρασιω Λιμναου
Κουρασιωνυς
δαμιοργισωσα
περτεδοκε ις πυργο
αργυρυ μνας φικατι
- 19) Φιλα
Μαλιτους
- 20) Φορδισις
Αφορδισιυ
- 21) Αφορδισιυς
ΟροφατιραΙ
- 22) Δαματριυς
Αρτιμιδορ[υ]
- 23) Διφιδωρους
Πελωραυ
- 24) Φιλιας
[Κ]υδραμουαυ
- 25) Λεωνιδας
Αθιμιϝυς
- 26) Θαναδωρους

- Μανειτυς
- 27) Κεδαιφίς
Δα[---]
- 28) Αρτιμιδώρις
Δφιγενίτυς
- 29) Μαριώ
Μεγαλείτυς
- 30) [---]ίας
[---]μενυς
- 31) Κυδρομόλις
Ζοφαμυς
Κοπερίνα
Πελλαυρις
- 32) Κοπερείνα
Φαναξιωνος
- 33) [---]TFEFEMIS
- 34) Παπας
Κεδαιφίου
- 35) Κλεοπάτρα
Διονους
- 36) [Ο]ρουμνείφυς
[Δ]ιφονουσιου
- 37) [Μ]ανεις
[Ω]λάμου
Αγαθεις
Επιγενεις
Μανεις
Μανίτυς
- 38) Περιφε[ργυς]
Τιμαρ[χου]
- 39) Μανεις
Δαματρίου
- 40) [Δα]ματρεις
[Π]ελατους
[Φ]ορδισιου
[Π]ελας Δαμ-
[α]τριωυ Πε-
[λα]τους
- 41) [---]φαινιχος
[---]οφανου
- 42) Δαμαρχυς
Φορδισιου
Φουκω
Πεδωνιου
- 43) Αριστοπολις
Πελονιου
- 44) Μεάλινα

- Μελανατυς
- 45) Μιαλινα Μορδου
- 46) Πορσοπα
Σειμου
- 47) Αθαναδωρα
- 48) Μεας
Ηαναξιους
- 49) Οψαγενεις
Θαναδωρου
Μουρμακω
Ζωφειτους
- 50) Φορδισια
Γεχειτους
- 51) [---]α?κας
[Π]ελονιου
- 52) -----

[Φορ]δισ[ις] ?
Α ΙΡΗΙ
ΣΙΦΙΣ
Μεννεατ[υς]
- 53) Ζωφα[---]
- 54) Αρτιμιδορις
Γεχιδαμυ
- 55) ΑπελαΙρυΙις
Μειακλετυς
- 56) Μ Λ Σ
ΑπελαΙρυ[Ι]ις
- 57) [---]κεΙς
[---]λοποτυς
- 58) [---]εις
[---]λυ
- 59) Φιλοπατρα
Πελαδωρου
- 60) Γαρνοπα
ιαριφους
Διφους
Κριμονους
Ορουμνιφους
- 61) Συκαρυς
Φεριατυς
- 62) Ξερμοπολις
Αρτιμιδορυ
Μεγαλις
Αρτιμιδορυ
και Γαρνοπα
- 63) Μιακλι[ς]

- Φαρνιτους
 Μεακλις
 Απελαυρι[ις]
 Κορφαλινα
 Φαρνιτου[ς]
 64) Κρουσω
 [Δ]αματ[ριου]
 65) Θασους
 Στρατοκλιτους
 Να
 Μαγασιΐφου
 66) Παιαφας
 Πυναμυφου
 Πυναμυας
 Παιαΐαΐ
 67) Φεχεις
 Φιλανατους
 Μανις
 Μιρατος
 68) Αρτιμιδωρας
 Κεδαιφιου
 69) Δαματρι[υς ?]
 Α[ρτ]ιμαυ
 70) Δφιγενεις
 Δαματριου
 71) Πελας
 Φεχιτους
 72) Νης Βατος
 73) Μουριξους
 Φαναξαδρου
 Ευπατρα
 Αρτιμιδωρου
 74) Σεραπιω
 Αλεξαδρου
 75) Ειρεια γουνα Θεοδοτου
 Ερμιας Μιαλειτους
 Αγαθεις Μιαλειτους
 και Νιματει Ειρεια
 76) Μενεις
 Φαναξιους
 77) Διφονυσεις
 Θεοπολεις
 78) [Ζ]ωφαμ[ους]
 Δοΐολειν[εις]
 Κορφ[α ?]
 Λιμνα[ιου]
 Γουν[α]
 Ζωφαμουτ[ους]
 79) Αρτεμιδωρος

- Σοφωνος
Φίλας Αρτιμιδωρου
- 80) Ζοφες Δεο[---]
- 81) Δεξιφυς
Ορυμνιφυς
- 82) Ευτυχς
Μεατυς
Μιναδορυς
Ευτυχου
- 83) Ισφαρδιας
Ζωφιτους
- 84) Φηριας
Πελλατυς
Φαρνοπα
Πελλωνιου
- 85) Μαγ[---]
Απε[λ---]
- 86) Διφεις Αρισ-
τοπολεις
- 87) Κεσκευς
Πρειφυς
- 88) Δαμαρχου
[..]ουγους
[..]ουρμας
[Αρ]τιμιδωρου
- 89) Αρτιμιδορυς
Κραιτυς
- 90) Ορυμνευς
[Κ]εδαιφιυ
- 91) Λαυδικα
Εχφαλιατος
Κροσω
Παιονος
Εχφαλια
Πεδδατος
Ποναμελδως
Ορομνιφους
- 92) Μειαλε[ς]
Οθατυς
- 93) Αρτιμινα
Φεχιατυς
- 94) Φορδισιου
Αρτιμιδωρου
Φαρνοπα
Οψαγενεις
- 95) Αρτιμιδωρου
Πιαλφειτυς
- 96) Κορφαλεινα

- Κουΐαυ
Αεκαλειτου
Κορφαλις
Ορομνευς
Φαναξαδρου
- 97) Εφεσυς
Μενοδus
- 98) Μανις
Δ[ι]φονυσιυ
- 99) Αρτεμω
Μανειτους
Αρτιμεισια
Πελωνιου
Μανις
Φιραραυ
Αρτεμει[ς]
- 100) Κεδας
Συκαρυ
- 101) Νεοπολις
Εχφασιονυς
- 102) Πελαδορυς
Πελαδορυ
- 103) Φιλα
Αριστοπολις
- 104) Μελας
Ορυμνειφο-
υς Μελατους
- 105) Αρτιμιδωρου
Σερφατεραυ
[Σερ]φατερας
Αρ[τ]ιμιδ[ωρου]
- 106) Πανχαρις
Φορδειςι-
ου
- 107) Κουψιας
Λυσαδρου
Κοπερινα
Ορομνιφους
- 108) Σ[---]λινα
Φαναξιωνυς
- 109) Αφορδισις
Διφονουσιου
Μυρτοπα
Ήαναξιονυς
Διφονουσις
Φορδισιου
Κορφαλινα
Μιαλειτους
- 110) Θεοπολις

- Διφονυσιν
- 111) Ορουφατερας
Πουρου
- 112) Μαρθα
Ευτουχου
- 113) Ευδαιμ[ω]
Φιραραυ
- 114) Σφαρδιας
[.]ρυμν[.]υ[?]
- 115) Κεσκευς
ΎαρΎειτυς
- 116) Τρυφω Απελωνους
Σαδραιου
Ορυμνιαις
Ζοφιτυς
Αρτεμιδωρα
Πε<λ>ωνιου
Αρτεμω
Τρυφωνους
- 117) Πελαδωρυς
Ορουμνιφυς
- 118) Δαμαρχου
Νεϝ[ο]χαρεις
- 119) [Μ]εαλις
Απελονιυ
- 120) [----]
Σολονυς
- 121) Επιγενεις
Οροφατεραυ
- 122) Αφορδισιιυς
Απελονιυ
- 123) Ορυμνευς
Φορδισιιυ
Αρτιμιδορα
Επιγενεις
ιαριφυς
Επειγενεις
Ορυμνιφους
- 124) ϝαρνις
Κεδαιφιυ
- 125) Λιμναιις
Επιτιμιραυ
- 126) Λαγφεις
Κουδριτους
Μαλθα
Διφονουσιου
- 127) Ερδις
ΚουδραμουΙιαυ

- Τρεκουδας
ΚουδραμουΪαυ
Αρτιμιδωρα
ΚουδραμουΪαυ
- 128) Επιγενεις
Ορουμνειςφους
- 129) [Δ]φιγ[ε]νις
Διφιδορυ
Απελαδορυς
Διφιδορυ
- 130) Φορδειςεις
Ψαμουτους
- 131) Σταθεις
Διέωτυς
Αρτιμιδορυς
Δαματρ<ιο>ιυ
Και Να
Νεφοχαρις
- 132) Ευδαιμω
Σειμου
Φαρνιω
Αριστας
Διφονουσις
Ευδαιμονους
- 133) Αρτεμεισια
Αρτεμωνους
- 134) Δαμαρχους
[ι]αρειφους Διφους
και Διφωνας
Εχφασιωνους
Κοπερεινα
Ελλαφιλου
- 135) ΑπελαΪρυΪις
Διφιδορυ
- 136) Ειραδορυς
Κουδραμουαυ
Γουκαλις
Αρτιμιδορου
- 137) Φορδισιου
Διφονυσιου
- 138) Νικιας
Πελδωνιου
Φορδειςεις
Νικιαυ
Αρτιμιδορα
Ηλιαδαυ
- 139) Αρχεας
Φεχιατου[ς]
[Ε]ρμοκρατε[ις]
Αρχεαυ

- 140) Πελδας
 Ήαναξιμουτους
- 141) Τρεφυλιος
 Πρεεως
- 142) Ευδαιμω
 Φορδειςιου
 Εισιας
 Φορδειςιου
- 143) Διφιδορυς
 Αφορδισιυ
- 144) Φορδειςεις Κουδροπο-
 (λ)εις
 Εχφασιω Φορδειςιου
 Μαριω Εχφασιωνους
- 145) Μανια
 Μανειτους
 Μανεις
 Ευνουτους
- 146) Ορουμνευς
 Ζωφαμουτους
 ΔοΗολεινεις
 Ζωφαμουτους
 φιλαδελφοι
- 147) Κεδας
 Ψαμουτους
- 148) Σουκαρου
 Ψαμους
- 149) Μιαλινα
 Αφαστιου
- 150) Απελονιυς
 Κεδαιφιυ
 Βοθας
 Κεδαιφιυ
- 151) Ερμοκ[ρατεις]
 Ερμοκρ[ατεις]
 Κυρρ[---]
 Και Δαδ[α]
 γουνα Φ
- 152) [Ο]ρυμνευ[ς]
- 153) Πεδωνις
 Μανειτους
 [--]ν[--]
- 154) Αρτιμιδωρα
 και Μειναδωρα
 Ορουμνειφους
 φιλαδελφαι
 Πελδωνεις
 Δριμαραυ
 επεγραψε

	Μουβα
155)	Κυδμαλια Θαναδορυ
156)	Λεονιδας Αθιμεφυς
157)	Αφορδισιυς Κιλεσις
158)	Διφιδωρυς Μεαλειτυς
159)	Φορδισις Ορυμνιφυς
160)	Αρτιμιδωρα Φαναφιου ΑπελαΗρυΗις Δαμαρχυ
161)	Μιγινυς Απελονιυ
162)	[Κ]εδαιφιυς Διφιδορυ
163)	[---]μαου [Αρισ]τοπολεις
164)	Φαρνεις Μανιτους Μειναδωρας Μανειτους
165)	Τρεσαρας Φαναξιονυς
166)	Αρτιμιδορα Ευφρονυς Εισιας Αριστας Αρτιμιδορα Σανθιωνους
167)	Μελανας Ειραυ
168)	Φορδειςεις Φικαρου
169)	Φορδισις Φαρνιτυς
170)	ΣΤΑΕΛΙΥΣ, ΣΤΑΕΛΙΥΣ, ΕΣΤΑΕΛΙΥΣ, ΣΤΑΕΛΙΥ, ΣΤΑΕΛΙΥ, ΣΤΑΕΓΕΙΥΣ, ΕΣΤΑΕΓΕΙΥΣ, ΣΤΑΕΓΙΟΣ, ΣΤΑΕΓΙΟΝ, ΣΤΑΕΓΕΥΣ (a) ΣΤ
171)	Κορραγυς Ασπεδιυς
172)	Αρισ(τυ)ς
173)	Κεδαιφιυς
174)	Απολαδορυς

- 175) Θρεκουδας
Δαμαρχους
- 176) Εχφασιω
Ευνους
- 177) Δαμαρχυ[ς]
Διφονυσι[ς]
(a) Εχφασιω
Διφονο(υ)σε[ις]
(b) Κιχλας
Δωθης
(c) Ορυμν(ευσ)
Ηρας
(d) Στεφανου[ς]
Αριστου
(e) Αταφε(---)
(f) Γοργιας
Κεσκευς
(g) Επιγενις
(h) Επιθεμις
Στεφαν[ους]
(i) [Π]ελωνει[ς]
[Μ]ωσκε[---]
(j) ΠΟΙΜΕΝ
(k) [---]θμευς
(l) Διφονο(υ)σ[εις]
F[---]
- 178) Ουφραγφεις
ΥΥΜΑ Κεδειφατυς
Ουφραγφειτυς
Λυκομιτιρας
- 179) Τιμοθεμις
Απελονιυ
- 180) [...] ουλις
[...] ιτους
[...] ρια
[-----]
- 181) [Κ]οπερινα
[Μ]ανιτυς
- 182) Πελας
Πελλαδωρου
Κουδ[ραμου]αυ(?)
Πελλαδωρ[ου]
[-----]
- 183) Δαματρεις
Μεννεαυ
Φαρνοπα
Μανιτους
- 184) Δειφειδωρος
Κεδαιφειου
- 185) Δα
Ατατυς

- 186) Ζοφίς
Αρτεμιδορ[υ]
- 187) [...]ενίς
[...]ατύς
- 188) Μανία Φαρνίτους
Αρτιμιδώρυς
Αρτιμιδώρου
Χορείνα
Ερμαφ
- 189) Δαματρείς
Ορουμνίφους
Σφαρδία
Φιλίσκου
- 190) [-----]
[-----]
Διφιδωρ[ο?]ύς
Δαμαρχου
- 191) Μειναδόρας
Ιαρείφους
- 192) Κεδαιφίς
Ουφραβράτους
Μινοπα
Ζοφίτους
- 193) Φαρνοπα Μουακαυ εστάσε ΡΕΜΟΥΒ.
ΜΑ Κορφαλίαν Φηρίατυς Σελυΐια
- 194) Αθιμεΐς
Λεονιδάϊ
- 195) Ερδίς
Πελονίου
- 196) [-----]
[-----]
Είραυ
Πελονίου
- 197) Βοβας
Αφαστίου
Πελλωνίς
Αφαστίου
- 198) Πατρου[ς]
Ξανθου
Ξανθους
και Δαματρία
Πελονίου
- 199) Κεδαιφίς
Μανίτυς
- 200) Εισιδωρ [---]
Κνιδωνου[ς]
- 201) Ορωφατερα[ς]
Αρτιμειδώρο[υ]

- 202) Ζωφεις
Σαραπιωνος
Ξουσaris
Αρσιμουταυ
- 203) Μεαλεινα
[---] τους
- 204) (a) Αθιμιφυς
Κεδατυς
(b) Ενθαδε κι-
τε Νεστωρ
υποδιακων
συν τοις πε-
διοις αυτου
Ανθιμιω
κε Φιλιππι-
ας. Ει τις δε
ανυξ<ι>ει, εχη
προς την
Τριαδα
- 205) Ασκρι[.]
Διφιδορυ
- 206) Λυρμαπιας
Σιμου
Λιλουτυς
Σπλιμιου
- 207) -----
Αρτιμιδ [---]
Λιμναι [---]
Δαματρι[υ]
- 208) Θεοφιλα
Δαχιος
- 209) Μιαλις Πηλω-
νειου
Μιναδορα Λο-
υκεσις
Μινοφιλα Χαρ-
Ετου
Πελωνιν Μια-
λιτους
- 210) [---] πολεις
[---] δεισιου
- 211) [---ι]να
[Ορου]μνειφους
- 212) Ζωφαλιμα[?]
Κονονος
- 213) Δαματρεις
Δαματριου
Δαματρεις
Ασκλαπιδου
Ασκλαπιαδας
Δαματριου

- 214) Εια
Μυρτοπας
- 215) (a) [Με]ακλις
[---]δ[---]τους
(b) [Γ]αιος Πολδευκης Νεω[νος]
κατεεσκασεν το κε[νο]-
τα<και>φιον εαυτω ΤΗΣ
- 216) Ουφραστας
Αχ(ε)ρδαυ
Εισιδωρα
Αχερδαυ
Αρτεμω
Κερταραυ
- 217) [..]σους
[Α]δρονικου
Σωσου
Απελατυς
- 218) Επιγενεις
Κουδροπολεις
Πεδαδωρου
Επιγενεις
- 219) Πρεευσ
Εχφασιονυς
- 220) Φορδισις
Φορδισιου
Νεοπολεις
- 221) Διφιγενεις
Τρεσιτυς
- 222) Νεοχα[ρ]ις Δ[-----]
Του Εχφασιωνος νικη[σας]
Ισθμια κελητι πωλ[ω]
- 223) [-----]ους
[-----]κου
Αρτιμιδω[ρ]ους
Ρωσαυ
- 224) Φιλα
Δαμαρχου
- 225) ΙαναΨ'αι Πρειαι Κλεμυτας Λφαρμυ Ιασιφοτας
ανεθεκε επιστασι
- 226) Λ..ναιι.?
Μεαλειτ[?]υς
- 227)]ρεινα
Πε]λωνιου
]ρατεας
Μεαλειτους
Ορ]ουμνη(υ)ς
Πελωνιου
Φακκας ?
Διφιδωρου
και Πελωνιου

- 228) Μανις
 Φεχιτους
 Φαρνις
 Μανιτο[υς]
- 229) Ιαναξαδρυς
 Φιλειτυς
 Διφιδωρα
 Πελατυς
- 230) Δορις
 Αφορδισιυ
- 231) ΣβαλυΙας
 ΠυναμυΙαυ
 Αρτιμιδορα
 γυναι ΣβαλυΙαυ
- 232) Αριστυς
 Κυδροπολις
- 233) Δαματριυς
 Μοσκιονυς
- 234) ---]κοπας
 Δι]φανουσίου
 Αρτιμισια
 και Αμμια
 Κωνωνυς
- 235) Τεχνω
 Κασκιφους
- 236) Ευπατρα
 Ελλοθεμεις
- 237) Απελονις
 Ζοφιτυς
- 238) ΙλυΙι^Ηφας
 Αριστιφυς
- 239) Φαρνεις
 Βοβατυς
- 240) Μιρας
 Μαρδουμαυ
- 241) Ταφισ
 Φαναξιωνους
- 242) Ατας
 Μεαλιτυς
 Μεινοπα
 Σοφωνυς
 Σουφιμους
 Ατατους
- 243) Ζωφαλειμα Δειφειδωρ[ου]
- 244) Γουκεινας
 ΚουδραμουΙαΙ
- 245) Πυθο
 Δαματριυ

- 246) Θεοδωρους
ειαριφους Διφους
Μεγαλου
Αριστοπολις
Να ειαρειφους
Διφους Μεγαλου
Αριστοπολις
- 247) Ευτυχους
Αρτιμισια
Φορδισιου
- 248) Ζωφαμους
Λυσανδρου
- 249) Θεοπατρα
Μορνειφους
- 250) Εχφαμους
Μιρατους
- 251) Η]αναξιο
Α]πελατους
- 252) Δοξα
Ορδουτους
- 253) Ευπατρα
Μι(?)αλιτους
Αρτιμιδωρου
Αρτιμιδωρου
- 254) Ορομνευς Αρτιμι-
δ(ο)ρ(α) Ορομνιφους
- 255) Αρτιμιδωρας
Εχφασιωνους
- 256) [.....Αρτι]-
μιδωρα Ευτυχου
- 257) Σμαιοαμους
Επιχαρ(ε)ις
Τατεις
Επιχαρεις
- 258) Διφι Ιστιαι
Νομενιο
επιστασι
- 259) Φαρνοπα[ς?] Τροκονδα[υ]
ΚΟΥ[...]ΠΙΔ[?]ΑΣΑΛΛΥ
- 260) ΘιΙας ΕΙΙις
Απελονιου
- 261) Κοπερεινα
Αιφαι
Θρασεας
Νεφοπολεις
- 262) Αριαμους
Δαματριου
- 263) Ζοφαλιμα

	<p>[οσε(?)]FΕΣ μεραμαται θυε ε σιιε μερεμια και ηαι δικ- [α ρε] Ψεται και αΙτος ρι εγαιυ αΙτυ και προσοδ- [υ και] τα στασι ταδε αΙτος ριρε και ηαι αρφας μ- [εραμα]ταισι μειοδι πασας ηος φυσε καταστας ηεταρ- [υς --]ΠΑΡΑΣ αθιηετο ηο με θελε συτελεσται [] συτελειοδαι αρφας κατα τα κεκραμμεν- [α] ζαμιας τας κεκραμμενας ο θελε υπαρ πολ- [ιος] κατεθεκετυ Δαμαρχυς τα ιστακε εν εγ- [αιο] υ τα στασι ταδε αιφε περ αΙτα ρι κοπρυς δε [] ε]γαιου αΙτυ ΑΛΟΨΙ ΡΕΠΟΨΙ με εξαγοδι στεφ- [] Δαμαρκυ ηο ιστακε ε ΙιαναΨα Ακρυ ΠΟΣΘΙΠ [] ΤΑ ρετυς πετρακις οκ(α) αρφας ηιαιοισι ρεΨο [δαι] και οκα αμαρ Δαμαρκυ ρεΨοδαι και ν(ι) ισμαιοδυ Δ [] υ Αρτιμιδορου Εσπλεμειυ μενα Αγερονειυ 2 Ι [] ΘειοΙρυΙις Επιγενες αρχοδες Παρειυ Ορυμν- [εϋς]</p>	25
		30
		35
277)	ΟρυμνεΙ[ς] Απελονειυ	
278)	Ρεχιας Διϋειου	
279)	Ραρνεις Νωμεινου και γουνα Δαματρια Πελαδωρους Ραρνιτους και γουνα Ζωϋαλιμα	
280)	[Κ]υδραμυας Δαμ[αρ]χυ	
281)	Πελωνις Μεγάλιτυς	
282)	Πελδαδωρους Φορδισιου [Μ]ιαλιν[α]	
283)	Επιγενεις Ορυμνειϋους	
284)	----- [---]τους	
285)	Ευτυχυς Εχϋασιονυς	
286)	Δαματρ[ι]ς [-----]ρις	
287)	Αγαθο Κουαυ Στρατεας Θιμοπατρας	
288)	Αϋροδισια Τρεσαμοΐαυ	
289)	Κεδιϋας Τουητυς	
290)	Δαματρις Θεοδοσιου	
291)	Ραναξιω	

Δφιγενις

- I) Αφροδισιος
Νεοπολεως
του Αφροδισιου
ος και Βακχιος
- II) Νεων Φιλισκου
Λαυδικη γυνη Νεω-
νως
- III) Πινυτας
Μεννεου
Ιερομνη-
μονος
ετων ει-
κοσι τριων
- IV) Αυρ . [..]δυδ(?)---
[---]δος ζων εαυτω κα[τ-
[κε τη γυ]νεκι μου Χαριτινη Ερ[?
---]ηδος και τοις τεκνοις
[?] . Μηδενι δε εξον εινε κ-
[αταθ]εσθαι τινα· ει δε μη, δω-
[σει τ]ω Ασπενδιων δημω
- V) [---]ς (?) Τατει τον περιβολον
συν και τ]οις κενοτεφοις κα-
τεσκ]ευασεν εαυτη και τοις
τεκνοις κ]αι τη μητρι Τατει και
οις αν] αυτη διαταξηται. Αλ-
λω δ]ε ουδενι συνχωρω
- VI) ..]ΜΕΡΑ Λεοντος ζωσα κατεσκ[ευασα]
[το] κενοταφιν και Λεοντι τω αδελ-
[φ]ω γλυκυτατω και Υλα τω ανδρι μου
[κα]ι Νικω τω θρεπτω. Αλλω δε ουδεν[ι]
----- [τ]ινα· ει δε μη, δω-
[σει -----]

References

- ABOT = BALKAN, K. 1948, *Ankara arkeoloji müzesinde bulunan Boğazköy tabletleri. Boğazköy-Tafeln im archäologischen Museum zu Ankara*, Istanbul : Millî Eğitim Basımevi.
- ADAMS, J.N. – JANSE, M. – SWAIN, S. (edd.) 2002, *Bilingualism in Ancient Society: Language Contact and the Written Text*, Oxford : Oxford University Press.
- ADAMS, J.N. 2003, *Bilingualism and the Latin Language*, Cambridge : Cambridge University Press.
- ADIEGO, I. 2001, *Lenición y acento en protoanatolio*, in O. Carruba – W. Meid (edd.) *Anatolisch und Indogermanisch. Akten des Kolloquiums der Indogermanischen Gesellschaft Pavia, 22./25. September 1998*, Innsbruck : Institut für Sprachwissenschaft der Universität Innsbruck: 11-18.
- ADIEGO, I.J. 2007, *The Carian Language*, Leiden : Brill.
- ADIEGO, I.J. 2010, *On Lycian Genitives in -h, -he*, in R. Kim et al. (edd.) *Ex Anatolia Lux. Anatolian and Indo-European studies in honor of H. Craig Melchert on the occasion of his sixty-fifth birthday*, Ann Arbor : Beech Stave Press: 1-8.
- ADIEGO, I.J. 2017, *The longest Pisidian inscription (Kesme 2)*, «JLR», 15/1-2: 1-18.
- ADRADOS, F.R. 1962, *Hethitisch und Indogermanisch*, in J. Knobloch (ed.) *II Fachtagung für indogermanische und allgemeine Sprachwissenschaft, 10. – 15. Oktober 1961, Vorträge und Veranstaltungen*, Wien, Innsbruck : Das Sprachwissenschaftliche Institut der Leopold-Franzens-Universität: 145-151.
- AGER, S.L. 1997, *Interstate Arbitrations In The Greek World, 337-90 B.C.*, Berkeley/London : University of California Press.

AIKHENVALD, A.Y. 2006, *Grammars in Contact: a Cross-Linguistic Perspective*, in A.Y. Aikhenvald – R.M.W. Dixon (eds.), *Grammars in Contact: a Cross- Linguistic Typology*, Oxford : Oxford University Press: 1-66.

AITCHINSON, J.M. 1964, *Τελαμώνιος Αἶας and other Patronymics*, «Glotta» 42: 132-138.

ALFIERI, L. 2010, *Radici indoeuropee inizianti in *#V-, l'esistenza di *a primaria e l'esito di *#h₃- in anatolico*, «HS» 123: 1-39.

ALLEN, W.S. 1968, *Vox Graeca: The Pronunciation of Classical Greek*, Cambridge : Cambridge University Press.

ANTTILA, R. 1989, *Historical and Comparative Linguistics*, Amsterdam : J. Benjamins.

ARBEITMAN, Y.L. 2000, *Tamar's Name or is It? (Gen 38)*, «ZAW» 112: 341-355.

ASTOUR, M.C. 1967, *Hellenosemitica : an ethnic and cultural study in west Semitic impact on Mycenaean Greece*, Leiden : Brill.

AUSTIN, W.M. 1942, *Is Armenian an Anatolian Language?*, «Language» 18: 22-25.

BACHVAROVA, M. 2005, *The Eastern Mediterranean Epic Tradition from Bilgames and Akka to the Song of Release to the Iliad*, «GBRS» 45: 131-153.

BACHVAROVA, M. 2007, *Suffixaufnahme and Genitival Adjectives as an Anatolian Areal Feature in Hurrian, Tyrrhenian and Anatolian Languages*, in K. Jones-Bley et al. (edd.) *Proceedings of the 18th Annual UCLA Indo-European Conference. Los Angeles. November 3-4 2005*, Washington: Institute for the Study of Man: 169-189.

BACHVAROVA, M. 2009, *Hittite and Greek Perspectives on Travelling Poets, Texts and Festivals*, in R. Hunter – I.C. Rutherford (edd.), Cambridge : Cambridge University Press: 23-45.

- BACHVAROVA, M. 2012, *The Transmission of Liver Divination from East to West*, «SMEA» 54: 1-22.
- BACHVAROVA, M. 2016, *From Hittite to Homer. The Anatolian Background of Ancient Greek Epic*, Cambridge : Cambridge University Press.
- BADER, F. 2002, *L'immortalité des morts dans l'Iliade: autour de grec ταρχύω*, in L. Sawicki – D. Shalev (edd.) *Donum grammaticum. Studies in Latin and Celtic Linguistics in Honour of Hannah Rosén*, Leuven/Paris/Sterling, Virginia : Peeters: 11-28.
- BAKKER, P. – MATRAS, Y. 2013, *Contact Languages. A Comprehensive Guide*, Boston/Berlin : De Gruyter.
- BALLES, I. 1997, *Griechisch ἄφ(ε)νος „Reichtum“*, «HS» 110/2: 215-232.
- BANFI, E. 1985, *Linguistica balcanica*, Bologna : Zanichelli.
- BANFI, E. 1991, *Storia linguistica del Sud-Est europeo. Crisi della Romània balcanica tra alto e basso medioevo*, Milano : Franco Angeli.
- BARTOLI, M. – VIDOSSI, G. 1923, *Lineamenti di linguistica spaziale*, Milano : Le lingue estere.
- BARTOLI, M. 1925, *Introduzione alla neolinguistica: principi, scopi, metodi*, Genève : L.S. Olschki.
- BARTONĚK, A. 1966, *Development of the Long-vowel System in Ancient Greek Dialects*, Prague : Statni Pedagogicke Nakladatelstvi.
- BARTONĚK, A. 2003, *Handbuch des mykenischen Griechisch*, Heidelberg : Winter.
- BAUER, A.H. 2014, *Morphosyntax of the Noun Phrase in Hieroglyphic Luwian*, Leiden/Boston : Brill.

- BECHTEL F. 1921-1924, *Die Griechischen Dialekte*, Berlin : Weidmann.
- BECHTEL, G. 1936, *Hittite verbs in -sk-*, Ann Arbor : Edwards Brothers.
- BECKMAN, G.M. – BRYCE, T.R. – CLINE, E.H. 2011, *The Ahhiyawa Texts*, Atlanta : Society of Biblical Literature.
- BECKMAN, G.M. 1999², *Hittite Diplomatic Texts*, Atlanta (GA) : Society of Biblical Literature.
- BECKMAN, G.M. 2016, *Aḫḫijawa und kein Ende: The Battle over Mycenaeans in Anatolia*, in A.M. Byrd – J. DeLisi – M. Wenthe (edd.) *Tavet Tat Satyam. Studies in Honor of Jared S. Klein on the Occasion of His Seventieth Birthday*, Ann Arbor/New York : Beech Stave Press: 1-12.
- BEEKES, R.S.P. 1969, *The development of the proto-Indo-European laryngeals in Greek*, The Hague : Mouton.
- BEEKES, R.S.P. 1999, *The Greek word for 'lead'*, «MSS» 59: 7-14.
- BEEKES, R.S.P. 2003a, *Luwians and Lydians*, «Kadmos» 42: 47-49.
- BEEKES, R.S.P. 2003b, *Historical phonology of Classical Armenian*, in *Armeniaca. Comparative Notes*, Ann Arbor : Caravan Books: 133-211.
- BEEKES, R.S.P. 2003c, *The Origin of Apollo*, «Journal of Ancient Near Eastern Religions» 3: 1-21.
- BEEKES, R.S.P. 2011, *Comparative Indo-European Linguistics. An Introduction*, Amsterdam : John Benjamins.
- BENVENISTE, É. 1935, *Origines de la formation des noms en indo-européen*, Paris : Adrien-Maisonneuve.
- BENVENISTE, É. 1937, *Hittite ḫatugi*, in *Mélanges linguistiques offerts à Holger Pedersen à l'occasion de son soixante-dixième anniversaire*, København : Universitetsforlaget i Aarhus.

- BENVENISTE, É. 1953, *Le terme obryza et al metallurgie de l'or*, «RPh» 27: 122-127.
- BENVENISTE, É. 1954, *Études hittites et indo-européennes*, «BSL» 50: 29-43.
- BENVENISTE, É. 1962, *Hittite et indo-européen: études comparatives*, Paris : Adrien Maisonneuve.
- BENVENISTE, É. 1969a, *Un rapprochement gréco-hittite*, «Athenaeum» 47: 30-31.
- BENVENISTE, É. 1969b, *Le vocabulaire des institutions indo-européennes*, Paris : Éditions de Minuit.
- BENZI, M. 2002, *Anatolia and the Eastern Aegean at the Time of the Trojan War*», in F. Montanari – P. Ascheri (edd.) *Omero tremila anni dopo*, Roma : Edizioni di Storia e Letteratura: 343-405.
- BERKOOZ, M. 1937, *The Nuzi Dialect of Akkadian*, Philadelphia : Linguistic Society of America.
- BERNABÉ, A. – LUJÁN, E.R. 2006, *Introducción al griego micénico. Gramática, selección de textos y glosario*, Zaragoza : Prensas Universitarias de Zaragoza.
- BERNABÉ, A. 2004, *La lucha contra el dragon en Anatolia y en Grecia. El Viaje de un mito*, in J.F. Jurado – C. García Sanz – P. Rufete Tomino (edd.) *Actas del III Congreso Español de Antiguo Oriente Próximo, Huelva, del 30 de septiembre al 3 de octubre de 2003*, Huelva : Diputación Provincial de Huelva : 129-145.
- BERNABÉ, A. 2006, *Ventajas e inconvenientes de la anarquía. El mito hitita de KAL y sus paralelos en Hesíodo*, in J.M. Córdoba (ed.) *L'Archeologia ritrovata: omaggio a Paolo Matthiae per il suo sessantacinquesimo anniversario*, Madrid : Universidad Autónoma, Centro Superior de Estudios de Oriente Próximo y Egypto, Departamento de Historia Antigua : 77-122.

- BERNABÉ, A. 2008, Ex Oriente. *Paralelos próximo-orientales de mitos y creencias órficos*, in A. Bernabé – F. Casadesús (edd.) *Orfeo y la tradición órfica. Un reencuentro* : Tres Cantos : Akal: vol II: 899-932.
- BERNAL, M. 1987, *Black Athena. The Afroasiatic roots of classical civilization*, New Brunswick, (N.J) : Rutgers University Press.
- BERRETTONI, P. 1972, *La metafora aspettuale*, «SSL» 12: 251-259.
- BERRETTONI, P. 1982, *Aspetto verbale e viaggi temporali. Sul contenuto semantico dell'aspetto progressivo*, «SSL» 22: 49-117.
- BERRETTONI, P. 1983, *A proposito di pluralità verbale*, «SSL» 23: 93-109.
- BERTINETTO, P.M. – DELFITTO, D. 2000, *Aspect vs. Actionality: Why they should be kept apart*, in Ö. Dahl (ed.) *Tense and Aspect in the Languages of Europe*, Berlin/NewYork: Mouton De Gruyter.
- BERTINETTO, P.M. 1986, *Tempo, Aspetto e Azione nel verbo italiano. Il sistema dell'indicativo*, Firenze : Accademia della Crusca.
- BERTINETTO, P.M. 1987, *Structure and origin of the "narrative" imperfect*, in A. Giacalone Ramat – O. Carruba – G. Bernini (edd.) *Papers from the 7th international conference on historical linguistics (Pavia, September 9th-13th, 1985)*, Amsterdam/Philadelphia : Benjamins: 71-85.
- BERTINETTO, P.M. 1997, *Il dominio tempo-aspettuale. Demarcazioni, intersezioni, contrasti*, Torino : Rosenberg & Sellier.
- BERTONI, G. – BARTOLI 1925, *Breviario di neolinguistica*, Modena : Società Tipografica Editrice Modenese.

- BIANCONI, M. (ed.) *forthcoming, Linguistic and Cultural Interactions between Greece and the Ancient Near East: In Search of the Golden Fleece*, Leiden : Brill.
- BIANCONI, M. 2015, *Contatti greco-anatolici e Sprachbund egeo-micrasiatico. Stato della ricerca e nuove prospettive*, «AGI» 100/2: 129-178.
- BIANCONI, M. 2016, Review of M. Bachvarova, *From Hittite to Homer: The Anatolian Background of Ancient Greek Epic*, «AGI» 101/1: 120-128.
- BIERL, A. – LATACZ, J. 2009, *Homers Ilias : Gesamtkommentar. Band VIII: Vierundzwanzigster Gesang (Ω). Faszikel 2: Kommentar*, Berlin/New York : de Gruyter.
- BILE, M. – BRIXHE, C. – HODOT, R. 1984, *Les dialects grecs, ces inconnus*, «BSL» 79: 155-203.
- BILE, M. 1988, *Le dialecte crétois ancien: étude de la langue des inscriptions, recueil des inscriptions postérieures aux IC*, Paris : P. Geuthner.
- BILGIN, T. 2018, *Officials and administration in the Hittite world*, Berlin : de Gruyter.
- BLANC, A. – CHRISTOL, A. (edd.) 1999, *Langues en contact dans l'antiquité. Aspects lexicaux*, Nancy : A.D.R.A.
- BLAŽEK, V. 1998-9, *Two Greek words of a foreign origin: I. ἐλέφας, II. φοῖνιξ*, in «Studia minora facultatis philosophicae Universitatis Brunensis» 3-4: 11-28.
- BLAŽEK, V. 2007, *From August Schleicher to Sergei Starostin: On the development of the tree-diagram models of the Indo-European languages*, «JIES» 35: 82-109.
- BLOOMFIELD, L. 1933, *Language*, New York : H. Holt and company.
- BLÜMEL, R. 1926, *Homerisch ταρχύω*, «Glotta» 15: 78-84.

- BOISACQ 1916, *Dictionnaire étymologique de la langue grecque, étudiée dans ses rapports avec les autres langues indo-européennes*, Heidelberg/Paris : Carl Winter/Klincksieck.
- BOLLING, G.M. 1945, *The etymology of Greek ΙΧΘΥΣ*, «Language» 21: 49-54.
- BONFANTE, G. 1936, *Étymologie du mot grec ἄλαζών*, «BSL» 37: 77-78.
- BONFANTE, G. 1947, *The neolinguistic position*, «Language» 23: 344-375.
- BOPP, F. 1848, *Über das Georgische in sprachverwandtschaftlicher Beziehung*, in *Abhandlungen der Königlich Akademie der Wissenschaften zu Berlin, philosophisch-historische Klasse* (1846), Berlin: 259-339.
- BOSSERT, H.TH. 1953: *Die phönizisch-hethitischen Bilinguen vom Karatepe. 4. Fortsetzung*, «Jahrbuch für kleinasiatische Forschung» 2: 167-188.
- BOTTIN, L. 1969, *Studio dell'aumento in Omero*, «SMEA» 10: 69-145.
- BOWERN, C. 2013. *Relatedness as a factor in language contact*, «Journal of Language Contact» 6/2: 411-432.
- BOZZONE, C. 2013, *Initial "Yod" in Greek and the Etymology of Gk. ἵππος 'horse'*, in S.W. Jamison – H.C. Melchert – B. Vine (edd.), *Proceedings of the 24th Annual UCLA Indo-European Conference*, Bremen : Hempen: 1-26.
- BRÉAL, M. 1905-6, *Étymologies grecques*, «Memoires de la Société de linguistique de Paris», 13: 377-83.
- BRIXHE, C. – TEKÖĞLÜ, R. – VOTTÉRO, G. 2007, *Corpus des inscriptions dialectales de Pamphylie. Supplément VI*, «Kadmos» 46: 39-52.

BRIQUEL-CHATONNET, F. (ed.) 1996, *Mosaïque de langues, mosaïque culturelle: Le Bilinguisme dans le Proche-Orient ancien*, Paris : Jean Maisonneuve.

BRIXHE, C. – TEKÖĞLU, R. 2000, *Corpus des inscriptions dialectales de Pamphylie. Supplément V*, «Kadmos» 39: 1-56.

BRIXHE, C. 1966, *Une tablette de juge d'origine probablement pamphylienne*, «BCH» 90: 653-663.

BRIXHE, C. 1976, *Corpus des inscriptions dialectales de Pamphylie. Supplément I*, «Études d'Archéologie Classique»: 9-16.

BRIXHE, C. 1988a, *Corpus des inscriptions dialectales de Pamphylie. Supplément II*, in Brixhe, C. – Hodot, R. (edd.), *L'Asie Mineure du Nord au Sud. Inscriptions inédites*, Nancy: 165-254

BRIXHE, C. 1988b, *La langue des inscriptions épichoriques de Pisidie* in Y.L. Arbeitman (ed.), *A Linguistic Happening in Memory of Ben Schwartz. Studies in Anatolian, Italic, and other Indo-European Languages*, Louvain-la-Neuve : Peeters: 131-155.

BRIXHE, C. 1991, *Corpus des inscriptions dialectales de Pamphylie. Supplément III*, in P. Goukowski – C. Brixhe (edd.), *Hellènika symmikta: histoire, linguistique, épigraphie*, Nancy : Presses universitaires de Nancy: 15-27.

BRIXHE, C. 1993, *Le grec en Carie et Lycie au IV^e siècle: des situations contrastées*, in C. Brixhe (ed.), *La Koiné grecque antique. Vol. 1: Une langue introuvable?*, Nancy : Presses Universitaires de Nancy, Nancy: 59-82.

BRIXHE, C. 1996a, *Phonétique et Phonologie du grec ancien*, Louvain-La-Neuve : Peeters.

BRIXHE, C. 1996b, *Corpus des inscriptions dialectales de Pamphylie. Supplément IV*, «Kadmos» 35: 72-86.

BRIXHE, C. 1997, *Documents inédits de Pamphylie*, in Brixhe, C. (ed.), *Poikila epigraphica*, Nancy : ADRA: 59-82.

BRIXHE, C. 2004, *Nouvelle chronologie anatolienne et date de l'élaboration des alphabets grec et phrygien*, «CRAI» 2004: 271-289.

BRIXHE, C. 2006, *De la filiation à l'heritage. Réflexion sur l'origine des langues et des dialectes*, in C. Brixhe – G. Vottéro (edd.) *Peuplements et genèses dialectales dans la Grèce antique*, Paris : ADRA: 7-37.

BRIXHE, C. 2012, *Timbres amphoriques de Pamphylie*, Paris : Centre d'Études Alexandrines/De Boccard.

BRIXHE, C. 2013, *La Pamphylie. Peuplement et dialecte: 40 ans de recherche*, «Kadmos» 52/1: 169-205

BRIXHE, C. 2016, *Stèles et langue de Pisidie*, Nancy : Association pour la diffusion de la recherche sur l'Antiquité.

BRUGMANN, K. 1884, *Zur Frage nach den Verwandtschaftsverhältnissen der indogermanischen Sprachen*, «Internationale Zeitschrift für allgemeine Sprachwissenschaft» 1: 226-256.

BRUGMANN, K. 1902-1903, *Die ionische Iterativpreterita auf -σκον*, «IF» 13: 167-277.

BRUGMANN, K. 1921, *Griech. σι als sinnverstärkendes Vorderglied im Nominalkomposita*, «IF» 39: 140-144.

BRYCE, T.R. 1986, *The Lycians I. The Lycians in Literary and Epigraphic Sources*, Copenhagen : Museum Tusculanum Press.

BRYCE, T.R. 1989a, *Ahhiyawans and Mycenaeans – An Anatolian Viewpoint*, «OJA» 8: 257-310.

BRYCE, T.R. 1989b, *The Nature of Mycenaean involvement in Western Anatolia*, «Historia» 38: 1-21.

BRYCE, T.R. 1999, *Anatolian Scribes in Mycenaean Greece*, «Historia», 48: 257-264.

BRYCE, T.R. 2002, *Life and Society in the Hittite World*, Oxford: Oxford University Press.

BRYCE, T.R. 2003, *Relations between Hatti and Ahhiyawa in the Last Decades of the Bronze Age*, in G. Beckman – R. Beal – G. McMahon (edd.) *Hittite Studies in Honor of Harry A. Hoffner Jr.*, Winona Lake : Eisenbrauns: 59-72.

BRYCE, T.R. 2005², *The Kingdom of the Hittites*, Oxford : Oxford University Press.

BRYCE, T.R. 2008, *Homer at the Interface* in B.J. Collins – M.R. Bachvarova – I.C. Rutherford (edd.) *Anatolian Interfaces: Hittite, Greeks and their Neighbours. Proceedings of an International Conference on Cross-Cultural Interaction (September 17-19, 2004, Emory University, Atlanta, GA)*, Oxford : Oxbow: 85-91.

BRYCE, T.R. 2010, *The Hittite Deal with the Hiyawa-Men*, in Y. Cohen – A. Gilan – J.L. Miller (edd.) *Pax Hethitica. Studies on the Hittites and their Neighbours in Honour of Itamar Singer*, Wiesbaden : Harrassowitz: 47-53.

BRYCE, T.R. 2018, *The Kingdom of Ahhiyawa: A Hittite Perspective*, «SMEA» 4 (n.s.): 191-197.

BRYCE, T.R. 2019, *Warriors of Anatolia. A Concise History of the Hittites*, London/New York : I.B. Tauris.

BUBENIK, V. 2017, *The phonology of Greek*, in M.A Fritz – J. Klein et al. (eds.), *Comparative Indo-European Linguistics. An International Handbook of Language Comparison and the Reconstruction of Indo-European*, Berlin : de Gruyter: 638-653.

- BUCK, C.D. 1949, *A dictionary of selected synonyms in the principal Indo-European languages. A contribution to the history of ideas*, Chicago : University of Chicago Press.
- BUCK, C.D. 1955, *The Greek Dialects*, Chicago : University of Chicago Press.
- BURKERT, W. 1984, *Die orientalisierende Epoche in der griechischen Religion und Literatur*, Heidelberg : Winter.
- BURKERT, W. 1991, *Homerstudien und Orient*, in J. Latacz (ed.), *Zweihundert Jahre Homer-Forschung. Rückblick und Ausblick*, Stuttgart – Leipzig : De Gruyter: 155-181.
- BURKERT, W. 2004², *Die Griechen und der Orient. Von Homer bis zu den Magiern*, München : C.H. Beck Verlag.
- BURKERT, W. 2005, *Near Eastern connections*, in J. M. Foley (ed.), *A Companion to Ancient Epic*, Oxford : Blackwell: 291-301.
- CAMBI, V. 2007, *Tempo e aspetto in ittito: con particolare riferimento al suffisso -ske/a-*, Alessandria : Edizioni dell'Orso.
- CAMPANILE, E. – CARDONA, G.R. – LAZZERONI, R. (edd.) 1988, *Bilinguismo e biculturalismo nel mondo antico: atti del colloquio interdisciplinare tenuto a Pisa il 28 e 29 settembre 1987*, Pisa : Giardini.
- CARDONA, G.R. 1968, *Gr. κῶμβαχος, itt. kupaḫi-, ebr. kôḇa'/qôḇa'*, «AION» 8: 5-16.
- CARRUBA, O. 1970, *Das Palaische. Texte, Grammatik, Lexikon*, Wiesbaden : Harrassowitz.
- CARRUBA, O. 1980, Review of G. Güterbock – H.A. Hoffner (eds.), *The Hittite Dictionary of the Oriental Institute of the University of Chicago*. Vol. 3/1, 1980, «SMEA» 22: 358-365.

CARRUBA, O. 1989, Review of J.S.S. Weitenberg, *Die hethitischen u-Stämme*, «OLZ» 84/4: 422-427.

CASEVITZ, M. 1992, *Sur le concept de "peuple"*, in F. Létoublon (ed.) *La langue et les textes en grec ancien: actes du Colloque Pierre Chantraine (Grenoble, 5-8 septembre 1989)*, Amsterdam : Gieben: 193-9.

CASSIO, A.C. 2016² (ed.), *Storia delle lingue letterarie greche*, Firenze : Le Monnier università.

CATAUDELLA, M.R. 2002, *Myc. E-KE-RA₂-WO. Chi era costui? Ce n'è traccia nei testi ittiti?*, in S. De Martino – F. Pecchioli Daddi (edd.) *Anatolia antica. Studi in memoria di Fiorella Imparati*, vol. I: Firenze : LoGisma: 155-170.

CATFORD, J.C. 2001, *On Rs, rhotacism and paleophony*, «Journal of the International Phonetic Association» 31/2: 171-185

CHANG, W. – CATHCART, C. – HALL, D. – GARRETT, A. 2015, *Ancestry-constrained phylogenetic analysis supports the Indo-European steppe hypothesis*, «Language» 91/1: 194-244.

CHANTRAINE, P. 1933, *La formation des noms en grec ancien*, Paris : Champion..

CHANTRAINE, P. 1958, *Grammaire Homérique. Tome I. Phonétique et morphologie*, Paris : Klincksieck.

CHD = H.G. GÜTERBOCK, H.A. HOFFNER Jr., Th.P.J. VAN DEN HOUT (edd.) 1980 –, *The Hittite Dictionary of the Oriental Institute of the University of Chicago*, Chicago : Oriental Institute.

CHLI = HAWKINS, J.D. 2000, *Corpus of Hieroglyphic Luwian Inscriptions*, 3 voll., Berlin / New York: de Gruyter.

CHRISTIANSEN, B. 2012, *Schicksalbestimmende Kommunikation. Sprachliche, gesellschaftliche und religiöse Aspekte hethitischer Fluch-, Segens- und Eidesformeln*, Wiesbaden : Harrassowitz.

CLACKSON, J. 1994, *The Linguistic Relationship Between Armenian and Greek*, Oxford : Blackwell.

CLACKSON, J. 2007, *Indo-European Linguistics: an Introduction*, Cambridge : Cambridge University Press.

CLINE, E.H. 1991, *Hittite Objects in the Bronze Age Aegean*, «AnSt» 41: 133-43.

CLINE, E.H. 1994, *Sailing the Wine-dark Sea. International Trade and the Late Bronze Age Aegean*, Oxford : Tempus Reparatum.

CLINE, E.H. 2008, *Troy as a "Contested Periphery": Archaeological Perspectives on Cross-Cultural and Cross Disciplinary Interactions Concerning Bronze Age Anatolia*, in B.J. Collins – M.R. Bachvarova – I.C. Rutherford (edd.) *Anatolian Interfaces: Hittite, Greeks and their Neighbours. Proceedings of an International Conference on Cross-Cultural Interaction (September 17-19, 2004, Emory University, Atlanta, GA)*, Oxford : Oxbow: 11-19.

CLINE, E.H. 2018, *Reaction to Trevor Bryce's Article*, «SMEA» 4 (n.s.): 197-199.

CLYNE, M.G. 2003, *Dynamics of language contact. English and immigrant languages*, Cambridge : Cambridge University Press.

COLEMAN, R. 1963, *The Dialect Geography of Ancient Greece*, «TPhS» 61: 58-126.

COLLINS, B.J. – BACHVAROVA, M. – RUTHERFORD, I. (edd.) 2008, *Anatolian Interfaces: Hittite, Greeks and their Neighbours. Proceedings of an International Conference on Cross-Cultural Interaction (September 17-19, 2004, Emory University, Atlanta, GA)*, Oxford : Oxbow.

- COLLINS, B.J. 2007, *The Hittites and their World*, Atlanta : Society of Biblical Literature.
- COLVIN, S. 2004, *Names in Hellenistic and Roman Lycian*, in S. Colvin (ed.) *The Greco-Roman East: politics, culture, society*, Cambridge : Cambridge University Press: 44-84.
- COLVIN, S. 2007, *A Historical Greek Reader. Mycenaean to the Koiné*, Oxford : Oxford University Press.
- COLVIN, S. 2010, *Greek Dialects in the Archaic and Classical Ages*, in Bakker, E.J. (ed.), *A Companion to the Ancient Greek Language*, Malden (MA) : Wiley-Blackwell: 200-212.
- COMRIE, B. 1976, *Aspect. An Introduction to the Study of Verbal Aspect and Related Problems*, Cambridge: Cambridge University Press.
- CONSANI, C. 1991, *ΔΙΑΛΕΚΤΟΣ. Contributo alla storia del concetto di "dialetto"*, Pisa : Giardini.
- ČOP, B. 1959, *Zu einige Bildungen mit Labialformans im Hethitischen*, in von Kienle et al. (edd.), *Festschrift Johannes Friedrich. Zum 65. Geburtstag am 27. August 1958 gewidmet*, Heidelberg : Carl Winter/Universitätsverlag: 91-103.
- ČOP, B. 1970, *Eine luwische orthographisch-phonetische Regel*, «IF» 75: 85-6.
- CORCELLA, A. 1994, *Il nome degli Alazoni*, «BollClass» 15: 91-99.
- COTTICELLI-KURRAS, P. – GIUSFREDI, F. 2018, *Ancient Anatolian languages and cultures in contact: some methodological observations*, «JLR» 16/3-4: 172-193.
- COUVREUR, W. 1937, *De hettitische h*, Leuven : Beheer van Le Muséon.
- CTH = LAROCHE, E. 1971, *Catalogue des textes hittites*, Paris; Suppl. 1 «Revue Hittite et Asianique» 30: 94-133 (Paris 1972); Suppl. 2 «Revue hittite et asianique» 33: 63-71 (Paris 1975).

- CURNOW, T.J. 2001, *What can be 'borrowed'?* in A. Aikhenvald – R.M.W. Dixon (edd.), *Areal Diffusion and Genetic Inheritance. Problems in Comparative Linguistics*, Oxford : Oxford University Press: 412-436.
- CURRIE, B. 2016, *Homer's Allusive Art*, Oxford : Oxford University Press.
- CURTIUS, G. 1879⁵, *Grundzüge der griechischen Etymologie*, Leipzig : B.G. Teubner.
- D'AGATA, A.L. 2018, *Postscript*, «SMEA» 4 (n.s.): 228-230.
- DALE, A. 2011, *Alcaeus on the Career of Myrsilos: Greeks, Lydians and Luwians at the East Aegean-West Anatolian Interface*, «JHS» 131: 15-24.
- DALE, A. 2015, *The Name of Mytilene*, in N.C. Stampolidis *et al.* (edd.) *Nostoi. Indigenous Culture, Migration and Integration in the Aegean Islands and Western Anatolia during the Late Bronze and Early Iron Ages*, Istanbul : Koç University Press: 421-444.
- DARDANO, P. 2006, *Contatti tra lingue nell'Asia Minore antica: alcuni aspetti del vocalismo panfilio*, «SMEA» 48: 89-112.
- DARDANO, P. 2007, *Un caso di interferenza linguistica in area microasiatica: su alcuni antroponimi composti del panfilio*, «RAnt» 4: 21-43.
- DARDANO, P. 2011, *I patronimici in -ιδᾶς del greco antico tra conservazione e innovazione*, «Res Antiquae» 8: 41-62.
- DARDANO, P. 2012, *Continuità e discontinuità nell'onomastica panfilia: il caso degli antroponimi*, in M. Mancini, L. Lorenzetti (edd.), *Discontinuità e creolizzazione nell'Europa linguistica*, Roma : Il Calamo.

DARDANO, P. 2013, *Lingua omerica e fraseologia anatolica: vecchie questioni e nuove prospettive*, in M. Mancini – L. Lorenzetti (edd.) *Le lingue del Mediterraneo antico. Culture, mutamenti, contatti*, Roma : Carocci: 125-150.

DARDANO, P. 2015, *Le iscrizioni bilingui licio-greche nel loro contesto socio-storico: tipi e funzioni a confronto*, «SSL» 53/2: 207-226.

DARDANO, P. 2017, *Hittite and Homeric phraseology compared: introducing the soliloquy in the Homeric and Near Eastern epic*, in F. Logozzo – P. Poccetti (edd.), *Ancient Greek Linguistics: New Perspectives, Insights, and Approaches*, Berlin: de Gruyter: 791-809.

DAUES A. 2008, *Mehrsprachigkeit im vorchristlichen Anatolien: Sprachlicher Wandel durch Kontakt von Sprach- und Schriftsystemen*, in A. Casaretto – S. Kutscher (edd.) *Sprachkontakt synchron und diachron Ergebnisse des 2. LinK-Workshops am Zentrum Sprachenvielfalt und Mehrsprachigkeit*, 23.-24.06.2006, Köln, Aachen : Shaker Verlag: 1-28.

DAUES, A. 2009, *Zum Funktionsbereich des Suffixes *-ske-o im Junghethitischen und Homerischen*, in R. Lühr – S. Ziegler (edd.), *Protolanguage and Prehistory. Akten der XII. Fachtagung der Indogermanischen Gesellschaft, vom 11. bis 15. Oktober 2004 in Krakau*, Wiesbaden : Reichert: 82-99.

DE MARTINO, S. 2003, *Gli Ittiti*, Roma : Carocci.

DE VAAN, M. 2008, *Etymological Dictionary of Latin and the other Italic Languages*, Leiden/Boston : Brill.

DECLG = VAN WINDEKENS, A.J. 1986, *Dictionnaire étymologique complémentaire de la langue grecque : nouvelles contributions à l'interprétation historique et comparée du vocabulaire*: Leuven: Peeters.

DEL MONTE, G. 2003, *Antologia della letterature ittita*, Pisa : Servizio Editoriale Universitario di Pisa.

DELG = CHANTRAINE, P. 1968-1980, *Dictionnaire étymologique de la langue grecque. Histoire des mots*. Paris : Klincksieck.

DEVECCHI, E. 2015, *Trattati internazionali ittiti*, Brescia : Paideia.

DGP = BRIKHE, C. 1976, *Le dialecte grec de Pamphylie. Documents et grammaire*, Paris : A. Maisonneuve.

DI GIOVINE, P. 1999, *Funzione e forma nei morfemi e nelle categorie flessionali del sistema verbale indoeuropeo ricostruito: problemi di metodo e prospettive di ricerca*, in J. Habisreitering – R. Plath – S. Ziegler (edd.), *Gering und doch von Herzen. 25 indogermanische Beiträge Bernhard Forssman zum 65 Geburtstag*, Wiesbaden : Reichert.

DIKONOFF, I.M. – NERONAK, V.P. 1985, *Phrygian*, Delmar, NY : Caravan Books.

DICKY, E. 2018, *What is a loanword? The case of Latin borrowings and codeswitches in ancient Greek*, «Lingue e Linguaggio», 17/1: 7-36.

DIXON, R.M.W. 1997, *The rise and fall of languages*, Cambridge : Cambridge University Press.

DMic = Aura Jorro, F. 1985-1993, *Diccionario micénico*, 2 voll, Madrid : Consejo Superior de Investigaciones Científicas, Instituto de Filología.

DOWDEN, K. 2001, *West on the east: Martin West's East Face of Helicon and its forerunners*, «JHS» 121: 167-175.

DOWTY, D.R. 1979, *Word meaning and Montague grammar*, Dordrecht : D. Reidel.

DRESSLER, W. 1968, *Studien zur verbalen Pluralität. Iterativum, Distributivum, Intensivum in der allgemeinen Grammatik im Lateinischen und Hethitischen*, Wien : Österreichische Akademie der Wissenschaften.

DRINKA, B. 2013, *Phylogenetic and areal models of Indo-European relatedness: The role of contact in reconstruction*, «Journal of Language Contact» 6/2: 379-410.

DUHOUX, Y. 1982, *L'étéocrétois. Les textes, la langue*, Amsterdam : J.C. Gieben.

DUHOUX, Y. 1983, *Introduction aux dialectes grecs anciens. Problèmes et methods. Recueil de textes grecs traduits*, Louvain-la-Neuve : Cabay.

DUHOUX, Y. 2008, *Mycenaean Anthology*, in Y. Duhoux – A. Morpurgo Davies (edd.) *A Companion to Linear B. Mycenaean Greek Texts and their World. Volume 1*: Louvain-La-Neuve / Dudley (MA) : Peeters: 243-393.

EAGLL = GIANNAKIS, G.K. (ed.) 2014, *Encyclopaedia of Ancient Greek Language and Linguistics* (3 voll.), Leiden

EASTON, D.F – HAWKINS, J.D. – SHERATT, A.G. – SHERATT, E.S. 2002, *Troy in recent perspective*, «Anatolian Studies» 52: 75-109.

EDG = BEEKES, R. 2010, *Etymological dictionary of Greek*, Leiden/Boston : Brill.

EDG = BEEKES, R.S.P 2010, *Etymological Dictionary of Greek*, Leiden/Boston : Brill.

EDHIL = KLOEKHORST, ALWIN 2008, *Etymological Dictionary of the Hittite Inherited Lexicon*, Leiden/Boston : Brill.

EGETMEYER, M. 2010: *Le dialecte ancien de Chypre*, Berlin / New York : de Gruyter

EICHNER 1973, *Die Etymologie von heth. mehur*, «MSS» 31: 53-107.

- EICHNER, H. 1974, *Untersuchungen zur hethitischen Deklination* (Diss. Teildruck), Erlangen.
- EICHNER, H. 1975, *Die Vorgeschichte des hethitischen Verbalsystems*, in H. Rix (ed.), *Flexion und Wortbildung. Akten der V. Fachtagung der Indogermanischen Gesellschaft* (Regensburg, 9.-14. September 1973), Wiesbaden: Reichert : 71-103
- EICHNER, H. 1979, *Hethitisch* genuššus, ginušši, ginuššin, in E. Neu – W. Meid (edd.) *Hethitisch und Indogermanisch*, Innsbruck : Institut für Sprachwissenschaft der Universität Innsbruck: 41-61.
- EICHNER, H. 1986a, *Die Akzentuation des Lydischen*, «Sprache» 32: 7-21.
- EICHNER, H. 1986b, *Neue Wege im Lydischen I: Vokalnasalität vor Nasalkonsonanten*, «KZ» 99: 203-219.
- EICHNER, H. 1988, *Anatolisch und Trilaryngalismus*, in A. Bammesberger – S. Ziegler (edd.), *Die Laryngalthorie und die Rekonstruktion des indogermanischen Laut- und Formensystems*, Heidelberg : Carl Winter.
- EICHNER, H. 1992, *Anatolian*, in J. Gvozdanović (ed.), *Indo-European Numerals*, Berlin : Mouton de Gruyter: 29-96.
- EMENEAU, M. 1956, *India as a Linguistic Area*, «Language» 32/1: 3-16.
- EPPE, P. – HUENERGARD, J. – PAT-EL N. 2013, *Introduction: Contact Among Genetically Related Languages*, «Journal of Language Contact» 6/2: 209-219.
- EVANGELISTI, E. 1965, *Graecia asiana*, «ACME» 18: 7-17.
- EVANGELISTI, E. 1966, *Graecia asiana II*, «ASGM» 15-16: 6-8.
- FARANTON, V. – MAZOYER, M. 2014, *Homère et l'Anatolie 2*, Paris : L'Harmattan.

- FARANTON, V. – MAZOYER, M. 2017, *Homère et l'Anatolie 3*, Paris : L'Harmattan.
- FARAONE, C.A. 1993, *Molten wax, spilt wine and mutilated animals: sympathetic magic in Near Eastern and Early Greek oath ceremonies*, «JHS» 113: 60-80.
- FERRARA, S. 2012-2013, *Cypro-Minoan Inscriptions*, Oxford : Oxford University Press.
- FHG = LAROCHE, E. 1951, *Fragments hittites de Genève*, «Revue d'Assyriologie et d'Archéologie orientale» 45: 131-138, 184-194.
- FHL = DURAND, J.-M. – LAROCHE, E. 1982, *Fragments hittites du Louvre*, in *Mémorial Atatürk, Études d'archéologie et de philologie anatoliennes*, Paris : Éditions Recherche sur les civilisations: 73-107.
- FICK, A. 1890⁴, *Vergleichendes Wörterbuch der Indogermanischen Sprachen*, Göttingen: Vandenhoeck & Ruprecht.
- FILOS, P. 2014, *Pamphylian*, in In G.K. Giannakis *et al.* (edd.), *Brill Encyclopedia of Ancient Greek Language and Linguistics*, vol. III, Leiden/Boston : Brill: 8-11.
- FINCK, F.N. 1910, *Die Haupttypen des Sprachbaus*. Leipzig : B.G. Teubner.
- FINKELBERG, M. 1988, *From Ahhiyawa to Ἀχαιοί*, «Glotta» 55: 127-134.
- FINKELBERG, M. 1997, *Anatolian Languages and Indo-European Migrations to Greece*, «CW» 91/1: 3-20.
- FINKELBERG, M. 2001, *The Language of Linear A. Greek, Semitic, or Anatolian?*, in R. Drews (ed.), *Greater Anatolia and the Indo-Hittite Language Family. Papers Presented at a Colloquium Hosted by the University of Richmond, March 18-9, 2000*, Washington, D.C. : Institute for the Study of Man: 81-105.

- FINKELBERG, M. 2005, *Greeks and Pre-Greeks. Aegean Tradition and Greek Historic Tradition*, Cambridge : Cambridge University Press.
- FISCHER, R. 2010, *Die Ahhijawa-Frage: mit einer kommentierten Bibliographie*, Wiesbaden: Harassowitz.
- FORBES, K. 1958, *Medial Intervocalic -ρσ-, -λσ- in Greek*, «Glotta» 36: 235-272.
- FORRER, E. 1921, *Ausbeute aus den Boghazköi-Texten*, «MDOG» 61: 1-22
- FORRER, E. 1924a, *Vorhomerische Griechen in den Keilschrifttexten von Boghazköi*, «MDOG» 63: 1-22.
- FORRER, E. 1924b, *Die Griechen in den Boghazköi-Texten*, «OLZ» 27: 113-118.
- FORTSON, B. W. 2010², *Indo-European Language and Culture*, Malden (MA)/Oxford : Wiley-Blackwell.
- FRANCIA, R. 2012², *Elementi di grammatica ittita*, Roma : Scripta Manent Edizioni.
- FRANCIA, R. 2016, *Ittita lalawanzi “parlare^(?)”, lalattaru “parli pure in lalandese^(?)”, luvio lalauna*, «Scienze dell'Antichità» 22/1: 3-14.
- FRANCIONE, V. 1999, *Preteriti in -σχε/ο- in greco: ipotesi tradizionali e nuove prospettive*, Dissertation Università di Pisa.
- FRANÇOIS, A. 2015, *Trees, waves and linkages. Models of language diversification*, in C. Bowern – B. Evans (edd.), *The Routledge Handbook of Historical Linguistics*, London/New York: 161-189.
- FRASER, P.M. – MATTHEWS, E. 2000, *A Lexicon of Greek Personal Names. Vol. IIIB: Central Greece from the Megarid to Thessaly*, Oxford

- FRASER, P.M. – MATTHEWS, E. 2005, *A Lexicon of Greek Personal Names. Vol. IV: Macedonia, Thrace, northern regions of the Black Sea*, Oxford : Clarendon Press.
- FRIEDMAN, V.A. – JOSEPH, B.D. 2017, *Reassessing Sprachbunds. A view from the Balkans*, in R. HICKEY (ed.), *The Cambridge Handbook of Areal Linguistics*, Cambridge : Cambridge University Press: 55-87.
- FRIEDMAN, V.A. – JOSEPH, B.D. *forthcoming*, *The Balkan Languages*, Cambridge : Cambridge University Press.
- FRIEDRICH, J. 1930, *Staatsverträge des Hatti-Reiches in hethitischer Sprache*, vol. 2., Leipzig : J.C. Hinrichs'sche.
- FRIEDRICH, J. 1931, *Hethitisch und kleinasiatische Sprachen*, Berlin/Leipzig : Walter de Gruyter.
- FRIEDRICH, J. 1952 (+ Ergänzungsbände 1-3, *ibid.* 1957, 1961, 1966), *Hethitisches Wörterbuch*, Heidelberg : Carl Winter Universitätsverlag.
- FRIEDRICH, J. 1974³, *Hethitische Elementarbuch. Erster Teil. Kurzgefaßte Grammatik*, Heidelberg: Winter.
- FURNÉE, E.J. 1972, *Die wichtigsten konsonantischen Erscheinungen des Vorgriechischen. Mit einem Appendix über den Vokalismus*, The Hague/Paris : Mouton.
- GAMKRELIDZE, T.V. – IVANOV, V.V. 1995, *Indo-European and the Indo-Europeans*, Berlin/New York : Mouton de Gruyter.
- GANDER, M. 2012, *Ahhiyawa – Hiyawa – Que: Gibt es Evidenz für die Anwesenheit von Griechen in Kilikien am Übergang von der Bronze- zur Eisenzeit?*, «SMEA» 54: 281-309.

GANDER, M. 2015, *Asia, Ionia, Maeonia und Luwiya? Bemerkungen zu den neuen Toponymen aus Kom el-Hettan (Theben-West) mit Exkursen zu Westkleinasien in der Spätbronzezeit*, «Klio» 97/2: 443-502.

GANDER, M. 2017, *The West: Philology*, in M. Weeden – L.Z. Ullmann (edd.), *Hittite Landscape and Geography*, Leiden/Boston : Brill: 262-280.

GARCÍA RAMÓN, J.L. 1975, *Les origines postmycéniennes du groupe dialectal éolien. Étude linguistique*, Salamanca: Universidad de Salamanca.

GARCÍA RAMÓN, J.L. 1991, *Anomale Schreibung und eleischer Vokalismus*, in A.D. Rizakis (ed.), *Archaia Achaia kai Ēlia : anakoinōseis kata to prōto Diethnes Symposio, Athēna, 19-21 Maiou 1989 (Achaia und Elis in der Antike. Akten des 1. Internationalen Symposiums. Athen, 19.-21. Mai 1989)*, Athens : Kentron Hellēnikēs kai Rōmaikēs Archaiotētos tou Ethnikou Hidrymatos Ereunōn: 133-138.

GARCÍA RAMÓN, J.L. 2000, *Pamphylian*, in H. Cancik – H. Schneider (edd.), *Der Neue Pauly. Enzyklopädie der Antike*, Stuttgart/Weimar : J.B. Metzler.

GARCÍA RAMÓN, J.L. 2005, *Update on Die historischen Personennamen des Mykenischen*, «Indo-European Studies Bulletin» 11: 24-33.

GARCÍA RAMÓN, J.L. 2006a, *Hitita ṽarr- «ayudar» y karṣa-mi/tta «mostrar benevolencia», hom. ἥρα φέρειν (ἡ χάριν φέρειν) «dar satisfacción», IE *ṽerH- «favorecer» y *ḡher(H)- «estar a gusto, desear», in R. Bombi, & G. Cifoletti et al. (edd.) *Studi linguistici in onore di Roberto Gusmani*, Alessandria: Edizioni dell'Orso: 825-846.*

GARCÍA RAMÓN, J.L. 2006b, *La fragmentación dialectal griega*, «IL» 29: 61-82.

GARCÍA RAMÓN, J.L. 2010, *On the Genetic Classification of Ancient Greek Dialects: Comparative Reconstruction versus Hypercriticism and Atomism at Work*, in *Studies in Greek Linguistics* 30. *Proceedings of the Annual Meeting of the Department of Linguistics, School of Philology, Faculty of Philosophy, Aristotle University of Thessaloniki, May 2-3, 2009*, Thessaloniki: 219-236 (online: http://ins.web.auth.gr/images/MEG_PLIRI/MEG_30_219_236.pdf).

GARCÍA RAMÓN, J.L. 2011a, *Sprachen in Kontakt in Griechenland und Kleinasien im 2. Jahrtausend v. Chr.*, «ZSM-Studien» 4: 23-45.

GARCÍA RAMÓN, J.L. 2011b, *Idiome in der hethitischen Literatur und in der griechischen Dichtung: anatolische Lehnübersetzungen oder indogermanische Phraseologie?*, in M. Hutter & S. Hutter-Braunsar (Hrsg.), *Überlieferungsprozesse, Textstrukturen, Ausdrucksformen und Nachwirken. Akten des Symposiums vom 18. bis 20. Februar 2010 in Bonn*, Münster : Ugarit Verlag: 83-97.

GARCÍA RAMÓN, J.L. 2012, *Eredità, prestiti, mutamenti comuni nel lessico e nella morfosintassi delle lingue indoeuropee: il caso di anatolico e greco*, «SILTA» 41/3: 425-439.

GARCÍA RAMÓN, J.L. 2017, *Ancient Greek Dialectology: Old and New Questions, Recent Developments*, in P. Poccetti – F. Logozzo (ed.), *Studies in Ancient Greek Dialects: From Central Greece to the Black Sea*, Berlin/Boston : De Gruyter: 29-106.

GARCÍA TEIJEIRO, M. 1978, *Panfilio* ὁ βολεμενός, in *Actas del V Congreso Español de Estudios Clásicos (Madrid, 20 al 25 de abril de 1976)*, Madrid : Sociedad Española de Estudios Clásicos: 497-501.

GARRETT, A. 1990, *Hittite enclitic subjects and transitive verbs*, «Journal of Cuneiform Studies» 42: 227-242.

GARRETT, A. 1999, *A New Model for Indo-European Subgrouping and Dispersal*, in S. S. Chang – L. Liaw *et al.* (edd.) *Proceedings of the Twenty-Fifth Annual Meeting of the Berkeley Linguistics Society, February 12-15, 1999*, Berkeley : Calif: 146-156.

GARRETT, A. 2006, *Convergence in the Formation of Indo-European Subgroups: Phylogeny and Chronology*, in P. Forster – C. Renfrew (edd.) *Phylogenetic methods and the prehistory of languages*, Cambridge : McDonald Institute for Archaeological Research: 139-151.

GARSTANG, J. – GURNEY, O. 1959, *The Geography of the Hittite Empire*, London : British Institute of Archaeology at Ankara.

GASBARRA, V. – POZZA, M. 2012, *Fenomeni di interferenza greco-anatolica nel II millennio A.C.: l'ittito come mediatore tra mondo indoeuropeo e mondo non indoeuropeo*, «AION» 1 (n.s.): 165-214.

GASBARRA, V. – POZZA, M. 2013, *Pluralità di vie del prestito: i casi di itt. laḫanni-, gr. λάγυνος e itt. kupahi-, gr. κύμβαχος*, in M. Mancini – L. Lorenzetti (a cura di), *Le lingue del Mediterraneo antico. Culture, mutamenti, contatti*, Roma : Carocci: 181-191.

GELB, I. 1931, *Hittite Hieroglyphs I*, Chicago : The University of Chicago Press.

GELB, I. 1935, *Hittite Hieroglyphs II*, Chicago : The University of Chicago Press.

GELB, I. 1942, *Hittite Hieroglyphs III*, Chicago : The University of Chicago Press.

GEORGACAS, D.J. 1969, *The Name Asia for the Continent its History and Origin*, «Names» 17: 1-90.

GÉRARD, R. 2005, *Phonétique et morphologie de la langue lydienne*, Louvaine-la-Neuve / Paris : Peeters.

GEW = *Griechisches etymologisches Wörterbuch*, 3 voll., Heidelberg : Winter.

GG = SCHWYZER, E. 1950, *Griechische Grammatik / auf der Grundlage von Karl Brugmanns Griechischer Grammatik von Eduard Schwyzer* ; 2. Bd. vervollständigt und herausgegeben von Albert Debrunner; 3. Bd.: Register von Demetrius J. Georgacas, München : C.H. Beck.

GHL = HOFFNER, H. A. – MELCHERT, H. C. 2008, *A Grammar of the Hittite Language*, Winona Lake : Eisenbrauns.

GIACALONE RAMAT, A. 1967, *La funzione del suffisso -ΣΚ- nel sistema verbale greco*, «AGI» 52: 105-123.

GILLIÉRON, J. 1918. *Généalogie des mots qui désignent l'abeille d'après l'Atlas linguistique de la France*. Paris: Champion.

GIORGIERI, M. 2001, *Aspetti magico-religiosi del giuramento presso gli Ittiti e i Greci*, in S. Ribichini – M. Rocchi – P. Xella (eds.), *La questione delle influenze vicino-orientali sulla religione greca. Stato degli studi e prospettiva della ricerca. Atti del colloquio internazionale – Roma, 22-24 maggio 1999*, Roma : Consiglio Nazionale delle Ricerche: 421-440.

GIUSFREDI, F. 2009, *The problem of the Luwian title tarwanis*, «AoF» 36: 140-145.

GONDA, J. 1951, *Remarks on the Sanskrit passive*, Leiden : Brill.

GORTON, L. 2017, *Revisiting Indo-European 'Wine'*, «JIES» 45: 1-26.

GÖTZE, A. 1928, *Madduwattaš*, Leipzig : J.C. Hinrichs.

GRAY, R.D. – ATKINSON, Q.D. 2003, *Language-tree divergence times support the Anatolian theory of Indo-European origin*, «Nature» 426: 435-439.

GRONEWALD, M. – DANIEL, R.W. 2004, *Nachtrag zum neuen Sappho-Papyrus*, «ZPE» 149: 1-4.

- GSCHNITZER, F. 1983, *Zur Geschichte des Systems der griechischen Ethnika*, in A. Heubeck – G. Neumann (edd.) *Res Mycenaeae. Akten des VII. Internationalen Mykenologischen Colloquiums in Nürnberg vom 6.-10. April 1981*, Göttingen : Vandenhoeck & Ruprecht: 140-154.
- GSCHNITZER, F. 1986, *Neue Beiträge zu den griechischen Ethnika*, in A. Etter (ed.) *o-o-pe-ro-si. Festschrift für Ernst Risch zum 75. Geburtstag*, Berlin/New York : Walter de Gruyter: 415-421.
- GURNEY, O.R. 1990². *The Hittites*, Harmondsworth : Penguin.
- GUSMANI, R. 1964-1986, *Lydisches Wörterbuch: mit grammatischer Skizze und Inschriftensammlung*, Heidelberg : Winter.
- GUSMANI, R. 1965, *Contributo allo studio comparativo delle lingue anatoliche*, «AIQN» 6: 69-87.
- GUSMANI, R. 1968a, *Il lessico ittita*, Napoli : Libreria Scientifica Editrice.
- GUSMANI, R. 1968b, *Confronti etimologici greco-ittiti*, «SMEA» 6: 14-28.
- GUSMANI, R. 1969, *Isoglosse lessicali greco-ittite*, in *Studi linguistici in onore di Vittore Pisani*, vol. I: Brescia : Paideia: 501-514.
- GUSMANI, R. 1980-1, *Note d'antroponomastica lidia*, «IL» 6: 21-27.
- GUSMANI, R. 1980-6, *Lydisches Wörterbuch. Mit grammatischer Skizze und Inschriftensammlung. Ergänzungsbände*, Heidelberg : Carl Winter.
- GUSMANI, R. 1981-83, *Saggi sull'interferenza linguistica*, 2 voll., Firenze : Editrice Le Lettere.
- GUSMANI, R. 1987, *Interlinguistica*, in R. Lazzeroni (ed.) *Linguistica storica*, Roma : La Nuova Italia Scientifica: 87-114.
- GUSMANI, R. 1989-90, *Lo stato delle ricerche sul miliaco*, «IL» 13: 69-78.

GÜTERBOCK, H.G. 1951, *The Song of Ullikummi. Revised Text of the Hittite Version of a Hurrian Myth*, «JCS» 5/4: 135-161.

GÜTERBOCK, H.G. 1986, *Troy in Hittite Texts. Wilusa, Ahhiyawa, and Hittite History*, in M.J. Mellink (ed.) *Troy and the Trojan War. A Symposium Held at Bryn Mawr College October 1984*, Bryn Mawr : Bryn Mawr College: 33-44.

HAAS, V. 2006, *Die hethitische Literatur*, Berlin/New York : de Gruyter.

HAJNAL, I. 1995, *Der lykische Vokalismus. Methode und Erkenntnisse der vergleichenden anatolischen Sprachwissenschaft, angewandt auf das Vokalsystem einer Kleincorpussprache*, Graz : Leykam.

HAJNAL, I. 2000, *Der adjektivische Genitivausdruck der luwischen Sprachen (im Licht neuerer Erkenntnisse)*, M. Ofitsch – C. Zinko (edd.), *125 Jahre Indogermanistik in Graz: Festband anlässlich des 125jährigen Bestehens der Forschungsrichtung "indogermanistik" an der Karl-Franzens-Universität Graz*, Graz : Leykam: 159-184.

HAJNAL, I. 2011, *Namen und Etymologien – als Beweisstücke nur bedingt tauglich?*, in C. Ulf – R. Rollinger (edd.), *Lag Troia in Kilikien? Der aktuelle Streit um Homers Ilias*, Darmstadt : Wissenschaftliche Buchgesellschaft: 241-263.

HAJNAL, I. 2014, *Die griechisch-anatolischen Sprachkontakte zur Bronzezeit – Sprachbund oder loser Sprachkontakt?*, «Linguarum Varietas» 3: 105-116.

HAJNAL, I. 2018, *Graeco-Anatolian Contacts in the Mycenaean Period*, in M.A Fritz – J. Klein et al. (eds.), *Comparative Indo-European Linguistics. An International Handbook of Language Comparison and the Reconstruction of Indo-European*, Berlin : de Gruyter: 2036-2055.

- HALE, M. 2007, *Historical linguistics. Theory and Method*, Malden (MA)/Oxford : Wiley-Blackwell.
- HALL, R.A. 1946. *Bartoli's 'Neolinguistica'*, «Language»: 22/4: 273-283.
- HAMMARSTRÖM, 1921, *Griechisch-etruskische Wortgleichungen*, «Glotta» 11: 211-217.
- HAMMERSTAEDT, J. 2009, *The Cologne Sappho: Its Discovery and Textual Constitution*, in E. Greene – M. B. Skinner (edd.) *The New Sappho on Old Age: Textual and Philosophical Issues*, Washington, DC : Center for Hellenic Studies: 17-40.
- HAMP, E. 1960, *Mythical Prothetic Vowels in Albanian*, «AION» 2: 185-190.
- HASPELMATH, M. – TADMOR, U. 2009, *Loanwords in the World's Languages. A Comparative Handbook*, Berlin : de Gruyter Mouton.
- HASPELMATH, M. 1998, *How Young is Standard Average European?*, «Language Sciences» 20: 271-287.
- HASPELMATH, M. 2001. *The European linguistic area: Standard Average European*, in M. Haspelmath, W. Oesterreicher – W. Raible (edd.) *Language Typology and Language Universals*, Berlin : Mouton de Gruyter: 1492-1510.
- HAUBOLD, J. 2013, *Greece and Mesopotamia. Dialogues in Literature*, Cambridge : Cambridge University Press.
- HAUGEN, E. 1950, *The analysis of linguistic borrowing*, «Language» 26/2: 211-231.
- HAWKINS, J.D. – EASTON, D.F. 1996, *A Hieroglyphic Seal from Troia*, «Studia Troica» 6: 111-118.
- HAWKINS, J.D. – MORPURGO DAVIES, A. – NEUMANN, G. 1974, *Hittite Hieroglyphs and Luwian. New Evidence for the Connection*, Göttingen : Vandenhoeck & Ruprecht.

HAWKINS, J.D. – MORPURGO DAVIES, A. 1978, *On the Problems of Karatepe: The Hieroglyphic Text*, «Anatolian Studies» 28: 103-119

HAWKINS, J.D. 1997, *A Hieroglyphic Luwian Inscription on a Silver Bowl in the Museum of the Anatolian Civilizations, Ankara*, in *Anadolu Medeniyetleri Müzesi, 1996 Yıllığı*. Ankara : Müze Ezerleri Turistik Yayınları: 7-24.

HAWKINS, J.D. 1998, *Tarkasnawa king of Mira. 'Tarkondemos', Boğazköy Sealings and Karabel*, «Anatolian Studies 48»: 1-31.

HAWKINS, J.D. 2003, *Scripts and texts*, H.C. Melchert (ed.) *The Luwians*, Leiden/Boston : Brill: 128-169.

HAWKINS, J.D. 2013, *Luwian versus Hittites*, in A. Mouton – I. Rutherford – I. Yakubovich (edd.), *Luwian Identities. Culture, Language and Religion Between Anatolia and the Aegean*, Leiden/Boston : Brill: 25-40.

HAWKINS, J.D. 2015, *The Political Geography of Arzawa*, in N.C. Stampolidis et al. (edd.) *Nostoi. Indigenous Culture, Migration and Integration in the Aegean Islands and Western Anatolia during the Late Bronze and Early Iron Ages*, Istanbul : Koç University Press: 16-35.

HAWKINS, S. 2010, *Greek and the Languages of Asia Minor*, in E.J. Bakker (ed.) *A Companion to the Ancient Greek Language*, Chichester / Malden (MA) : Wiley-Blackwell: 213-227.

HAWKINS, S. 2013, *Studies in the language of Hipponax*, Bremen : Hempen Verlag.

HED = PUHVEL, J. 1984 – , *Hittite Etymological Dictionary*, Berlin / New York : de Gruyter.

HEG = TISCHLER, J. 1977-2016, *Hethitisches etymologisches Glossar*, Innsbruck : Institut für Sprachwissenschaft der Universität Innsbruck.

- HEGGARTY, P. – MAGUIRE, W. – MCMAHON, A. 2010, *Split or waves? Trees or webs? How divergence measures and network analysis can unravel language histories*, «Phil. Trans. R. Soc. B» 364: 3829-3843.
- HEINE, B. – KUTEVA, T. 2005, *Language Contact and Grammatical Change*, New York : Cambridge University Press.
- HEINE, B. – KUTEVA, T. 2008, *Constraints on contact-induced linguistic change*, «Journal of Language Contact» 2/1: 57-90.
- HEINHOLD-KRAHMER, S. 1977, *Arzawa. Untersuchungen zu seiner Geschichte nach den hethitischen Quellen*, Heidelberg : C. Winter.
- HEINHOLD-KRAHMER, S. 1999, *Bedřich Hrozný und die Aḫḫijawa-Frage*, «Archiv Orientalní» 67/4: 567-584.
- HEINHOLD-KRAHMER, S. 2004a, *Zur Gleichsetzung der Namen Ilios-Wiluša und Troia-Taruiša* in C. Ulf (ed.), *Der neue Streit um Troia. Eine Bilanz*, München : C.H. Beck: 146-168.
- HEINHOLD-KRAHMER, S. 2004b, *Ist die Identität von Ilios und Wilusa endgültig erwiesen?*, «SMEA» 46: 29-57.
- HEINHOLD-KRAHMER, S. 2007, *Zu diplomatischen Kontakten zwischen dem Hethiterreich und dem Land Aḫḫijawa*, in E. Alram-Stern – G. Nightingale (edd.) *KEIMELION. Elitenbildung und elitärer Konsum von der mykenischen Palastzeit bis zur homerischen Epoche. Akten des internationalen Kongresses vom 3. bis 5. Februar 2005 in Salzburg*, Wien: Verlag der Österreichischen Akademie der Wissenschaften: 191-207.

HEINHOLD-KRAHMER, S. 2013, *Zur Lage des hethitischen Vasallenstaates Wilusa im Südwesten Kleinasiens*, in M. Mazoyer – Aufrère, S. (edd.), *De Hattuša à Memphis : Jacques Freu in honorem*, Paris : L'Harmattan: 59-74.

HESTER, D.A. 1965, *Pelasgian – A new Indo-European language?*, «Lingua» 13: 335-384.

HEUBECK, A. 1949-50, *Homerische Göttersprache*, «WJA» 4: 197-218.

HEUBECK, A. 1956, *Pamphylish Ἀπελαῶν Wις*, «Beiträge zur Namenforschung» 7: 8-13.

HEUBECK, A. 1959, *Lydiaka: Untersuchungen zu Schrift, Sprache und Götternamen der Lyder*, Erlangen : Universitätsbund Erlangen.

HEUBECK, A. 1961, *Praegraeca. Sprachliche Untersuchungen zum vorgriechisch-indogermanischen Substrat*, Erlangen : Universitätsbund Erlangen Verlag.

HEUBECK, A. 1964, *Idg. *sēr- «oben» ?*, «Orbis» 13: 264-267.

HEUBECK, A. 1969, *Gedanken zu griesch. λαός*, in *Studi linguistici in onore di Vittore Pisani*, Brescia : Paideia: 536-544.

HFAC = BECKMAN, G. – H.A. HOFFNER JR. 1985, *Hittite Fragments in American Collections*, in «Journal of Cuneiform Studies» 37/1 (New Haven 1985): 1-60.

HICKEY, R. 2010, *The Handbook of Language Contact*, Chichester/Malden (MA) : Wiley-Blackwell.

HICKEY, R. 2017, *The Cambridge Handbook of Areal Linguistics*, Cambridge : Cambridge University Press.

HKM = ALP, S. 1991, *Hethitische Keilschrifttafeln aus Maşat-Höyük*, Ankara : Türk Tarih Kurumu Basımevi.

HODOT, R. 1990, *Le dialecte éolien d'Asie. La langue des inscriptions. VII^e s. a.C. – IV^e s. p.C.*, Paris : Éditions Recherche sur les Civilisations.

HOFFNER, H. A. – MELCHERT, H. C. 2002, *A Practical Approach to Verbal Aspect in Hittite*, in S. De Martino – F. Pecchioli Daddi (edd.) *Anatolia Antica. Studi in memoria di Fiorella Imparati*, Firenze : LoGisma: 377-390.

HOFFNER, H.A. 1997, *The Laws of the Hittites. A Critical Edition*, Leiden/New York/Köln : Brill

HÖGEMANN, P. 2000a, *Der Iliasdichter, Anatolien und der griechische Adel*, «Klio» 82: 7-39.

HÖGEMANN, P. 2000b, *Zum Iliasdichter – ein anatolischer Standpunkt*, «Studia Troica» 10: 183-198.

HÖGEMANN, P. 2003, *Das ionische Griechentum und seine altanatolische Umwelt im Spiegel Homers*, in M. Witte – S. Alkier (edd.), *Die Griechen und der Vordere Orient: Beiträge zum Kultur- und Religionskontakt zwischen Griechenland und dem Vorderen Orient im 1. Jahrtausend v. Chr.* (OBO 191), Göttingen : Vandenhoeck & Ruprecht: 1-24.

HOOKE, J.T. 1987, *Titles and Functions in the Pylian State*, in J.T. Killen – J.L. Melena – J.-P. Olivier (edd.) *Studies in Mycenaean and Classical Greek presented to John Chadwick*, Salamanca : Ediciones Universidad de Salamanca: 257-267.

HORROCKS, G.C. 2010², *Greek. A History of the Language and its Speakers*, Chichester/Malden : Wiley-Blackwell.

HROZNÝ, B. 1917, *Die Sprache der Hethiter. Ihr Bau und ihre Zugehörigkeit zum indogermanischen Sprachstamm. Ein Entzifferungsversuch*, Leipzig : J. C. Hinrich'ssche Buchhandlung.

HROZNÝ, B. 1929, *Hethiter und Griechen*, «Archiv Orientální» 1: 323-343.

HT = *Hittite texts in the cuneiform character from tablets in the British museum: (50 plates.)*,
London 1920 : Department of Egyptian and Assyrian Antiquities.

HUTTER, M. 1995, *Der luwische Wettergott piḫšaššašši und der griechische Pegasos*, in M. Ofitsch – C. Zinko (edd.), *Studia onomastica et Indogermanica. Festschrift für Fritz Lochner von Hüttenbach zum 65. Geburtstag*, Graz : Leykam: 79-97.

HUXLEY, G. 1959, *Hittites in Homer*, «PP» 14: 281-2.

HUXLEY, G.L. 1960, *Achaeans and Hittites*, Oxford.

*HW*² = FRIEDRICH, J., – KAMMENHUBER, A. 1975 –, *Hethisches Wörterbuch*, Heidelberg : C. Winter.

HZL = RÜSTER, C. – NEU, E. 1989, *Hethitisches Zeichenlexikon. Inventar und Interpretation der Keilschriftzeichen aus den Boğazköy-Texten*, Wiesbaden : Harrassowitz.

IBoT = *İstanbul Arkeoloji Müzelerinde bulunan Boğazköy Tabletleri*, İstanbul 1944ff. : Türk Tarih Kurumu Basımevi.

IEW = POKORNY, J. 1959-1969, *Indogermanisches etymologisches Wörterbuch*, Bern/München : Francke Verlag.

ITTZÉS, M. (2008), *Morphologie und Ursprung der ionischen Iterativpräterita*, «ACD» 44: 13-34.

JANKO, R. 2014, *The etymologies of ΒΑΣΙΛΕΥΣ and ΕΡΜΗΝΕΥΣ*, «CQ» 64/2: 462-470.

JASANOFF, J.H. 1981, *Hittite arai- and Armenian y-areay*, «Annunial of Armenian Linguistics» 2: 15-20.

JASANOFF, J.H. 2003, *Hittite and the Indo-European Verb*, Oxford : Oxford University Press.

JEFFERY, L. H. 1990², *The Local Scripts of Ancient Greece. A Study of the Origin of the Greek Alphabet and its Development from the Eight to the Fifth Centuries B.C.*, Oxford : Oxford University Press.

JIMÉNEZ DELGADO, J.M. 2008, *Préstamos anatolios en griego antiguo*, «Estudios Clásicos» 133: 7-32.

JOSEPH, B.D. 1982, *The source of Ancient Greek τολύπη*, «Glotta» 60: 230-234.

JOSEPH, B.D. 2010, *Language Contact in the Balkans*, in R. Hickey (ed.), *The Handbook of Language Contact*, Chichester/Malden (MA) : Wiley-Blackwell: 618-633.

JOSEPHSON, F. 1972, *The Function of the Sentence Particles in Old and Middle Hittite*, Uppsala: Akademisk Avhandling.

JURET, A. 1940, *Les étymologies de βασιλεύς, de λαός et de «populus»*, «REA» 42: 198-200.

KALINKA, E. 1901, *Tituli Lyciae, lingua lycia conscripti*, Vindobonae : in aedibus Alfredi Hoelderi.

KAMMENHUBER, A. 1959, *Das Palaische: Texte und Wortschatz*, «Revue hittite et asianique» 14: 1-21.

KAMMENHUBER, A. 1969a, *Das Hattische*, in *Altkleinasiatischen Sprachen*, Leiden/Köln: 428-546.

KAMMENHUBER, A. 1969b, *Hethitisch, Palaisch, Luwisch und Hieroglyphenluwisch*, in B. Spuler (ed.) *Altkleinasiatische Sprachen*, Leiden / Köln : Brill: 119-357.

KAMMENHUBER, A. 1980, *Zum indogermanischen Erbe im Hethitischen*, «KZ» 94: 33-44.

KARAVITES, P. – WREN, T.A. 1992, *Promise-giving and treaty-making: Homer and the Near East*, Leiden : Brill.

KATZ, J.T. 2004, *The 'Swimming Duck' in Greek and Hittite*, in J.H.W. Penney (ed.) *Indo-European Perspectives. Studies in Honour of Anna Morpurgo Davies*, Oxford : Oxford University Press: 195-216.

KATZ, J.T. 2007, *The epic adventures of an unknown particle*, in G. Coulter. M. McCullagh et al. (edd.), *Greek and Latin from an Indo-European Perspective*, Cambridge : Cambridge Philological Society: 65-79.

KATZ, JOSHUA T. 2001. *Hittite ta-pa-ka-li-ya-<aš>*, O. Carruba – W. Meid (edd.) *Anatolisch und Indogermanisch. Anatolico e Indoeuropeo. Akten del Kolloquiums der Indogermanischen Gesellschaft. Pavia, 22.-25. September 1998*, Innsbruck : Institut für Sprachen und Literaturen der Universität Innsbruck: 205-237.

KBo = *Keilschrifttexte aus Boghazköi*, Leipzig und Berlin 1916ff. : J. C. Hinrichs.

KELDER, J.M. 2018, *The kingdom of Ahhiyawa: Facts, Factoids and Probabilities*, «SMEA» 4 (n.s.): 200-208.

KELLER, M. 1992, *Les verbes latins à infectum en -sc-, étude morphologique à partir des formations attestées dès l'époque préclassique*, Bruxelles : Latomus.

KIM R.I. 2018, *Greco-Armenian. The persistence of a myth*, «IF» 123/1: 247-271.

KIMBALL 2017, *The phonology of Anatolian*, in M.A Fritz – J. Klein et al. (eds.), *Comparative Indo-European Linguistics. An International Handbook of Language Comparison and the Reconstruction of Indo-European*, Berlin : de Gruyter: 249-256.

KIMBALL, S.E. 1983, *Hittite Plene Writing*, Thesis (PhD) – University of Pennsylvania.

- KIMBALL, S.E. 1987, **H₃ in Anatolian*, in G. Cardona – N.h. Zide (edd.) *Festschrift for Henry Hoenigswald. On the Occasion of his Seventieth Birthday*, Tübingen : Gunter Narr Verlag: 185-192.
- KIMBALL, S.E. 1999, *Hittite Historical Phonology*, Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck.
- KIPARSKY, P. 2015, *New perspectives in historical linguistics*, in C. Bower – B. Evans (edd.), *The Routledge Handbook of Historical Linguistics*, London/New York : Routledge: 64-102.
- KIRCHHOFF, A. 1887³, *Studien zur Geschichte des griechischen Alphabets*, Berlin : F. Dümmler.
- KITCHEN, K.A. – LAWRENCE, P.J.N. 2012, *Treaty, Law and Covenant in the Ancient Near East*, Wiesbaden : Harrassowitz.
- KLINGER, J. 2007, *Die Hethiter*, München : Beck.
- KLOEKHORST, A. 2004, *The Preservation of *h₁ in Hieroglyphic Luwian: Two Separate a-Signs*, «HS» 117: 26-49.
- KLOEKHORST, A. 2006, *Initial Laryngeals in Anatolian*, «HS» 119: 77-108.
- KLOEKHORST, A. 2008, *Studies in Lycian and Carian Phonology and Morphology*, «Kadmos» 47: 117-146.
- KLOEKHORST, A. 2012, *The language of Troy*, in J. Kelder – G. Uslu – Ö.F. Şerifoğlu (edd.), *Troy: City, Homer and Turkey*, Zwolle : WBOOKS: 46-50.
- KLOEKHORST, A. 2014, *Accent in Hittite. A study in Plene Spelling, Consonant Gradation, Clitics, and Metrics*, Wiesbaden : Harrassowitz.

- KLOEKHORST, A. 2018, *Anatolian evidence suggests that the Indo-European laryngeals *h₂ and *h₃ were uvular stops*, «Indo-European Linguistics» 6: 69-94.
- KLOEKHORST, A. 2019, *Kanishite Hittite: The Earliest Attested Record of Indo-European*, Leiden/Boston : Brill.
- KORTLANDT, F. 1984, *PIE. *H- in Armenian*, «Annual of Armenian Linguistics» 5: 41-43.
- KORTLANDT, F. 2003-2004, *Initial Laryngeals in Anatolian*, «Orpheus» 13-14: 9-12.
- KRAHE, H. 1953, *Alteuropäische Flussnamen*, «Beiträge zur Namenforschung» 4: 37-53.
- KRETSCHMER, E. 1929, *Beiträge zur Wortgeographie der altgriechischen Dialekte*, «Glotta» 18: 67-100.
- KRETSCHMER, P. – KROLL, W. 1935, *Literaturbericht für das Jahr 1933*, «Glotta» 24: 56-113.
- KRETSCHMER, P. 1895, *Zum pamphyliischen Dialekt*, «KZ» 33: 258-268.
- KRETSCHMER, P. 1896, *Einleitung in die Geschichte der Griechischen Sprache*, Göttingen : Vandenhoeck und Ruprecht.
- KRETSCHMER, P. 1924, *Alaksanduš könig von Viluša*, «Glotta» 13: 205-213.
- KRETSCHMER, P. 1930a, *Zur Frage der griechischen Namen in den hethitischen Texten*, «Glotta» 18: 161-70.
- KRETSCHMER, P. 1930b, *Der Name der Lykier und andere kleinasiatische Völkernamen*, «Kleinasiatische Forschungen» 1: 1-17.
- KRETSCHMER, P. 1939, *Die Stellung der lykischen Sprache*, «Glotta» 28: 101-116.
- KRETSCHMER, P. 1940, *Die vorgriechischen Sprach- und Volksschichten*, «Glotta» 28: 231-278.
- KRONASSER H. 1956, *Vergleichende Laut- und Formenlehre des Hethitischen*, Heidelberg: C.

Winter.

KRONASSER, H. 1960, *Zur Blattfüllung*, «Die Sprache» 6: 278.

KRONASSER, H. 1966, *Etymologie der hethitischen Sprache*, Wiesbaden: Harrassowitz.

KROONEN, G. 2013, *Etymological dictionary of Proto-Germanic*, Leiden: Brill.

KUB = *Keilschrifturkunden aus Boghazköi*, Berlin 1921-1990 : Akademie-Verlag.

KÜMMEL, M.J. 2007, *Konsonantenwandel. Bausteine zu einer Typologie des Lautwandels und ihre Konsequenzen für die vergleichende Rekonstruktion*, Wiesbaden : Reichert Verlag.

KURYŁOWICZ, J. 1927, *Origine indoeuropéenne du redoublement attique*, «Eos», 30: 206-210.

KURYŁOWICZ, J. 1956, *L'apophonie en indoeuropéen*, Wrocław: Zakład im Ossolińskich.

KURYŁOWICZ, J. 1979, *Die hethitische ḫi -Konjugation*, in E. Neu – W. Meid (Hrsg.) *Hethitisch und Indogermanisch*, Innsbruck : Institut für Sprachwissenschaft: 143-146.

LANGSLOW, D.R. 2002, *Approaching Bilingualism in Corpus Languages*, in J.N. Adams – M. Janse – S. Swain (edd.) *Bilingualism in Ancient Society: Language Contact and the Written Text*, Oxford : Oxford University Press: 23-51.

LAROCHE 1972, *Observations sur la chronologie de l'ionien $\bar{\alpha} > \eta$* , in A. Ernout (ed.), *Mélanges de linguistique et de philologie grecques offerts à Pierre Chantraine*, Paris : Klincksieck: 93-91.

LAROCHE, E. 1950, *Études de vocabulaire III*, «RHA» 52: 38-46.

LAROCHE, E. 1955, *Mots grecs d'origine anatolienne*, «BSL» 51: XXXI-XXXIV.

LAROCHE, E. 1958, *Études de vocabulaire VII*, «RHA» 16: 84-114.

LAROCHE, E. 1959, *Dictionnaire de la langue Louvite*, Paris : Librairie Adrien-Maisonneuve.

- LAROCHE, E. 1960, *Les hieroglyphes hittites. Première partie. L'écriture*, Paris : Éditions du Centre National de la Recherche scientifique.
- LAROCHE, E. 1961, *Études de toponymie anatolienne*, «RHA» 19: 57-98
- LAROCHE, E. 1963, *Études lexicales et étimologiques sur le hittite*, «BSL» 58: 58-80.
- LAROCHE, E. 1965, *Sur le nom grec de l'ivoire*, «RPh» 39: 56-9.
- LAROCHE, E. 1966, *Linguistique anatolienne, II*, «RHA» 160-184.
- LAROCHE, E. 1973a, *Contacts linguistiques entre la Grèce et l'Asie Mineure au deuxième millénaire*, «REG» 86: XVII-XIX.
- LAROCHE, E. 1973b, *Fleuve et ordalie en Asie Mineure hittite*, in E. Neu – C. Rüster (hrsg.), *Festschrift Heinrich Otten: 27. Dez. 1973*, Wiesbaden : Harrassowitz: 179-189.
- LATACZ, J. 2004, *Troy and Homer. Towards a solution of an old mystery*, Oxford : Oxford University Press.
- LAZZERONI, R. 1960, *Considerazioni sulla cronologia di alcune isoglosse delle lingue anatoliche*, «ASNP» Serie II 39: 103-124.
- LAZZERONI, R. 1964, *Considerazioni sulla formazione del lessico indoeuropeo occidentale*, «SSL» 4: 1-86.
- LAZZERONI, R. 1966, *Su alcune isoglosse indoeuropee «centrali»*, «SSL» 6: 54-88.
- LAZZERONI, R. 1967, *Su alcuni aspetti della lingua di Omero*, «SSL» 7: 49-62.
- LAZZERONI, R. 1969a, *Stratificazioni nella lingua poetica greca*, in *Studi linguistici in onore di Vittore Pisani*, Brescia : Paideia: 619-634.
- LAZZERONI, R. 1969b, *Correnti linguistiche nel greco preletterario*, «SSL» 9: 111-138.

- LAZZERONI, R. 1977, *Fra glottogonia e storia: ingiuntivo, aumento e lingua poetica indoeuropea*, «SSL» 17: 1-30.
- LAZZERONI, R. 1987, *Il mutamento linguistico*, in R. Lazzeroni (ed.) *Linguistica storica*, Roma : La Nuova Italia Scientifica: 13-54.
- LAZZERONI, R. 1989, *Per l'etimologia di ὄρκος: una testimonianza ittita*, «SSL» 29: 87-93.
- LAZZERONI, R. 2006, *La codifica dell'allativo in greco e in ittita. Contributo allo studio dell'area linguistica circumegea*, «AGI» 91: 106-111.
- LAZZERONI, R. 2017, *Divagazioni sull'aumento in Omero*, in G. Marotta – F. Strik Lievers (edd.) *Strutture linguistiche e dati empirici in diacronia e sincronia*, Pisa : Pisa University Press: 33-56.
- LE ROY, C. 1981-3, *Aspects du plurilinguisme dans la Lycie antique*, «Anadolu/Anatolia» 22: 217-226.
- LE ROY, C. 1987, *Araméen, Lycien et Grec: Pluralité des langues et pluralités des cultures*, «Hethitica» 8: 263-266.
- LEHMANN, W.P. 1951, *The Distribution of Proto-Indo-European /r/*, «Language» 27/1: 13-17.
- LEJEUNE, M. 1961, *Les forgerons de Pylos*, «Historia» 10: 409-434.
- LEJEUNE, M. 1966, *Doublets et complexes* in L.R. Palmer, J. Chadwick (edd.), *Proceedings of the Cambridge Colloquium in Mycenaean Studies*, Cambridge : Cambridge University Press: 135-149.
- LEJEUNE, M. 1971, *La dédicace de Νῆξάνδρη et l'écriture archaïque de Naxos*, «RPh» 45: 209-214.
- LEJEUNE, M. 1987, *Phonétique historique du mycénien et du grec ancien*, Paris: Klincksieck.

- LEPSCHY, G. 1992, *La linguisitica del novecento*, Bologna : Il Mulino.
- LESKIEN, A. 1876, *Die Declination im Slavisch-Litauischen und Germanischen*, Leipzig : Zentral-Antiquariat der Deutschen Demokratischen Republik.
- LINDEMAN, F.O. 1997, *Introduction to the 'laryngeal theory'*, Innsbruck : Institut für Sprachwissenschaft der Universität Innsbruck.
- LITTMANN, E. 1916, *Sardis. Publications of the American Society for the excavation of Sardis. Volume VI. Lydian Inscriptions. Part I*, Leiden : Brill.
- LIV² = *Lexikon der indogermanischen Verben : die Wurzeln und ihre Primärstammbildungen*, Wiesbaden : Ludwig Reichert.
- LIVERANI, M. 2011², *Antico Oriente. Storia, società, economia*, Roma/Bari : Laterza.
- LÓPEZ EIRE, A. – LILLO ALCARAZ, A. 1983a, *Panfilia y el dialecto panfilio*, «Zephyrus» 34-35: 243-248.
- LÓPEZ EIRE, A. – LILLO ALCARAZ, A. 1983b, *En torno a la clasificación dialectal del panfilio*, «Emerita» 51: 5-27.
- LUBOTSKY A.M. 1981, *Gr. pégnumi : Skt. pajrá- and loss of laryngeals before mediae in Indo-Iranian*, «MSS» 40: 133-138.
- LUNDQUIST, J. 2014, *Psilosis*, in V. Bubenik et al. (edd.), *Encyclopedia of Ancient Greek Language and Linguistics*, vol III, Leiden/Boston : Brill: 192-193.
- LURAGHI, S. 1990, *Old Hittite Sentence Structure*, London : Routledge.
- LURAGHI, S. 1997, *Hittite*, München / Newcastle : LINCOM Europa.

LURAGHI, S. 2008, *Possessive Constructions in Anatolian, Hurrian, Urartian and Armenian as Evidence for Language Contact*, in B.J. Collins – M.R. Bachvarova – I.C. Rutherford (edd.) *Anatolian Interfaces: Hittite, Greeks and their Neighbours. Proceedings of an International Conference on Cross-Cultural Interaction (September 17-19, 2004, Emory University, Atlanta, GA)*, Oxford : Oxbow: 143-151.

LW = GUSMANI, R. 1964, *Lydisches Wörterbuch. Mit grammatischer Skizze und Inschriftensammlung*, Heidelberg : Carl Winter.

MARIZZA, M. 2007, *The office of GAL GEŠTIN in the Hittite Kingdom*, «Kaskal» 4: 153-180.

MARTINI, W. 2000, "Pamphylia" in Cancik, H. – Schneider, H. (Hrsg.), *Der Neue Pauly. Enzyklopädie der Antike*, Stuttgart/Weimar : J.B. Metzler: 216-219

MARTIROSYAN, H.K. 2010, *Etymological Dictionary of the Armenian Inherited Lexicon*, Leiden: Brill.

MASSON, E. 1967, *Recherches sur les plus anciens emprunts sémitiques en grec*, Paris : Klincksieck.

MASSON, E. 1974, *Cyprominoica. Répertoires. documents de Ras Shamra. Essais d'interprétation*, Göteborg : Paul Åströms Förlag.

MASSON, O. 1965, *Anthroponymie grecque et dialectologie*, «RPh» 39: 235-240.

MATRAS, Y. 2009, *Language Contact*, Cambridge : Cambridge University Press.

MAURICE, N. 1991, τολύπη ou les écheveaux de l'étymologie, «RPh» 61: 161-167.

MAYRHOFER, M. 1986, *Indogermanische Grammatik I/2: Lautlehre. Segmentale Phonologie des Indogermanischen*, Heidelberg : Winter.

- MAZOYER, M., 2008, *Homère et l'Anatolie*, Paris : L'Harmattan.
- MCDONALD, K. 2015, *Oscan in Southern Italy and Sicily*, Cambridge : Cambridge University Press.
- MCLEAN, B.H. 2002, *An introduction to Greek epigraphy of the Hellenistic and Roman periods from Alexander the Great down to the reign of Constantine (323 B.C.-A.D. 337)*, Ann Arbor : University of Michigan Press.
- MCMAHON, A.M.S. – MCMAHON, R. 2005, *Language classification by numbers*, Oxford : Oxford University Press.
- MCMAHON, A.M.S. 1994, *Understanding Language Change*, Cambridge : Cambridge University Press.
- MEID, W. 1975, *Probleme der räumlichen und zeitlichen Gliederung des Indogermanischen*, in H. Rix (ed.), *Flexion und Wortbildung. Akten d. V. Fachtagung d. Indogermanischen Gesellschaft (Regensburg, 9.-14. September 1973)*, Wiesbaden : Reichert: 204-219.
- MEID, W. 1979, *Der Archaismus des Hethitischen*, in E. Neu – W. Meid (edd.) *Hethitisch und Indogermanisch. Vergleichende Studien zur historischen Grammatik und zur dialektographischen Stellung der indogermanischen Sprachgruppe Altkleinasiens*, Innsbruck : Institut für Sprachwissenschaft der Universität : 159-176.
- MEIER-BRÜGGER, M. 2010, *Indogermanische Sprachwissenschaft 9., durchgesehene und ergänzte Auflage Unter Mitarbeit von Matthias Fritz und Manfred Mayrhofer*, Berlin/New York : de Gruyter.
- MEILLET, A 1908, *La place du pamphylien parmi les dialectes grecs*, «REG» 21: 413-425.
- MEILLET, A. 1922, *Les dialectes indo-européens*, Paris : Champion.

- MEILLET, A. 1926, *De la prothèse vocalique en grec et en arménien*, «BSL» 27: 129-135.
- MEILLET, A. 1929, *Grec ἔρχομαι*, «MSL» 23/4: 249-258.
- MEILLET, A. 1937⁸, *Introduction à l'étude comparative des langues indo-européennes*, Paris : Hachette.
- MEILLET, A. 1938-1948, *Linguistique historique et linguistique générale*, Paris : Champion.
- MEISER, G. – HACKSTEIN, O. (edd.) 2005, *Sprachkontakt und Sprachwandel. Akten der XI. Fachtagung der Indogermanischen Gesellschaft, 17.-23. September 2000, Halle an der Saale*, Wiesbaden : Reichert.
- MEIßNER, T. 1998, *Rising problems in Greek*, in *Oxford Working Papers in Linguistics, Philology & Phonetics* 3: 37-43.
- MELCHERT, H.C. *forthcoming*, *The Position of Anatolian*, in A. Garrett – M. Weiss (edd.) *Handbook of Indo-European Studies*, Oxford : Oxford University Press.
- MELCHERT, H.C. 1984a, *Studies in Hittite Historical Phonology*, Göttingen : Vandenhoeck & Ruprecht
- MELCHERT, H.C. 1984b, *Notes on Palaic*, «ZVS» 97: 22-43.
- MELCHERT, H.C. 1989, *New Luvo-Lycian Isoglosses*, «HS» 102: 23-45.
- MELCHERT, H.C. 1990, *Adjectives in *-iyo- in Anatolian*, «KZ» 103: 198-207.
- MELCHERT, H.C. 1993a, *Cuneiform Luvian Lexicon*, Chapel Hill : University of North Carolina at Chapel Hill.
- MELCHERT, H.C. 1993b, *Lycian Lexicon*, Chapel Hill.
- MELCHERT, H.C. 1994, *Anatolian Historical Phonology*, Amsterdam/Atlanta: Rodopi.

- MELCHERT, H.C. 1998a, *Aspects of Verbal Aspect in Hittite*, in S. Alp – A. Süel (edd.), *III Uluslararası Hititoloji Kongresi bildirileri. Acts of the III International Congress of Hittitology. Çorum, September 16-22, 1996*, Ankara: Uyum Ajans.
- MELCHERT, H.C. 1998b, *Once more Greek τολύπη*, «Orpheus» 8: 47- 51.
- MELCHERT, H.C. 2001, *Critical Response to the Last Four Papers*, in R. Drews (ed.), *Greater Anatolia and the Indo-Hittite Language Family. Papers Presented at a Colloquium Hosted by the University of Richmond, March 18-9, 2000*, Washington, D.C. : Institute for the Study of Man: 229-235.
- MELCHERT, H.C. 2003a (ed.), *The Luwians*, Leiden : Brill.
- MELCHERT, H.C. 2003b, *Language* in Melchert, H.C. (ed.) *The Luwians*, Leiden/Boston : Brill: 170-210.
- MELCHERT, H.C. 2004a, *Second Thoughts on PIE *y and *H₂ in Lydian*, in M. Mazoyer and O. Casabonne (edd.) *Studia Anatolica et Varia. Mélanges offerts à Professeur René Lebrun (volume II)*, Paris : Association Kubaba/L'Harmattan.
- MELCHERT, H.C. 2004b, *Latin īnsoleſcō, Hittite šulle(šš)- and PIE Statives in -ē-*, in N. N. Kazansky (ed.) *Hṛdā mānasā. Studies presented to Professor Leonard G. Herzenberg on the occasion of his 70-birthday* (ed.), St Petersburg : Nauka: 90-98.
- MELCHERT, H.C. 2004c, *A dictionary of the Lycian language*, Ann Arbor : Beech Stave Press.
- MELCHERT, H.C. 2007-2008, *Neuter Stems with Suffix *-(e)n- in Anatolian and Proto-Indo-European*, «Die Sprache» 47/2: 182-191.
- MELCHERT, H.C. 2008a, *Luvian*, in R.D. Woodard (ed.) *The Ancient Languages of Asia Minor*, Cambridge : Cambridge University Press: 31-39.

MELCHERT, H.C. 2008b, *Palaic*, in R.D. Woodard (ed.) *The Ancient Languages of Asia Minor*, Cambridge : Cambridge University Press: 40-45.

MELCHERT, H.C. 2008c, *Lycian*, in Woodard, R.D. (ed.) *The Ancient Languages of Asia Minor*, Cambridge : Cambridge University Press: 46-55.

MELCHERT, H.C. 2008d, *Lydian* in R.D. Woodard (ed.) *The Ancient Languages of Asia Minor*, Cambridge : Cambridge University Press: 56-63.

MELCHERT, H.C. 2008e, *Carian*, in R.D. Woodard (ed.) *The Ancient Languages of Asia Minor*, Cambridge : Cambridge University Press: 64-68.

MELCHERT, H.C. 2008f, *Greek μόλυβδος as a loanword from Lydian*, in B.J. Collins – M.R. Bachvarova – I.C. Rutherford (edd.) *Anatolian Interfaces: Hittite, Greeks and their Neighbours. Proceedings of an International Conference on Cross-Cultural Interaction (September 17-19, 2004, Emory University, Atlanta, GA)*, Oxford : Oxbow: 153-157.

MELCHERT, H.C. 2010, *Spelling of Initial /a-/ in Hieroglyphic Luwian*, in I. Singer (ed.) *ipamati kistamati pari tumatimis. Luwian and Hittite studies presented to J. David Hawkins on the occasion of his 70th birthday*, Tel Aviv : Institute of Archaeology, Tel Aviv University: 147-158.

MELCHERT, H.C. 2011, *The PIE verb for 'to pour' and Medial *h₃ in Anatolian*, in S. W. Jamison – H. C. Melchert, B. Vine (edd.), *Proceedings of the 22nd Annual UCLA Indo-European Conference*, Bremen : Hempen: 127-32.

MELCHERT, H.C. 2012a, *Genitive Case and Possessive Adjective in Anatolian*, in V. Orioles (ed.) *Per Roberto Gusmani. Linguistica storica e teorica. Studi in ricordo*, Udine : Forum: 273-286.

- MELCHERT, H.C. 2012b, *Luvio-Lycian Dorsal Stops Revisited*, in R. Sukač – O. Šefčík (edd.) *The Sound of Indo-European 2. Papers on Indo-European Phonetics, Phonemics and Morphophonemics*, München : Lincom Europa: 206-218.
- MELCHERT, H.C. 2013, *Naming Practices in Second- and First-Millennium Western Anatolia*, in R. Parker (ed.) *Personal Names in Ancient Anatolia*, Oxford : Oxford University Press: 31-49.
- MELCHERT, H.C. 2014a, *Greek and Lycian*, in G. Giannakis (ed.) *Encyclopedia Of Ancient Greek Language and Linguistics*, vol II, Leiden/Boston : Brill: 67-70.
- MELCHERT, H.C. 2014b, *Greek and Lydian*, in G. Giannakis (ed.) *Encyclopedia Of Ancient Greek Language and Linguistics*, vol II, Leiden/Boston : Brill: 70-71.
- MELCHERT, H.C. 2019, *Iron Age Luvian tarrawann(i)-*, in P. S. Avetisyan – R. Dan – Y.H. Grekyan (edd.), *Over the Mountains and Far Away. Studies in Near Eastern history and archaeology presented to Mirjo Salvini on the occasion of his 80th birthday*, Oxford : Archaeopress: 337-345.
- MELENA, J.L. 2014, *Mycenaean Writing*, in Y. Duhoux – A. Morpurgo Davies (edd.) *A Companion to Linear B. Mycenaean Greek Texts and their World. Volume 1: Louvain-La-Neuve / Dudley (MA) : Peeters: 1-186.*
- MÉNDEZ DOSUNA, J. 1980, *Clasificación dialectal y cronología relativa: el dialecto eleo*, «SPhS» 4: 181-201.
- MERIGGI, P. 1937, *Listes de hiéroglyphes hittites*, «RHA» 4: 69-114.
- MERIGGI, P. 1951, *La bilingue di Karatepe in cananeo e geroglifici etei*, «Athenaeum» 29: 25-99.
- MERIGGI, P. 1966, *Manuale di eteo geroglifico. Parte I: grammatica*, Roma : Edizioni dell'Ateneo.

- MERKELBACH, R. 1991, *πατρώνυμον heisst nicht: "Name des Vaters"*, «ZPE» 87: 37-38.
- MERLINGEN, W. 1977, *Artikulation und Phonematic des H*, Wien : VWGÖ.
- METCALF, C. 2015, *The Gods Rich in Praise. Early Greek and Mesopotamian Religious Poetry*, Oxford : Oxford University Press.
- METCALF, C. 2017, *The Homeric Epics and the Anatolian Context* (Review of M.R. Bachvarova 2016, *From Hittite to Homer. The Anatolian Background of Ancient Greek Epic*), «CR» 67/1: 3-5.
- METRI, P. 1954, *Il dialetto panfilio*, «RIL» 87: 79-117.
- MILANI, C. 1969, *Surate-surase. Il problema del risarcimento nel mondo miceneo e nel vicino Oriente*, in *Atti e memorie del 1° Congresso Internazionale di Micenologia : Roma, 27 settembre-3 ottobre 1967*, 3 voll., Roma : Edizioni dell'Ateneo: 651-658.
- MILANI, C. 1980, *Incontri etnici nel miceneo*, «Aevum» 54: 80-87.
- MILANI, C. 1991, *Miceneo ra-wo-, omerico λάος*, in M. Negri – F. Aspesi (edd.) *Studia Studia linguistica amico et magistro oblata. Scritti di amici e allievi alla memoria di Enzo Evangelisti*, Milano : Unicopli: 233-247.
- MILANI, C. 1993, *Contatti di lingue e civiltà nel greco miceneo*, in R.B. Finazzi, P. Tornaghi (edd.) *Lingue e culture in contatto nel mondo antico e altomedievale. Atti dell'VIII Convegno Internazionale di Linguisti, Milano 10-12 settembre 1992*, Brescia : Paideia: 365-378.
- MILANI, C. 1998, *Miceneo e lingue anatoliche: il caso di alcuni antroponimi*, in L. Agostiniani – M.G. Arcamone – O. Carruba (edd.) *Do-ra-qe pe-re: Studi in memoria di Adriana Quattordio Moreschini*, Pisa : Istituti Editoriali Poligrafici Internazionali: 263-274.

- MILANI, C. 2001, *Onomastica micenea e onomastica anatolica*, in O. Carruba – W. Meid (edd.) *Anatolisch und Indogermanisch. Anatolico e Indoeuropeo. Akten del Kolloquiums der Indogermanischen Gesellschaft. Pavia, 22.-25. September 1998*, Innsbruck : Institut für Sprachen und Literaturen der Universität Innsbruck: 273-290.
- MILLER, D.G. 2014, *Ancient Greek Dialects and Early Authors*, Boston/Berlin: de Gruyter.
- MILROY, J. – MILROY, L. 1985, *Linguistic change, social network and speaker innovation*, «Journal of Linguistics» 21: 339-384.
- MILROY, J. – MILROY, L. 1997, *Exploring the social constraints on language change*, in S. Eliasson, E.H. Jahr, (edd.), *Language and its Ecology: Essays in Memory of Einar Haugen*, Berlin : Mouton de Gruyter: 75-101.
- MINON, S. 2007, *Les inscriptions éléennes dialectales (VI^e-II^e siècle avant J.-C.)*, Genève: Droz.
- MOLINA VALERO, C. 2007, *Contactos griego-licio: la inscripciones bilingües greco-licias*, in J. J. Justel Vicente – B.E. Solans, – J.A. Vita Zamora (edd.), *Las aguas primigenias. El Próximo Oriente Antiguo como fuente de civilización (Actas del IV Congreso Español de Antiguo Oriente Próximo, Zaragoza, 17 a 21 de Octubre de 2006)*, Zaragoza : Instituto de Estudios Islámicos y del Oriente Próximo: 127-141.
- MOLINA VALERO, C. 2009, *Sintaxis comparada de las inscripciones bilingües greco-licias*, «Interlingüística» 18: 779-788.
- MOLINA VALERO, C. 2010, *Las fórmulas de maldición en las inscripciones funerarias bilingües grecolicias*, in J.F. González Castro – J. de la Villa Polo (edd.) *Perfiles de Grecia y Roma. Actas del XII Congreso Español de Estudios Clásicos Valencia, 22 al 26 de octubre de 2007*, Vol. II, Madrid : Sociedad Española de Estudios Clásicos: 95-104.

- MORPURGO 1958, *ΔAMAP in miceneo*, «PP» 13: 322-324.
- MORPURGO DAVIES, A. 1968, *Thessalian Patronymic Adjectives*, «Glotta» 46: 85-106.
- MORPURGO DAVIES, A. 1982/3, *Dentals, Rhotacism and Verbal Endings in the Luwian Languages*, «KZ» 96/2: 245-270.
- MORPURGO DAVIES, A. 1986, *The linguistic evidence: is there any?*, in G. Cadogan (ed.) *The end of early Bronze Age in the Aegean*, Leiden : E.J. Brill: 93-123.
- MORPURGO DAVIES, A. 1987, *The Greek notion of dialect*, «Verbum» 10: 7-28.
- MORPURGO DAVIES, A. 1996, *La linguistica dell'Ottocento*, Bologna : Il Mulino.
- MORPURGO DAVIES, A. 2012, *Phonetic laws, language diffusion, and drift: the loss of sibilants in the Greek dialects of the first millennium BC*, in P. Probert – A. Willi (edd.), *Laws and Rules in Indo-European*, Oxford : Oxford University Press: 102-121.
- MOUNTJOY, P.A. 1998, *The East Aegean–West Anatolian interface in the Late Bronze Age*, «AnSt» 48: 33-67.
- MOUNTJOY, P.A. 2015, *The East Aegean–West Anatolian Interface in the 12th Century BC*, in N.C. Stampolidis et al. (edd.) *Nostoi. Indigenous Culture, Migration and Integration in the Aegean Islands and Western Anatolia during the Late Bronze and Early Iron Ages*, Istanbul : Koç University Press: 37-80.
- MOUTON, A. – RUTHERFORD, I.C. – YAKUBOVICH, I. 2013 (edd.), *Luwian Identities. Culture, Language and Religion Between Anatolia and the Aegean*, Leiden/Boston : Brill.
- MOUTON, A. – RUTHERFORD, I.C. 2015, *Arzawan rituals and Greek religion*, in N.C. Stampolidis – Ç. Maner – K. Kopanias (edd.) *Nostoi: Indigenous Culture, Migration and Integration in the*

Aegean Islands and Western Anatolia during the Late Bronze and Early Iron Age, Istanbul:
Koç University Press: pp. 737-748.

MÜLLER M., 1873⁷ [1871], *Lectures on the science of language. Seventh edition in two volumes*,
London : Longmans, Green, and Co.

MYERS SCOTTON, C. 2002, *Contact Linguistics: Bilingual Encounters and Grammatical Outcomes*, Oxford : Oxford University Press.

MYERS SCOTTON, C. 2006, *Multiple Voices. An Introduction to Bilingualism*, Malden (MA) :
Blackwell.

MYERS-SCOTTON, C. 2002, *Contact Linguistics. Bilingual Encounters and Grammatical Outcomes*, Oxford : Oxford University Press.

MYERS-SCOTTON, C. 2006, *Multiple Voices. An Introduction to Bilingualism*, Malden (MA) :
Blackwell.

NAPOLI, M. 2006, *Aspect and actionality in Homeric Greek. A contrastive Analysis*, Milano :
Franco Angeli.

NAPOLI, M. 2007, *Telicity as a parameter of aspect in Homeric Greek. Activity and accomplishment verbs*, «IF» 112: 124-169.

NEGRI, M. 1974, *Studi sul verbo greco*, «Acme» 27: 359-379.

NEGRI, M. 1976, *Studi sul verbo greco II*, «Acme» 29: 233-250.

NEGRI, M. 1981, *Miceneo e lingua omerica*, Firenze : La Nuova Italia.

NENCI, G. 1961, *Gli dei testimoni nei trattati ittiti e in I 280*, «PP» 16: 381-382.

NENCIONI, G. 1950, *Ipponatte nell'ambiente culturale e linguistico dell'Anatolia occidentale*, Bari : Adriatica Editrice.

NEU, E. 1976, *Zur Rekonstruktion des indogermanischen Verbalsystems*, in A. Morpurgo Davies – W. Meid (edd.) *Studies in Greek, Italic, and Indo-European linguistics offered to Leonard R. Palmer on the occasion of his seventieth birthday*, Innsbruck : Institut für Sprachwissenschaft der Universität: 239-254.

NEU, E. 1984, *Konstruieren und rekonstruieren*, «IL» 9: 101-113.

NEUMANN, G. 1961, *Untersuchungen zum Weiterleben hethitischen und luwischen Sprachgutes in hellenistischer und römischer Zeit*, Wiesbaden : Harrassowitz.

NEUMANN, G. 1967, *Indogermanische Sprachwissenschaft 1816 und 1966. Zwei Gastvorträge, gehalten am 28. und 29. April 1966*, Innsbruck: Sprachwissenschaftliches Institut der Leopold-Franzens-Universität.

NEUMANN, G. 1971, *Besprechung zu StBoT 7-13*, «IF» 76: 260-264.

NEUMANN, G. 1979, *Neufunde lykischer Inschriften seit 1901*, Wien : Verlag der Österreichischen Akademie der Wissenschaften.

NEUMANN, G. 2007, *Glossar des Lykischen*, Wiesbaden: Harrassowitz.

NH = Laroche, E. 1966, *Les noms des Hittites*, Paris : Klincksieck.

NIEMEIER, W.-D. 1998, *The Mycenaeans in Western Anatolia and the Problem of the Origins of the Sea Peoples*, in S. Gitin et al. (edd.) *Mediterranean Peoples in Transition: Thirteenth to Early Tenth Centuries BCE*, Jerusalem : Israel Exploration Society: 17-65.

- NIEMEIER, W.-D. 1999, *Mycenaeans and Hittites in War in Western Asia Minor*, in R. Laffineur (ed.) *Polemos: le contexte guerrier en Égée à l'âge du bronze*, Liège: Université de Liège: 141-55.
- NIEMEIER, W.-D. 2002, *Hattusa und Ahhijawa im Konflikt um Millawanda/Milet*, in H. Willinghofer – U. Hasekamp (edd.) *Die Hethiter und ihr Reich: das Volk der 1000 Götter*, Stuttgart : Theiss: 294-99.
- NIEMEIER, W.-D. 2005, *Minoans, Mycenaeans, Hittites and Ionians in Western Asia Minor. New Excavations in Bronze Age Miletus-Millawanda*, in A. Villing, A. (ed.) *The Greeks in the East*, London : British Museum Press: 1-36.
- NIL = Wodtko, D.S. – Irslinger, B.S. – Schneider, C. 2008, *Nomina im Indogermanischen Lexikon*, Heidelberg : Universitätsverlag Winter.
- NOLLÉ, J. 2001, *Side im Altertum. Geschichte und Zeugnisse*, Band II, Bonn : R. Habelt
- NUSSBAUM, A. 1998, *Severe Problems*, in J Jasanoff – H.C. Melchert – L. Oliver (edd.) *Mír Curad. Studies in honor of Calvert Watkins*, Innsbruck : Institut für Sprachwissenschaft der Universität Innsbruck: 521-538.
- OETTINGER, N. 1976b, *Zum Wort- und Bilderschatz der luwischen Sprachen*, «MSS» 34: 101-107
- OETTINGER, N. 1979, *Die Stammbildung des hethitischen Verbuns*, Nürnberg: H. Carl.
- OETTINGER, N. 1981, *Probleme phraseologischer Interferenzen zwischen orientalischen und klassischen Sprachen*, «Glotta» 59: 1-12.
- OETTINGER, N. 1986, *“Indo-Hittite“-Hypothese und Wortbildung*, Innsbruck: Institut für Sprachwissenschaft der Universität.
- OETTINGER, N. 1989-90, *Die “dunkle Erde” im Hethitischen und Griechischen*, «WO» 20-1: 83-98.

- OETTINGER, N. 2002, *Die griechische Psilose als Kontaktphänomen*, «MSS» 62: 95-101.
- OETTINGER, N. 2003, *Zum Ablaut von n-Stämmen im Anatolischen und der Brechung ē > ya*, in E. Tichy – D.S. Wodtko – B. Irslinger (edd.) *Indogermanisches Nomen. Derivation, Flexion und Ablaut. Akten der Arbeitstagung der Indogermanischen Gesellschaft. Freiburg, 19. bis 22. September 2001*, Bremen : Hempen Verlag: 141-152.
- OETTINGER, N. 2004, *Die Entwicklung von h₃ im Anatolischen und hethitisch arāi “erhebt sich”*, in A. Hyllested et alii (edd.) *Per Aspera ad Asteriscos. Studia Indogermanica in honorem Jens Elmegård Rasmussen sexagenarii Idibus Martiis anno MMIV*, Innsbruck : Institut für Sprachen und Literaturen der Universität Innsbruck: 397-405.
- OETTINGER, N. 2008, *The Seer Mospus (Muksas) as a Historical Figure*, in Collins, B.J. – Bachvarova, M.R. – Rutherford, I. (edd.) *Anatolian Interfaces. Hittites, Greeks and their Neighbours*, Oxford : Oxbow: 63-66.
- OETTINGER, N. 2013-4, *Die Indo-Hittite-Hypothese aus heutiger Sicht*, «MSS» 67/2: 149-76.
- OETTINGER, N. *forthcoming*, *Language Contact between Lydian and Greek or The Origin of Lydian k*, in M. Bianconi (ed.) *Linguistic and Cultural Interactions between Greece and the Ancient Near East: In Search of the Golden Fleece*, Leiden : Brill.
- OREL, V.E. 1997, *The language of Phrygians: description and analysis*, Delmar, NY : Caravan Books.
- ORESHKO, R. 2012, *Hieroglyphic Luwian Inscription on the Ankara Silver Bowl: an Essay of Epigraphic and Historical Reinterpretation*, «Journal of Ancient History» 2: 3-28.

- ORESHKO, R. 2013, *Hipponax and the Linguistic, Ethnic and Religious Milieu of Western Anatolia. Some Further Notes on: Hawkins Sh. The language of Hipponax*, «HEPHAISTOS» 30: 87-112.
- ORESHKO, R. 2018, *Anatolian Linguistic Influences in Early Greek (1500-800 BC)? Critical Observations against Sociolinguistic and Areal background*, «Journal of Language Relationship» 16/2: 93-118.
- OTTEN, H. 1988, *Die Bronzetafel aus Boğazköy: ein Staatsvertrag Tuthaliyas*, Wiesbaden : Harrassowitz.
- PAGE, D.L. 1959, *History and the Homeric Ilias*, Berkeley/Los Angeles : University of California Press.
- PAGNIELLO, F.J. 2007, *The past-iterative and the augment in Homer*, «IF» 112: 105-23.
- PALMER, L.R. 1958, *Luvian and Linear A*, «TPhS» 36: 75-100.
- PALMER, L.R. 1965, *Mycenaeans and Minoans : Aegean prehistory in the light of the Linear B tablets*, London : Faber and Faber.
- PALMER, L.R. 1968, *Linear A and the Anatolian Languages*, in *Atti e Memorie del 1° Congresso Internazionale di Micenologia*, Roma : Edizioni dell'Ateneo, vol I: 339-54.
- PALMER, L.R. 1980, *The Greek Language*, London : Faber.
- PANAYOTOU, A. 2007, *Pamphylian*, in A.F. Christidis (ed.) *A History of Ancient Greek. From the Beginning to Late Antiquity*, Cambridge : Cambridge University Press: 427-432.
- PARKER, H. N. 2008, *The Linguistic Case for the Aiolian Migration Reconsidered*, «Hesperia» 77/3: 431-464.

PARKER, V. 1998. *Τύραννος. The Semantics of a Political Concept from Archilochus to Aristotle*, «Hermes» 126: 145-172.

PAT-EL, N. 2013, *Contact or Inheritance? Criteria for distinguishing internal and external change in genetically related languages*, «Journal of Language Contact» 6/2: 313-328.

PAYNE, A. – WINTJIES, J. 2016, *Lords of Asia Minor. An Introduction to the Lydians*, Wiesbaden : Harrassowitz.

PAYNE, A. 2008, *Lycia – Crossroads of Hittite and Greek traditions?*, in E. Cingano – L. Milano (edd.), *Papers on ancient literature: Greece, Rome and the Near East. Proceedings of the “Advanced Seminar in the Humanities”*, Sargon Editrice, Padova: 471-487.

PAYNE, A. 2014³, *Hieroglyphic Luwian. An Introduction with Original Texts*, Wiesbaden : Harrassowitz.

PEDERSEN, H. 1893, *r-n-Stämme. Studien über den Stammwechsel in der declination der idg. Nomina*, «KZ» 32/2: 240-273.

PEDERSEN, H. 1938, *Hittitisch und die anderen indoeuropäischen Sprachen*: København: Levin & Munsgard.

PÉREZ OROZCO, S. 2003, *Propuesta de nuevos valores para algunos signos del alfabeto sidético*, «Kadmos» 42: 104-108.

PÉREZ OROZCO, S. 2007, *La lengua sidética. Ensayo de síntesis*, «Kadmos» 46: 125-142.

PETERS, M. 1986, *Probleme mit anlautenden Laryngalen* «Die Sprache» 32: 365-383.

PETERSEN, E. – VON LUSCHAN, F. 1889, *Reisen im südwestlichen Kleinasien. Band II. Reisen in Lykien, Milyas und Kibyrtis*, Wien : Ministerium für Cultus und Unterricht.

- PINTORE. F. 1983, *Seren, Tarwanis, Tyrannos*, in M. Liverani – C. Zaccagnini – O. Carruba (edd.) *Studi orientalistici in ricordo di Franco Pintore*, Pavia: GJES: 285-322.
- PISANI, V. 1939, *Note di fonetica e morfologia greche*, «RIL» 73: 485-527.
- PISANI, V. 1951, *Uxor. Ricerche di morfologia indoeuropea*, in *Miscellanea Giovanni Galbiati*, Milano : U. Hoepli 1-18.
- PISANI, V. 1955, *Die Entzifferung der Ägäischen Linear B und die griechischen Dialekte*, «RhM» 98: 1-18.
- PISANI, V. 1956, *Le lingue indoeuropee in Grecia e in Italia (Discorso inaugurale)*, «RIL» 89: 93ff.
- PISANI, V. 1958, *Die indoeuropäischen Sprachen in Griechenland und Italien*, «Lingua Posnaniensis» 7: 25-47.
- PISANI, V. 1959, *Obiter scripta*, «Paideia» 14: 168-181.
- PISANI, V. 1960, *Storia della lingua greca*, in C. Del Grande (a cura di) *La lingua greca nei mezzi della sua espressione (Enciclopedia Classica, sezione II, volume V)*, Torino: Società Editrice Internazionale.
- PISANI, V. 1964, Review of H. Kronasser, *Etymologie der hethitischen Sprache*, «Paideia» 4: 277-286.
- PISANI, V. 1966, *Relitti «indomediterranei» e rapporti greco-anatolici*, «AION» 7: 41-51.
- PISANI, V. 1967, Review of P. MERIGGI, *Manuale di eteo geroglifico. Parte I: grammatica*, «Paideia» 22/4: 404-408.

- PISANI, V. 1976, *Sanskrit aghnyā*, griech. ἀφνειός, in A. Morpurgo Davies – W. Meid (edd.) *Studies in Greek, Italic and Indo-European Linguistics offered to Leonard R. Palmer*, Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck: 283-284.
- PLANK, F. 1995 (ed.), *(Re-)introducing Suffixaufnahme*, in F. Plank (ed.) *Double Case. Agreement by Suffixaufnahme*, Oxford : Oxford University Press.
- POETTO, M. 1993, *L'iscrizione luvio-geroglifica di Yalburt. Nuove acquisizioni relative alla geografia dell'Anatolia sud-occidentale*, Pavia : G. Iuculano editore.
- POLOMÉ, E. 1954, *Notes sur le vocabulaire religieux du germanique*, «La Nouvelle Clio» 6: 45-55.
- POPKO, M. 2008, *Völker und Sprachen Altanatoliens*, Wiesbaden : Harrassowitz.
- PORZIG, W. 1954a, *Die Gliederung des indogermanischen Sprachgebiets*, Heidelberg : C. Winter.
- PORZIG, W. 1954b, *Sprachgeographische Untersuchungen zu den altgriechischen Dialekten*, «IF» 61: 147-169.
- POWELL, B.B. 2011, *Near East and Homer*, in M. Finkelberg (ed.), *The Homer Encyclopedia*, Malden/Oxford : Wiley-Blackwell, vol. II: 559-562.
- PRELLWITZ, W. 1905², *Etymologisches Wörterbuch der griechischen Sprache, mit besonderer Berücksichtigung des Neuhochdeutschen und einem deutschen Wörterverzeichnis*, Göttingen : Vandenhoeck & Ruprecht.
- PROBERT, P. 2010, *Phonology*, in E.J. Bakker (ed.) *A Companion to the Ancient Greek Language*, Chichester : Wiley-Blackwell: 85-103.
- PUHVEL, J. 1965, *Evidence in Anatolian*, in W. Winter (ed.) *Evidence for Laryngeals*, The Hague/London : Mouton: 125-138.

- PUHVEL, J. 1966, *Dialectal Aspects of the Anatolian Branch of Indo-European*, in H. Birnbaum – J. Puhvel (edd.), *Ancient Indo-European dialects. Proceedings of the Conference on Indo-European Linguistics. Held at the University of California, Los Angeles. April 25-27, 1963*, Berkeley/Los Angeles : University of California Press: 235-247.
- PUHVEL, J. 1973, *The provenance of Greek ἰάλλω*, «CSCA» 6: 221-230.
- PUHVEL, J. 1976, Πολέμοιο γέφυραι, «IF» 81: 60-66.
- PUHVEL, J. 1977, 'Basket' in Greek and Hittite, «AJP» 98: 150-152.
- PUHVEL, J. 1978, *A Greek-Hittite Etymological Match: aiskhūnō : iškuna- 'make ugly'*, «IF» 83: 138-143.
- PUHVEL, J. 1979, *Hittite words with initial pít/pát sign*, in E. Neu – W. Meid (edd.) *Hethitisch und Indogermanisch. Vergleichende Studien zur historischen Grammatik und zur dialektgeographischen Stellung der indogermanischen Sprachgruppe Altkleinasiens*, Innsbruck : Institut für Sprachwissenschaft der Universität Innsbruck: 209-217.
- PUHVEL, J. 1981, *Analecta indoeuropaea. Delectus operum minorum pleurumque anglice aliquando francogallice editorum annos 1952-1977 complectens*, Innsbruck : Institut für Sprachwissenschaft der Universität Innsbruck.
- PUHVEL, J. 1983, *Homeric Questions and Hittite Answers*, «AJPh» 104/3: 217-227.
- PUHVEL, J. 1988, *An Anatolian Turn of Phrase in the Iliad*, «AJPh» 109/4: 591-593.
- PUHVEL, J. 1991 *Homer and Hittite*, Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck.
- PUHVEL, J. 1992, *Shaft-Shedding Artemis and Mind-Voiding Ate: Hittite Determinants of Greek*

Etyma, «HS» 105: 4-8.

PUHVEL, J. 1993, *A Hittite Calque in the Iliad*, «HS» 106: 36-38.

PUHVEL, J. 1996, *Three Hittite-Greek Etymological Pairings*, «HS» 109: 166-168.

PUHVEL, J. 2002, *Nomen Proprium in Hittite*, in S. De Martino – F. Pecchioli Daddi (edd.) *Anatolia antica. Studi in memoria di Fiorella Imparati*, vol. II: Firenze : LoGisma: 671-675.

PUHVEL, J. 2003, *'God-drinking' and beyond*, «HS» 116/1: 54-57.

QUATTORDIO MORESCHINI, A. 1984, *Le formazioni nominali greche in -nth*, Roma : Edizioni dell'Ateneo.

QUATTORDIO MORESCHINI, A. 1988, *ΛΥΚΑΒΑΣ e ΛΥΚΑΒΗΤΤΟΣ: un esempio di rapporti greco-anatolici*, «ASNP» 18/4: 1411-1418.

RAAFLAUB, K.A. 2017, *Zeus and Prometheus: Greek Adaptations of Ancient Near Eastern Myths*, in: B. Halpern – K.S. Sacks (edd.), *Cultural Contact and Appropriation in the Axial-Age Mediterranean World. A Periplos*, Leiden/Boston : Brill: 17-37.

RASMUSSEN, J.E. 1992, *Initial h₃ in Anatolian: A vote for chaos*, in *Copenhagen Working Papers in Linguistics*, vol. 2: 53-61.

RAU, J. 2010. *Greek and Proto-Indo-European*, in Bakker, E.J. (ed.), *A Companion to the Ancient Greek Language*, Malden (MA) : Wiley-Blackwell: 171-188.

RAY, J. 1981, *An Approach to the Carian Script*, «Kadmos» 20: 150-162.

RAYMOND, A. – KAISER, I. – RIZZOTTO, L.C. – ZURBACH, J. 2016, *Discerning Acculturation at Miletus: Minoanisation and Mycenaeanisation* in E. Gorogianni – P. Pavúk – L. Girella (edd.)

Beyond Thalassocracies: Understanding processes of Minoanisation and Mycenaeanisation in the Aegean, Oxford : Oxbow: 58-74.

RENZI, L. – ANDREOSE, A. 2013, *Geography and distribution of the Romance languages in Europe*, in M. Maiden – J.C. Smith – A. Ledgeway (edd.) *The Cambridge history of the Romance languages*, Cambridge/New York : Cambridge University Press: 283-334.

RICHTER, T. 2016, *Bibliographisches Glossare des Hurritischen*, Wiesbaden : Harrassowitz.

RIEKEN, E. – SASSEVILLE, D. 2014, *Social Status as a Semantic Category of Anatolian: The Case of PIE *-ḡo-*, in H.C. Melchert – E. Rieken – T. Steer (edd.), *Munus amicitiae Norbert Oettinger a collegis et amicis dicatum*, Ann Arbor/New York : Beech Stave Press: 302-314.

RIEKEN, E. – YAKUBOVICH, I. 2010, *The New Values of Luwian Signs L 319 and L 172*, in *ipamati kistamati pari tumatimis. Luwian and Hittite studies presented to J. David Hawkins on the occasion of his 70th birthday*, Tel Aviv : Institute of Archaeology, Tel Aviv University: 199-219.

RIEKEN, E. – YAKUBOVICH, I. *forthcoming*, *Zu den Reflexen der Wurzel *al- in den anatolischen Sprachen*, in M. Malzahn (ed.), *Akten der 15. Fachtagung der Indogermanischen Gesellschaft, Universität Wien, 13.-16. September 2016*.

RIEKEN, E. – YAKUBOVICH, I. *forthcoming*, *Zu den Reflexen der Wurzel *al- in den anatolischen Sprachen*, in In H. Fellner – T.-S. Illés – M. Malzahn (edd.), *Zurück zur Wurzel – Struktur, Funktion und Semantik der Wurzel im Indogermanischen: 15. Fachtagung der Indogermanischen Gesellschaft, Wien, September 16, 2016*, Wiesbaden : Reichert.

RIEKEN, E. 1999, *Untersuchungen zur nominalen Stammbildung des Hethitischen*, Wiesbaden : Harrassowitz.

- RIEKEN, E. 2001, *Einige Beobachtungen zum Wechsel u-/(u)ua- in den hethitischen Texten*. in O. Carruba – W. Meid. (edd.) *Anatolisch und Indogermanisch/Anatolico e Indoeuropeo: Akten des Kolloquiums der Indogermanischen Gesellschaft Pavia 22.–25. September 1998*, Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck: Pp. 369–80.
- RINGE, D. – ESKA, J.F. 2013, *Historical Linguistics. Toward a Twenty-First Century Reintegration*, Cambridge : Cambridge University Press.
- RINGE, D. – WARNOW, A. – TAYLOR, A. 2002, *Indo-European and Computational Cladistics*, «TPhS» 100/1: 59-129.
- RINGE, D. 2017², *From Proto-Indo-European to Proto-Germanic*, Oxford: Oxford University Press.
- RISCH, E. – HAJNAL, I. 2006, *Grammatik des mykenischen Griechisch. Band 1: Einleitung, Phonologie*, online publication: <http://www.uibk.ac.at/sprachen-literaturen/sprawi/mykgr.html>.
- RISCH, E. 1955, *Die Gliederung der griechischen Dialekte in neuer Sicht*, «MH» 12: 61-76.
- RISCH, E. 1957, *Zur Geschichte der griechischen Ethnika*, «MH» 14: 63-74.
- RISCH, E. 1965, *Ein Gang durch die Geschichte der griechischen Ortsnamen*, «MH» 22: 193-205.
- RISCH, E. 1974², *Wortbildung der homerischen Sprache*, Berlin/New York : De Gruyter.
- RISCH, E. 1975, *Zur Entstehung des hethitischen Verbalparadigmas*, in H. Rix (ed.), *Flexion und Wortbildung. Akten der V. Fachtagung der Indogermanischen Gesellschaft (Regensburg, 9.-14. September 1973)*, Wiesbaden : Reichert: 247-258.

RISCH, E. 1979, *Les consonnes palatalisées dans le grec du IIe millénaire et des premiers siècles du Ier millénaire*, in E. Risch – H. Mühlestein (edd.) *Colloquium Mycenaeum : actes du sixième Colloque international sur les textes mycéniens et égéens tenu à Chaumont sur Neuchâtel du 7 au 13 septembre 1975*, Neuchâtel /Genève : Faculté des lettres/Librairie Droz: 267-277.

RIX, H. 1970, *Anlautender Laryngal vor Liquida oder Nasalis sonans im Griechischen*, «MSS» 27: 79-110.

ROBINS, R.H. 1975, *The History of Language Classification*, in T.A. Sebeok (ed.) *Current Trends in Linguistics 11. Diachronic, Areal, and Typological Linguistics*, The Hague/Paris : Mouton: 3-41.

ROLLINGER, R. 1996, *Altorientalische Motive in der frühgriechischen Literatur am Beispiel der homerischen Epen*, in C. Ulf (ed.) *Wege zur Genese griechischer Identität. Die Bedeutung der früharchaischen Zeit*, Berlin: Akademie: 156-210.

ROLLINGER, R. 2004, *Hethiter, Homer und Anatolien. Erwägungen zu Il. 3, 300f. und KUB XIII Nr. 3, III 1f.*, «Historia» 53/1 : 1-21.

ROLLINGER, R. 2014, *Homer and the Ancient Near East. Some Considerations on Intercultural Affairs*, in I. Lindstedt – J. Hämeen-Anttila – R. Mattila – R. Rollinger (edd.), *Case Studies in Transmission*, Münster: Ugarit Verlag: 131-142.

ROLLINGER, R. 2015, *Old Battles, New Horizons: The Ancient Near East and the Homeric Epics*, in R. Rollinger – E. van Dongen (edd.), *Mesopotamia in the Ancient World. Impact, Continuities, Parallels. Proceedings of the Seventh Symposium of the Melammu Project Held in Obergurgl, Austria, November 4-8, 2013*, Münster : Ugarit Verlag: 5-32.

- ROMAGNO, D. 2015, *The Greek-Anatolian area in the 2nd millennium B.C.: between language contact, Indo-European inheritance and typologically natural tendencies*, «SSL» 53/2: 429-446.
- RONCONI, A. 1930, *Il dialetto della Panfilia*, «SIFC» 8: 25-37.
- ROSENKRANZ, B. 1966, *Zur indo-uralischen Frage*, «AIΩN» 7: 155-179.
- ROSOL, R. 2013, *Frühe semitische Lehnwörter im Griechischen*, Frankfurt am Main : Peter Lang.
- ROSS, M. 1988, *Proto Oceanic and the Austronesian languages of Western Melanesia*, Canberra : Dept. of Linguistics, Research School of Pacific Studies, Australian National University
- ROSSI, A. 2016, *Problemi di etimologia areale nel Mediterraneo orientale: Gr. κύμβαχος nel suo retroterra asiatico*, «Linguarum Varietas» 5: 211-227.
- RUIJGH, C.J. 1967, *Études sur la grammaire et le vocabulaire du grec mycénien*, Amsterdam : A.M. Hakkert.
- RUIPÉREZ, M.S. 1954, *Estructura del sistema de aspectos y tiempos del verbo griego antiguo: análisis funcional sincrónico*, Salamanca : Colegio Trilingüe de la Universidad.
- RUTHERFORD, I.C. 2002, *Interference or Translationese? Some Patterns in Lycian-Greek Bilingualism*, in J.N. Adams – M. Janse – S. Swain (edd.), *Bilingualism in Ancient Society. Language Contact and the Written Texts*, Oxford: Oxford University Press: 197-219.
- RUTHERFORD, I.C. 2006, *Religion at the Greco-Anatolian Interface. The Case of Caria*, in M. Hutter – S. Hutter-Braunsar (edd.), *Pluralismus und Wandel in den Religionen im vorhellenistischen Anatolien*, Münster : Ugarit Verlag: 137-144.

RUTHERFORD, I.C. 2007, *Achilles and the Sallis Wastais ritual. Performing death in Greece and Anatolia*, in: N. Laneri (ed.) *Performing Death. Social analyses of funerary traditions in the ancient Near East and Mediterranean*. Chicago : Oriental Institute: 223-236.

RUTHERFORD, I.C. 2008, The Song of the Zintuhis. Choral and ritual in Anatolia and Greece, in B.J. Collins – M.R. Bachvarova – I.C. Rutherford (edd.) *Anatolian Interfaces: Hittite, Greeks and their Neighbours. Proceedings of an International Conference on Cross-Cultural Interaction (September 17-19, 2004, Emory University, Atlanta, GA)*: Oxford : Oxbow: 73-84.

RUTHERFORD, I.C. 2009, *Hesiod and the literary traditions of the Near East*, in F. Montanari – A. Rengakos – C. Tsagalis (eds.), *Brill's companion to Hesiod*, Leiden : Brill: 9-35.

RUTHERFORD, I.C. 2011, *Ea and the beast: the Hittite text and its relation to the Greek poetry*, in M. Hutter – and S. Hutter-Braunsar (edd.) *Hethitische Literatur: Überlieferungsprozesse, Text-strukturen, Ausdrucksformen und Nachwirken. Akten des Symposiums vom 18. bis 20. Februar 2010 in Bonn*, Münster : Ugarit-Verlag: 217-226.

RUTHERFORD, I.C. 2016, 'Festival culture' between the Aegean and Anatolia: typology and contact, in G.G.W. Müller (ed.) *Liturgie oder Literatur? Die Kultrituale der Hethiter im transkulturellen Vergleich*, Wiesbaden: Harrassowitz: 67-89.

RUTTER, J.B. 2018, *An Aegean Archaeologist's Response*, «SMEA» 4 (n.s.): 208-213.

SACCONI, A. 1961, *Due note sul patronimico greco in -ios*, «Rendiconti dell'Accademia dei Lincei» Serie VIII, 16: 275-297.

SAKELLARIOU, M. 1977, *Peuples préhelléniques d'origine indoeuropéenne*, Athènes : Ekdotikè Athenon.

SALAČ, A. 1929, *Griechen und Hethiter*, «Archiv Orientální» 1: 344-349.

SALVINI, M. – WEGNER, I. 2014, *Einführung in die urartäische Sprache*, Wiesbaden: Harrassowitz.

SANFELD, K. 1930, *Linguistique balcanique. Problèmes et résultats*, Paris: Klincksieck.

SAPIR, E. 1921, *Language : an introduction to the study of speech*, New York : Harcourt, Brace.

SAPIR, E. 1934, *Hittite hapatis 'vassal' and Greek ὑπάδος*, «Language» 10/3: 274-279.

SAPIR, E. 1936, *Gk. ἀτύζομαι, a Hittite Loanword, and its Relatives*, «Language» 12/3: 175-180.

SAYCE, A.H. 1922, *Greek Etymologies: ἀήρ, ἰχώρ, κομμός, οἶνος, χαλκός*, «CR» 36: 19.

SCHALLER, H.W. 1975, *Die Balkansprachen. Eine Einführung in die Balkanphilologie*, Heidelberg : Winter.

SCHINDLER, J. 1972, *L'apophonie des noms-racines*, «BSL» 67: 31-38.

SCHLEICHER, A. 1861, *Compendium der vergleichenden Grammatik der indogermanischen Sprachen*, Weimar : H. Böhlau.

SCHLIEMANN, H. 1874, *Trojanische Alterthümer. Bericht über die Ausgrabungen in Troja*, Leipzig : In Commission bei F.A. Brockhaus

SCHMIDT, J. 1872, *Die Verwandtschaftsverhältnisse der indogermanischen Sprachen*, Weimar: Böhlau.

SCHMIDT, K.H. 1983, *Indogermanisch als Diasystem*, in M. Faust (ed.) *Allgemeine Sprachwissenschaft, Sprachtypologie und Textlinguistik. Festschrift für Peter Hartmann*, Tübingen : G. Narr: 341-348.

SCHMIDT, M. 1860, *Ἐπιτομή τῆς Καθολικῆς προσωδίας Ἡρωδιανοῦ*, Ienae : F. Maukii.

- SCHMITT, R. 1977, *Einführung in die griechischen Dialekte*, Darmstadt : Wissenschaftliche Buchgesellschaft.
- SCHON, R. 2018, *Response to Trevor Bryce's Article*, «SMEA» 4 (n.s.): 214-217.
- SCHRIJVER, P. 1991, *The Reflexes of the Proto-Indo-European Laryngeals in Latin*, Amsterdam : Rodopi.
- SCHUCHARD, H. 1884, *Dem Herrn Franz von Miklosich zum 20. November 1883. Slawo-deutsches und Slawo-italienisches* : Graz : Leuschner & Lubensky.
- SCHULZE, W. 1887, *Etymologische miscellen*, «ZVS» 28: 279-282.
- SCHUOL, M. 2002, *Zur Überlieferung homerischer Epen vor dem Hintergrund altanatolischer Traditionen*, in: M. Schuol – U. Hartmann – A. Luther (edd.), *Grenzüberschreitungen. Formen des Kontakts zwischen Orient und Okzident im Altertum*, Stuttgart : Franz Steiner: 331-362.
- SCHÜRR, D. 1992, *Zur Bestimmung der Lautwerte des karischer Schrift*, «Kadmos» 31: 127-156.
- SCHÜRR, D. 1999, *Gräko-lykisch piatra*, «Die Sprache» 41: 24-38.
- SCHÜRR, D. 2001, *Karische und lykische Sibilanten*, «IF» 106: 94-121.
- SILVESTRI, D. 1975, *Elementi egeo-anatolici nel lessico dell'egiziano antico*, «AION» 35: 401-413.
- SILVESTRI, D. 2013, *Interferenze linguistiche nell'Egeo tra preistoria e protostoria*, in M. Mancini – L. Lorenzetti (edd.), *Le lingue del Mediterraneo antico*, Roma : Carocci: 333-375.
- SIMON, Z. 2011, *Die Fortsetzung der Laryngale im Karischen*, in T. KRISCH & T. LINDER (hrsg.) *Indogermanistik und Linguistik im Dialog. Akten der XIII. Fachtagung der Indogermanischen Gesellschaft vom 21.-27. September 2008 in Salzburg*, Wiesbaden : Reichert: 538-547.

SIMON, Z. 2012, *PIE 'me' and a new Lydian sound law*, in B. Nielsen Whitehead – T. Olander et alii (edd.) *The sound of Indo-European. Phonetics, Phonemics, and Morphophonemics*, Copenhagen : Museum Tusculanum, University of Copenhagen: 485-499.

SIMON, Z. 2015, *Against the identification of Karkışa with Carians*, in N.C. Stampolidis et al. (edd.) *Nostoi. Indigenous Culture, Migration and Integration in the Aegean Islands and Western Anatolia during the Late Bronze and Early Iron Ages*, Istanbul : Koç University Press: 791-809.

SIMON, Z. 2016, *Zum hieroglyphen-luwischen Zeichen CAELUM (*182)*, «Nouvelles Assyriologiques Brèves et Utilitaires» 4: 159-162.

SIMON, Z. 2017, *δέπας und die anderen: Spuren eines verschollenen luw(o)iden Dialekts?*, «Wék^wos. Revue d'études indoeuropéennes» 3: 245-259.

SIMON, Z. 2018, *Anatolian influences on Greek*, in Ł. Niesiołowski-Spanò – M. Węcowski (edd.) *Change, Continuity, and Connectivity. North-Eastern Mediterranean at the turn of the Bronze Age and in the early Iron Age*, Wiesbaden : Harrassowitz: 376-418.

SIMON, Z. *forthcoming*, *The Mopsos Names and the Prehistory of the Lydians*, in M. Bianconi (ed.) *Linguistic and Cultural Interactions between Greece and the Ancient Near East: In Search of the Golden Fleece*, Leiden : Brill.

SINGER, I. 2006, *Ships Bound for Lukka: A New Reinterpretation of the Companion Letters RS 94.2530 and RS 2523*, «AoF» 33/2: 242-262.

SKELTON, C. 2017, *Greek-Anatolian Language Contact and the Settlement of Pamphylia*, «CA» 36: 104-129.

- SMYTH, H.W. 1984, *The Sounds and Inflection of the Greek Dialects. Ionic*, Oxford : Oxford University Press.
- SOLMSEN, F. 1901, *Untersuchungen zur griechischen Laut- und Verslehre*, Strassburg : Trübner.
- SOLMSEN, F. 1909, *Beiträge zur Griechischen Wortforschung*, Strassburg : K.J. Trübner.
- SOMMER, F. – EHELOLF, F. 1924, *Das hethitische Ritual des Pāpanikri von Komana*, Leipzig : J.C. Hinrichs.
- SOMMER, F. – FALKENSTEIN, A. 1938, *Die hethitisch-akkadische Bilingue des Ḫattušili I. (Labarna II)*, München : Verlag der Bayerischen Akademie der Wissenschaften.
- SOMMER, F. 1947, *Hethiter und Hethitisch*, Stuttgart: W. Kohlhammer Verlag.
- STANG, C. 1966, *Vergleichende Grammatik der baltischen Sprachen*. Oslo : Universitetsforlaget.
- STARKE, F. 1985, *Die keilschrift-luwischen Texte in Umschrift*, Wiesbaden : Harrassowitz.
- STARKE, F. 1987, *Die Vertretungen von uridg. *d^hugh₂tér ‘Tochter’ in den luwischen Sprachen und ihre Stammbildung*, «KZ» 100: 243-269.
- STARKE, F. 1990, *Untersuchung zur Stammbildung des keilschrift-luwischen Nomens*, Wiesbaden: Harrassowitz.
- STARKE, F. 1997, *Troia im Kontext des historisch-politischen und sprachlichen Umfeldes Kleinasiens im 2. Jahrtausend*, «Studia Troica» 7: 447-487.
- STEELE, P.M. 2012, *Syllabic writing on Cyprus and its context*, Cambridge : Cambridge University Press.
- STEELE, P.M. 2013, *Writing and Society in Ancient Cyprus*, Cambridge : Cambridge University Press.

STEELE, P.M. 2019, *A linguistic history of ancient Cyprus : the non-Greek languages and their relations with Greek, c.1600-300 BC*, Cambridge : Cambridge University Press.

STEFANINI, R. 1969, *Il genitivo aggettivale nelle lingue anatoliche*, «Athenaeum» 47: 290-302.

STRUNK, K. 1994, *Rekonstruktionsprobleme und die Annahme von Diasystem(en) in der Vorgeschichte indogermanischer Sprachen*, in G. Dunkel et al.(edd.), *Früh-, Mittel Spätindogermanisch. Akten der IX Fachtagung der Indogermanischen Gesellschaft*, Wiesbaden : Reichert: 379-402.

STURTEVANT, E. – HAHN, A. 1951², *A comparative Grammar of the Hittite Language*, New Haven : Yale University Press.

STURTEVANT, E.H. 1928, *Original h in Hittite and the Medio-Passive in r*, «Language» 4/3: 159-170.

STURTEVANT, E.H. 1929, *The relationship of Hittite to Indo-European*, «Transactions and Proceedings of the American Philological Association» 60: 25-37.

STURTEVANT, E.H. 1933, *A Comparative Grammar of the Hittite Language*, Philadelphia : Linguistic Society of America.

STURTEVANT, E.H. 1933, *Archaism in Hittite*, «Language» 9: 1-11.

STURTEVANT, E.H. 1940, *The pronunciation of Greek and Latin*, Philadelphia : Linguistic Society of America.

STURTEVANT, E.H. 1942, *The Indo-Hittite Laryngeals*, Baltimore : Linguistic Society of America.

STURTEVANT, E.H. 1947, *An Introduction to Linguistic Science*, New Haven : Yale University Press.

- SZEMERÉNYI, O. 1964, *Syncope in Greek and Indo-European and the nature of Indo-European accent*, Naples : Istituto Universitario Orientale di Napoli.
- SZEMERÉNYI, O. 1965, *Etyma Graeca*, «Die Sprache» 11: 1-24.
- SZEMERÉNYI, O. 1968, *An agreement between Pamphylian and Luwian*, «SMEA» 5: 128-131.
- SZEMERÉNYI, O. 1969, *Etyma Latina II* (7-18), in *Studi linguistici in onore di Vittore Pisani*, Brescia : Paideia: 963-968.
- SZEMERÉNYI, O. 1974, *The Origin of the Greek Lexicon: Ex Oriente Lux*, «JHS» 94: 144-157.
- SZEMERÉNYI, O. 1987, *Graeca anatolica*, in P.H. Ilievski – L. Crepajac (edd.) *Tractata Mycenaea: proceedings of the eighth International Colloquium on Mycenaean Studies, held in Ohrid, 15-20 September 1985*, Skopje : Macedonian Academy of Sciences and Arts: 343-356.
- TARACHA, P. 2003, *Is Tuthaliya's Sword Really Aegean?*, in G. Beckman – R. Beal – G. McMahon (edd.) *Hittite Studies in Honor of Harry A. Hoffner Jr.*, Winona Lake : Eisenbrauns: 367-376.
- TEFFETELLER, A. 2013, *Singers of Lazpa: Reconstructing Identities on Bronze Age Lesbos*, in A. Mouton – I. Rutherford – I. Yakubovich (edd.), *Luwian Identities. Culture, Language and Religion Between Anatolia and the Aegean*, Leiden/Boston : Brill: 567-589.
- TEFFETELLER, A. 2015, *Songs by Land and Sea Descending: Anatolian and Aegean Poetic Traditions*, in N.C. Stampolidis – Ç. Maner – K. Kopanias (edd.) *Nostoi: Indigenous Culture, Migration and Integration in the Aegean Islands and Western Anatolia during the Late Bronze and Early Iron Age*, Istanbul: Koç University Press: 709-735.
- TEKOĞLU, R. – LEMAIRE, A. 2000, *La bilingue royale louvito-phénicienne de Çineköy*, «CRAIBL»: 961-1007.

TENNY 1994, *Aspectual roles and the syntax-semantics interface*, Dordrecht/London : Kluwer Academic.

THIEME, P. 1960, *The 'Aryan' Gods of the Mitanni Treaties*, «JAOS» 80/4: 301-317.

THOMASON, S. G. – KAUFMAN, T. 1988, *Language Contact, Creolization, and Genetic Linguistics*, Berkeley/Los Angeles/London : University of California Press.

THOMASON, S.G. 2001, *Language Contact. An Introduction*, Edinburgh/Washington, DC : Edinburgh University Press/Georgetown University Press.

THOMASON, S.G. 2008, *Social and Linguistic Factors as Predictors of Contact-Induced Change*, «Journal of Language Contact» 2/1: 42-56.

THREATTE, L. 1980. *The Grammar of Attic Inscriptions. Vol. 1: Phonology*. Berlin/New York: de Gruyter.

THUMB, A. – KIECKERS – SCHERER, A. 1932 – 1959, *Handbuch der griechischen Dialekte*, 2 voll., Heidelberg: Carl Winter.

TIMPANARO, S. 2005, *Sulla linguistica dell'Ottocento*, Bologna : Il Mulino.

TISCHLER, J. 1972, *Die Vertretung von idg. Anlautendem r- im Hethitischen*, «ZVS» 86: 267-286.

TISCHLER, J. 1975, Review of C.-P. Herbermann *Etymologie und Wortgeschichte. Die indogermanische Sippe des Verbums strotzen*, «Kratylos» 20: 213-214.

TISCHLER, J. 1981, *Das hethitische Gebet der Gassulijawija*, Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck.

TISCHLER, J. 2001, *Hethitisches Handwörterbuch*, Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck.

TISCHLER, J. 2016, *Vocabulaire hittite : y compris louvite, palaïte, akkadien et sumérien. Traduit par Sylvie Vanséveren*, Leuven : Peeters.

TROMMER, J. 2011, *Phonological Sensitivity to Morphological Structure*, in M. Van Oostendorp – C. J. Ewen – E. Hume – K. Rice (edd.) *The Blackwell Companion to Phonology*, 5 voll., Chichester : Wiley-Blackwell: 2464-2489.

TRUBECKOJ, N.S. 1930, *Proposition 16: Über den Sprachbund*, in *Actes du premier congrès international des linguistes à la Haye, du 10-15 avril 1928*, Leiden : Sijtho: 17-18.

TRUDGILL, P. 1974, *Linguistic change and diffusion: description and explanation in sociolinguistic dialect geography*, «Language in Society» 3: 215-46.

TRUDGILL, P. 1983, *On dialect. Social and geographical perspectives*, Oxford : Basil Blackwell.

ÜNAL, A. – ERTEKIN, A. – EDİZ, İ. 1990-1991, *The Hittite Sword form Boğazköy-Ḫattuša, found in 1991, and its Akkadian Inscription*, «Muze-Museum» 4: 46-52.

UNWIN, N.C. 2017, *Caria and Crete in Antiquity. Cultural Interaction between Anatolia and the Aegean*, Cambridge : Cambridge University Press.

VAN BEEK, L. 2013, *The Development of the Proto-Indo-European Syllabic Liquids in Greek*, Doctoral Dissertation, Universiteit Leiden.

VAN BROCK, N. 1959, *Substitution rituelle*, «RHA» 17/65: 117-146.

VAN DONGEN, E. 2007, *Contacts between pre-classical Greece and the Near East in the context of cultural influences: an overview?*, in: R. Rollinger – A. Luther – J. Wiesehöfer (eds.), *Getrennte Wege? Kommunikation, Raum und Wahrnehmung in der Alten Welt*, Frankfurt : Verlag Antike: 13-49.

- VAN DONGEN, E. 2008, *The study of Near Eastern Influences on Greece: Towards the Point*, «Kaskal» 5: 233-250.
- VAN DONGEN, E. 2011, *The 'Kingship in Heaven'-Theme of the Hesiodic Theogony: Origin, Function, Composition*, « Greek, Roman, and Byzantine Studies » 51: 180-201.
- VAN VALIN, R.D. Jr. – LA POLLA, R.J. 1997, *Syntax. Structure, meaning, and function*, Cambridge : Cambridge University Press.
- VAN WINDEKENS, A.J. 1952, *Le pelasgique. Essai sur une langue indo-européenne préhellénique*, Louvain : Publications universitaires.
- VAN WINDEKENS, A.J. 1957-8, *Note sur la structure phonétique d'un mot câlin micro-asianique*, «AOF»: 366-367.
- VAN WINDEKENS, A.J. 1985, *Deux isoglosses gréco-hittites*, «IF» 90: 94-98.
- VAN WINDEKENS, A.J. 1987, *Graeco-Hittitica*, «KZ» 100/2: 307-312.
- VANSÉVEREN, S. 2005-2014, *Nisili. Manuel de langue Hittite*, Leuven : Peeters.
- VBoT = GÖTZE, A. 1930, *Verstreute Boghazköy-Texte*, Marburg : Im Selbstverlag des Herausgebers.
- VELH = JURET, A. 1942, *Vocabulaire étymologique de la langue hittite*, Limoges : Imprimerie A. Bontemps.
- VENDLER, Z. 1967, *Linguistics in Philosophy*, Ithaca (NY) : Cornell University Press.
- VERHASSELT, G. 2009, *The Pre-Greek Linguistic Substratum. An Overview of Current Research*, «LEC» 77: 211-139.

- VERHASSELT, G. 2011, *The Pre-Greek Linguistic Substratum. A Critical Assessment of Recent Theories*, «LEC» 79: 257-283.
- VINE, B. 2005, *Remarks on Rix's Law in Greek*, «JIES» 33/3-4: 247-290.
- WALCOT, P. 1966, *Hesiod and the Near East*, Cardiff : Wales University Press.
- WALLACE, R. 1983, *An Illusory Substratum Influence in Pamphylian*, «Glotta» 61: 5-12.
- WATHELET, P. 1973, *Études de linguistique homérique*, «AC» 42: 379-405.
- WATKINS, C. 1969, *Indogermanische Grammatik. Band III: Formenlehre*, Heidelberg : Winter.
- WATKINS, C. 1986, *The Language of the Trojans*, in M.J. Mellink (ed.), *Troy and the Trojan War. A Symposium Held at Bryn Mawr College October 1984*, Bryn Mawr : Bryn Mawr College: 45-62.
- WATKINS, C. 1995, *How to Kill a Dragon. Aspects of Indo-European Poetry*, Oxford : Oxford University Press.
- WATKINS, C. 1998, *Homer and Hittite Revisited. Style and Tradition*, in: P. Knox – C. Foss (edd.), *Studies in Honor of Wendell Clausen*, Stuttgart/Leipzig : Teubner: 201-211.
- WATKINS, C. 2000a, *L'Anatolie et la Grèce: résonances culturelles, linguistiques et poétiques*, «CRAI» 2000 (3): 1143-1158.
- WATKINS, C. 2000b, *A Distant Anatolian Echo in Pindar: The Origin of the Aegis Again*, «HSPH» 100: 1-14.
- WATKINS, C. 2001, *An Indo-European Linguistic Area and its Characteristics*, in A. Aikhenvald & R.M.W. Dixon (edd.), *Areal Diffusion and Genetic Inheritance. Problems in Comparative Linguistics*, Oxford : Oxford University Press: 44-63.

WATKINS, C. 2002a, *Homer and Hittite Revisited II*, in K. A. Yener, H. A. Hoffner Jr. (edd.), *Recent Developments in Hittite Archaeology and History: Papers in Memory of Hans G. Güterbock*, Winona Lake : Eisenbrauns: 167-176.

WATKINS, C. 2002b, *Some Indo-European Logs*, in S. De Martino – F. Pecchioli Daddi (edd.) *Anatolia antica. Studi in memoria di Fiorella Imparati*, vol. II: Firenze : LoGisma: 879-884.

WATKINS, C. 2007a, *The Golden Bowl: thoughts on the New Sappho and its Asianic Background*, «CA» 26/2: 305-324.

WATKINS, C. 2007b, *Hipponactea quaedam*. In P. Finglass – C. Collard – N.J. Richardson (edd.) *Hesperos. Studies in Ancient Greek poetry presented to M. L. West on his seventieth birthday*, Oxford : Oxford University Press: 118-125.

WATKINS, C. 2008, “*Hermit crabs*” or new wine in old bottles: Anatolian and Hellenic connections from Homer and before to Antiochus I of Commagene and after, in B.J. Collins – M.R. Bachvarova – I.C. Rutherford (edd.) *Anatolian Interfaces: Hittite, Greeks and their Neighbours. Proceedings of an International Conference on Cross-Cultural Interaction (September 17-19, 2004, Emory University, Atlanta, GA)*: Oxford : Oxbow: 135-141.

WATKINS, C. 2011, *The American Heritage Dictionary of Indo-European Roots*, Boston/New York : Houghton Mifflin Harcourt.

WEEDEN, M. 2018, *Hittite-Ahhiyawan Politics as Seen from the Tablets: A Reaction to Trevor Bryce’s Article from a Hittitological Perspective*, «SMEA» 4 (n.s.): 217-227.

WEEKS, D.M. 1985, *Hittite Vocabulary. An Anatolian Appendix to Buck’s Dictionary of Selected Synonyms in the Principal Indo-European Languages*, PhD Dissertation University of California, Los Angeles.

- WEGNER, I. 2007, *Hurritisch. Eine Einführung. 2., überarbeitete Auflage*, Wiesbaden : Harrassowitz.
- WEINREICH, U. 1963, *Languages in contact. Findings and problems*, The Hague : Mouton.
- WEISS, M. 2006, *Latin Orbis and its Cognates*, «HS» 119: 250-272.
- WEISS, M. 2016, *The Proto-Indo-European Laryngeals and the Name of Cilicia in the Iron Age*, in A.M. Byrd – J. DeLisi – M. Wenthe (edd.) *Tavet Tat Satyam. Studies in Honor of Jared S. Klein on the Occasion of His Seventieth Birthday*, Ann Arbor/New York: Beech Stave Press: 331-340.
- WEST, M.L. 1966, *Theogony*, Oxford : Oxford University Press.
- WEST, M.L. 1988, *The Rise of the Greek Epic*, «JHS» 108: 151-172.
- WEST, M.L. 1997, *The East Face of Helicon: West Asiatic Elements in Greek Poetry and Myth*, Oxford : Oxford University Press.
- WEST, M.L. 2001, *Atreus and Attarissiyas*, «Glotta» 77: 262-266.
- WEST, M.L. 2017, *Odyssea*, Berlin : de Gruyter.
- WHITNEY, W.D. 1881, *On Mixture in Language*, «TAPhA» 12: 5-26.
- WHORF, B.L. 1941, *The relation of habitual thought and behavior to language*, in L. Spier (ed.) *Language, culture, and personality: Essays in memory of Edward Sapir*, Menasha (Wis.) : Sapir Memorial Publication Fund : 75-93.
- WIDMER, P. 2004, *Λυδία. Ein Toponym zwischen Orient und Okzident*, «HS» 117/2: 197-203.
- WIDMER, P. 2006, *Mykenisch RU-WA-NI-JO ‚Luwier‘*, «Kadmos» 45: 82-84.

- WIENER, M.H. 2009, *Locating Ahhiyawa*, in D. Daniēlidou (ed.), *Dōron. Timētikos tomos gia ton Kathēgētē Spyro Iakōvidē* [Δώρον. Τιμητικός τόμος για τον Καθηγητή Σπύρο Ιακωβίδη], Athēna : Akadēmia Athēnōn, Kentron Ereunēs tēs Archaioētōs.
- WILD, J.P. 1970, *Borrowed names for borrowed things*, «Antiquity» 54: 125-130.
- WILHELM, G. 2008, *Hurrian*, in R.D. Woodard (ed.) *The Cambridge Encyclopedia of the World's Ancient Languages*, Cambridge : Cambridge University Press: 81-104.
- WILLI, A. 1999, *Zur Verwendung und Etymologie von griechisch eri*, «HS» 112: 81-95.
- WILLI, A. 2004, *Flowing riches: Greek ἄφενος and Indo-European streams*, in J.H.W. Penney (ed.), *Indo-European Perspectives: Studies in Honour of Anna Morpurgo Davies*, Oxford : Oxford University Press: 323-337.
- WILLI, A. 2007, *Of Aspects, Augments, Aorists – or how to say to have killed a dragon*, in M. McCullagh et al. (edd.) *Greek and Latin from and Indo-European Perspective*, Cambridge : Cambridge Philological Society: 34-48.
- WILLI, A. 2010, *Hera, Eros, Iuno Sororia*, «IF» 115: 234-267.
- WILLI, A. 2018, *Origins of the Greek Verb*, Cambridge : Cambridge University Press.
- WILSON, N.G. 2015, *Herodotea. Studies on the text of Herodotus*, Oxford : Oxford University Press.
- WINFORD, D. 2003, *An Introduction to Contact Linguistics*, Oxford/Malden (MA) : Blackwell.
- WINTER, W. 1973, *Areal linguistics: some general considerations*, in T. Sebeok (ed.), *Current Trends in Linguistics, volume 11: Diachronic, areal, and typological linguistics*, The Hague : Mouton: 135-147.

- WOLFRAM, W. – SCHILLING-ESTES, N. 2003, *Dialectology and Linguistic Diffusion*, in by B. Joseph – R. Janda *The Handbook of Historical Linguistics*, Oxford/Malden (MA) : Blackwell: 713-35.
- WOODARD, R.D. 2010, Phoinikēia Grammata: *An Alphabet for the Greek Language*, in Bakker, E.J. (ed.), *A Companion to the Ancient Greek Language*, Malden (MA) : Wiley-Blackwell: 25-46.
- WOODARD, R.D. 2014, *The Textualization of the Greek Alphabet*, New York : Cambridge University Press.
- WOODHOUSE, R. 2011, *Lubotsky's and Beekes' Laws*, PIE $^{*}(H)r-$, $^{*}(H)i(V)-$, $^{*}a$ and some other laryngeal matters, «*Studia Etymologica Cracoviensia*» 16: 151-187.
- WYATT, W.F. 1994-1995, *Homeric and Mycenaean* ΛΑΟΣ, «*Minos*» 29-30: 159-170.
- YAKUBOVICH, I. 2002. *Labyrinth for Tyrants*, «*Studia Linguarum*» 3: 93-116.
- YAKUBOVICH, I. 2008, *The Origin of Luwian possessive Adjectives*, in K. Jones-Bley et al. (edd.) *Proceedings of the 19th Annual UCLA Indo-European Conference. Los Angeles. November 2-3 2006*, Washington: Institute for the Study of Man: 193-217.
- YAKUBOVICH, I. 2010, *Sociolinguistics of the Luvian Language*, Leiden/Boston: Brill.
- YAKUBOVICH, I. 2013, *Anatolian Names in -wiya and the Structure of Empire Luwian Onomastics*, in A. Mouton – I. Rutherford – I. Yakubovich (edd.), *Luwian Identities. Culture, Language and Religion Between Anatolia and the Aegean*, Leiden/Boston : Brill: 87-123.
- YAKUBOVICH, I. 2015a. *Phoenician and Luwian in Early Iron Age Cilicia*, «*Anatolian Studies*» 65: 35-53.
- YAKUBOVICH, I. 2015b, *The Luwian Language*, in *Oxford Handbooks Online*. 21 Oct. 2015.

YAKUBOVICH, I. 2017, *An agreement between the Sardians and the Mermnads in the Lydian language?*, «IF» 122: 265-293.

ZAIR, N. 2012, *The Reflexes of the Proto-Indo-European Laryngeals in Celtic*, Leiden : Brill.

ZERDIN, J. 2000, *Studies on the Ancient Greek Verbs in -skō*, DPhil Thesis : University of Oxford.

ZERDIN, J. 2002, *The 'iterative-intensives' in -σκον*, in I.J. Hartmann – A. Willi (edd.) *Oxford University Working Papers in Linguistics, Philology & Phonetics*, 7, Oxford: 103-130.